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**Bouncing Back Better for Shared Prosperity:
Nexus Among Government, Industry, and Academe**
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Nexus Among Government, Industry, and Academe

**10th National Business and
Management Conference**

November 25-26, 2022 via Zoom
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Di-WOW: Implementing an Online Patient Records Management System for a Dental Clinic

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Abstract

This action research aimed to implement an online patient record management system for a start-up dental clinic in the second year of the COVID-19 pandemic. The team used the People, Process, Technology framework in its interventions. It migrated 350 patients' records to an online app, which it integrated in its process.

The First Author (FA) and her teammates collaborated to ensure the authenticity of the research. Afterwards, the FA reflected on the content and the process of the research, and the premises she had had during its conduct. Based on the above framework and reflections, the FA created a framework, Enhanced Digital Ways of Working (EDi-WOW), which shows how the interrelationships across people, process, and technology result in effectiveness, technical competency, and efficiency, which in turn result in sustainability. Small businesses wanting to enhance their ways of working digitally may find this framework useful.

Key Words: Online patient record management system, six sigma, action research

Relevant SDGs: SDG 3 Good Health and Well-Being

Introduction

Purpose and Rationale

This study is insider action research (IAR) that follows the action research steps of constructing, planning, taking action, and evaluating action (Coghlan, 2019). The team's objectives were: 1) to optimize patient record management; 2) to upgrade to an online patient record management system. Although the project had two action research cycles, this paper focuses on the second cycle.

Effect of COVID-19 on Dentistry

In December 2019, the World Health Organization

recorded its first coronavirus disease 2019 (COVID-19) case. To contain the spread of the virus, the Philippine government locked down different cities, suspended all travel by land, air, and sea, and caused a lot of businesses, including dental clinics, to close temporarily.

Dental clinics can be significant sources of transmission because most of the procedures involve the production of aerosols and droplets contaminated by microorganisms (Deshpande et al., 2021). Dental patients who cough, sneeze, or receive dental treatment make their secretions, saliva, or blood aerosolized to their surroundings (Meng et al., 2020). The dental apparatus could be contaminated with various pathogenic microorganisms after use or exposure to a contaminated clinic environment



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(Meng et al., 2020). Both patients and dental professionals' risk being exposed to viral pathogens that can be transmitted through the oral cavity and respiratory tract during dental visits. Because of face-to-face communication between patients and the dental team and ensuing dental treatments, both the patients and the dental staff have a high risk of COVID-19 infection (Barabari et al., 2020). In response to these health risks, the Philippine Dental Association crafted guidelines on how dental clinics should operate during the pandemic (Philippine Dental Association, 2020). For example, patients must make appointments and observe health sanitation routines once they enter the clinic.

Two of the critical infection control protocols that must be followed are hand hygiene and the thorough disinfection of all surfaces within the clinic. Hand hygiene has been considered the most critical measure for reducing the risk of transmitting microorganisms to patients (Meng et al., 2020). SARS-CoV-2 can persist on surfaces for a few hours or up to several days, depending on the type of surface, the temperature, and the humidity of the environment (Meng et al., 2020). In particular, due to the high spread of the virus in particles exhaled by coughing and sneezing, every surface that healthcare professionals and patients come into contact with must be considered potentially infected (Spagnuolo et al., 2020). In line with the changing needs in the dental care industry, especially during the pandemic, the FA identified issues about how the patients' records were being handled.

The Company During the COVID-19 Pandemic

J.E. Dental Clinic started operating in May 2021, when Metro Manila shifted from enhanced community quarantine to general community quarantine. Formerly ABC Dental Clinic, it was acquired by Dr. Rico (not his real name), a dentist, and the FA, an engineer. The acquisition included all dental equipment, materials, and patients' records. Dr. Rico and the FA decided to absorb Anne

(not her real name), the dental assistant of ABC Dental Clinic.

Dr. Rico and Anne ensure that all dental care treatments meet or exceed the patients' expectations. On the other hand, Anne and the FA ensure that the processes – from sanitation routines to patients' payments for dental care services – are followed. Additionally, the FA handles finance, marketing, and any improvement in the clinic's operations. Before opening the clinic, the team spent two weeks strategizing, remodeling the clinic, studying the processes, and engaging with the patients of the former ABC Dental Clinic.

Patient Record Management

The former clinic had 664 patient records spanning 2012 to 2021. Each form had typewritten questions about the basic patient information, which a new patient had to fill out. The form also had a dental chart, a treatment plan, and a payment history, which Dr. Rico and Anne filled out. The patients' forms were put in individual envelopes.

Initially, dental records could not immediately be found for various reasons, such as when the first name written on the envelope was the patient's nickname. As a result, the patient's appointment would overlap with the schedules of other patients. The average lead time for patient record management was 18.1 minutes. This long lead time was a concern because of the threat of COVID-19 infection inside the clinic. To reduce the lead time, the team did a first cycle of action research, in which they classified 664 patients as active or inactive. In this cycle, the team used Osada's (1991) 5S framework (as cited in Randhawa, et al., 2017). The FA, as a Lean Six Sigma yellow belt and green belt practitioner, led a three-day kaizen event and applied the five pillars of the 5S framework): seiri (organization); seiton (neatness); seiso (cleaning); seiketsu (standardization); and shitsuke (discipline). As a result, the average lead team time spent managing the patient record management improved by 49%.



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However, the use of manual patients' records could result in data privacy violations based on the Data Privacy Act of 2012 (National Privacy Commission, n.d.), which classifies any information about a person's health as sensitive. The records of active patients were stored in the receiving area counter, which unauthorized persons could access if Anne were to leave the area.

The other concern about manual patient records was that these were handled by the patients (when they filled out the forms the first time), Dr. Rico, and Anne. Spraying the forms with a disinfectant would wet and ruin the forms.

Literature Review

Proper Patient Record Management

Implementing effective clinical documentation policies is essential in meeting the demands for patient care and record management (Gallagher, 2006). A well-designed, adequately documented, and properly maintained patient record is an important tool for quality assurance and care continuity (Devadiga, 2014; Levitin et al., 2019). Accurate and comprehensive records lead to quality patient care, increase the efficiency of care, reduce errors, improve access to patient data, increase the confidentiality of patients, and improve decision-making (Amin et al., 2020).

A properly maintained dental record has several uses and benefits. This is why Devadiga (2014) emphasized the importance of storing dental records in a safe place and never leaving them unattended. Furthermore, poor penmanship or variations in data-recording can contribute to incorrect or incomplete patient information, which may leave practitioners vulnerable in the event of a legal challenge and may affect the treatment plan (Delrose et al., 2020). The accuracy of a record determines the vitality of a dental practice, and its maintenance determines good clinical practice and indicates skillfulness (Waleed et al., 2015). A well-designed, adequately documented, and properly

maintained patient record is important for quality assurance and care continuity (Levitin et al., 2019). Equally important, a detailed and accurate dental record can protect the dentist in case of a malpractice suit (Devadiga, 2014).

Digital Transformation

Digital technology plays a key role in reducing the impact of the pandemic and contributes to minimizing the spread of COVID-19 (Schilirò, 2020). Therefore, the pandemic accelerated the use of digital technology (Sneader et al., 2020, as cited in Schilirò, 2020).

Digitization of patients' records

By shifting from paper to digital storage, dissemination, and processing, firms can improve processes and reduce the costs associated with administration and processing (Smith, 2019). Digitalization can reduce human errors through multiple administrative tasks and manual routines.

Technology as a driver for sustainable processes

According to Schalock et al. (2016), sustainability characterizes an organization's ability to adapt to change and provides a range of valued service delivery opportunities and effective and efficient practices. Business leaders consider sustainability a strategic priority for long-term business viability, which could be achieved by improving efficiency and reducing waste and carbon footprint (Maghirang, 2022). The benefits of using digital tools for sustainability processes include data management (Wu et al., 2012), production of sustainability information (Hellstrom, 2007), visualization, time, and cost efficiency (Ilhan et al., 2016), and facilitating decision-making (Shojaei et al., 2019).

Methodology and Data Collection

This study used the action research steps of constructing, planning action, taking action, and evaluating action (Coghlan, 2019). The FA used



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first-person, second-person, and third-person inquiry to gather the data for this action research.

First-person research addresses the individual's ability to foster an inquiring approach to his or her own life, to act out of awareness and purposefully (Coghlan, 2019, p. 7). The journaling process helped her realize and acknowledge her biases and critique her own thinking. The FA used Schein's (1999) realistic ORJI model, Argyris' (1995) left-hand/right-hand column, and Mezirow's (1991) three forms of reflection. She used a voice memo app and video recordings to record her observations, experiences, and personal views.

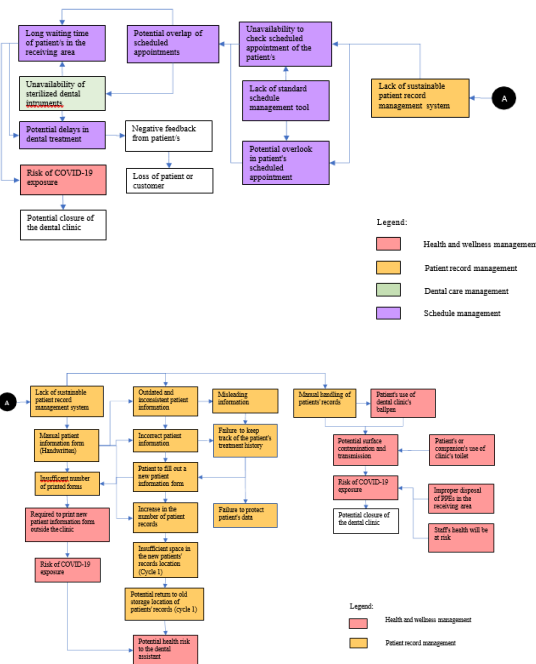
Second-person inquiry involves collaborative inquiry on issues of mutual concern through face-to-face dialogue, conversation, and joint action (Coghlan, 2019). The FA ensured that their collaborations inside the clinic would be maximized even as they continued to perform their usual tasks. She built her relationships with her two collaborators and made sure to listen to their ideas. The FA used Schein's (1999) three types of inquiry, Torbert et al.'s (2008) four parts of speech, Senge et al.'s (1994) systems thinking, force field analysis (Lewin, 1951, as cited in Thomas, 1985), Lewin's (1947) change management model of unfreezing, changing, and refreezing.

Third-person inquiry is a "practice that aims at creating communities of inquiry, involving people beyond the direct second-person action" (Coghlan, 2019). The FA used the university's library database and Scholar Google to read journal articles, books, news publications, and other useful articles.

Data was collected through various means, such as minutes of meetings, interviews, and pre-existing documents. Most data comprised processes, data logs, and other reports generated in connection with the issues identified by the team. The data were used to ensure that planning and implementation would succeed. Lastly, data was used to evaluate the results.

The team considered cycle 2 as a continuation of the cycle 1 intervention. In cycle 1, the team improved the average process lead time for patient record management by 49%. The FA thought that the implementation in cycle 1 could be continued in cycle 2 to eliminate some manual processes. Using the data gathered, she created a systems diagram to evaluate the issues and their effects, and to decide which areas they wanted to focus on. Figure 1 shows the issues, which are color-coded based on process type. The team agreed to prioritize the causes highlighted in light orange, or all activities related to patient record management. They had addressed these issues in cycle 1, but thought that they could improve the process further. They also identified the lack of a sustainable record management system as the main issue for cycle 2.

Figure 1
Systems Diagram





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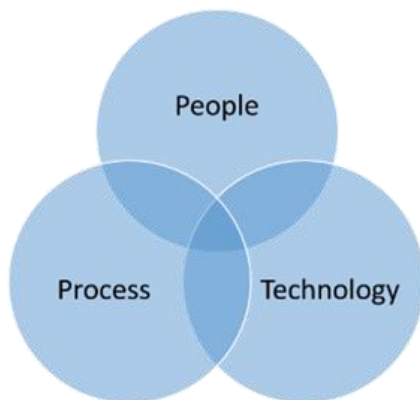
Theoretical Framework

People, Process, and Technology Framework

The PPT framework (see Figure 2) balances people, process, and technology to achieve organizational efficiency. People refer to those who do the work; process refers to the actions that need to happen for an organization to achieve its goal; and technology refers to the collection of tools and techniques that make the process more efficient (Thompson, 2019).

Figure 2

People, Process, Technology Framework



Kurt Lewin's Three-Step Change Management model (refer to Figure 3) reflects momentous stages in the change implementation process. It is the early fundamental planned change models explaining the striving forces to maintain the status quo and pushing for change (Lewin, 1947). According to Lewin (1947), successful organizational change may be planned, but this requires the system to be unfreezed. During unfreezing, all stakeholders should discuss the need for change.

According to Beckhard and Harris (1987, as cited in Hussain et al., 2018), three things are needed to implement change: 1) activity planning, or carrying out tasks aligned with the organization's goals; 2) commitment planning, or identifying the persons who will carry out or support the change; and 3)

change management structures, or using resources and interpersonal and political skills to carry out the change. The study of Morgan et al. (2003) states that during a change process, the leader's transparency reaffirms and enhances the trust of employee's involvement in organizational change process regarding the discussion and meetings, this allows employees for their opinions and achieve a better sense of control. The last step is refreezing, during which the organization accepts and adopts the change.

Figure 3

Change Management Framework



As in cycle 1, the FA and her collaborators used Lewin's Change Management framework to monitor the implementation of the planned actions listed in Table 1.

Table 1

Monitoring of Planned Actions and Application of Lewin's Change Management Model

Lewin's change management activity/action	Persons involved	Status			Findings
		Not done	Partially done	Fully done	
Unfreeze: January 29 to 31, 2022					
Review the purpose of this action research.	All collaborators		✓		Everyone agreed to participate in cycle 2.
Construct the issue using a systems diagram.	All collaborators		✓		The systems thinking exercise highlighted the need to address the lack of a sustainable patient record management system.
Plan the action items (schedule and persons involved).	All collaborators		✓		The team was more collaborative during the planning session than it had been during the planning session in cycle 1 because the interventions would address the main issue.
Change: February 4 to 23, 2022					
Train the team members.	All collaborators		✓		The FA trained Dr. Rico and Anne to add a new patient, add a payment, and add an appointment to the online system. There were few questions raised about how they would integrate My Dental Clinic into their daily operations. At the end of the training, the team understood the features and changes in the tasks.
Migrate patients' records to the online system.	All collaborators		✓		On February 23, 2022, the team successfully migrated 350 patient records without



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Refreeze: February 27, 2022 onwards		encountering any problem.
Create guidelines for the new patient record management system.	All collaborators	✓ The FA created guidelines on how to use My Dental Clinic. The team did not have any problem in understanding and following the guidelines. They were both happy with the implemented change, and proud to share with the patients the new process of answering the patient information form as the clinic is now 100% paperless.
Meet with the team weekly	All collaborators	✓ During their weekly meeting, the team discussed how the interventions had improved their operations, how the FA and Dr. Rico were helping Anne perform her tasks, and how else they could improve. The migration to an online system enabled Dr. Rico and Anne to build their technological competency.

Data Results and Analysis

Story and Outcomes

In the first cycle, the FA created an end-to-end dental care service swimlane diagram (see Appendix A), which shows the detailed tasks of the end-to-end process and customer journey, from requesting an appointment to payment. She also constructed a systems diagram (see Figure 1) to help the team evaluate the issues and their effects and decide which areas to focus on. The team agreed to prioritize all activities related to patient record management (those highlighted in orange in the systems diagram). It also identified the lack of a sustainable record management system as the main issue.

The team did a force field analysis (see Appendix B) by identifying the orange issues from the systems diagram as restraining forces. It also agreed on the following driving forces: strong drive to eliminate manual processes; strong desire to standardize processes; availability of information of patients' treatment history; and strong team collaboration.

The total score for the driving forces was 26, while the total score for the hindering forces was -33. To

meet the objective of upgrading to an online patient record management system, the team should either increase the strength of its driving forces, decrease the strength of its hindering forces, or add a driving force. The interventions are shown in the diagram as red lines (Teehankee, 2017). The red solid lines represent the interventions meant to strengthen the driving forces. The red dashed lines represent the interventions meant to weaken the hindering forces.

Table 2 shows the proposed actions, as agreed upon during the team's brainstorming session, slotted into the PPT framework.

Table 2

Interventions Based on the PPT Framework

Variable	Intervention
People	Meet weekly with the team; Train team members
Process	Create guidelines for the new patient records
Technology	Migrate patients' records to an online system

Migrate patients' records to an online system: The migration activities included setting the criteria (and their corresponding weights) in choosing an online system, selecting an app from available off-the-shelf, customizable online systems, migrating patients' records, and testing the system.

Train team members: Even if Dr. Rico would be the main user of the online system, all team members should learn how to use the system.

Create guidelines for the new patient record management system: Guidelines and a step-by-step process on how to use the online system would ensure a standard process.

Meet with the team weekly: The team would meet weekly to ensure that the processes and strategies are effective and to raise concerns and suggestions.

Lewin's (1947) change management framework (see Figure 3) was used to monitor the implementation of the planned actions.



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Taking Action

The first action in the list of planned migration activities was to come up with criteria for the online patient record management system. After brainstorming, the team agreed on the following criteria: 1) cost of a monthly subscription – 20%; 2) dental charting feature, – 20%; 3) accessibility from any device – 20%; 4) ease of use – 15%; 5) availability of new patient information form – 15%; and 6) export data option – 10%.

Next, the FA researched and came up with a list of online patient record management software packages. The FA presented all the features of the online patient record management system including adding a new patient, scheduling a patient's appointment, accessing the dental chart, and adding payment for dental service. The initial list included OpenEMR, My Dental Clinic, and DentalTap. However, OpenEMR features were more useful for medical practice; this is why it was dropped from the final list.

Table 3 shows the FA's ORJI of what was discussed during the brainstorming session during which she discussed the criteria and the online apps with her collaborators.

Table 3

FA's Application of the ORJI Model

Observation	The first online system I presented to Dr. Rico and Anne was DentalTap. I explained its many features, including the "look and feel" of the online system. The colors were pleasing to the eye, and the icons were better than those of the two other apps I had explored. DentalTap's dental charting had a dental implant option that the two other apps did not have. However, when Dr. Rico found out that it would cost us more than the other apps, he frowned and asked why DentalTap was so expensive given that it lacked the option that would allow new patients to fill out a patient information form using a patient's portal.
Reaction	I was disappointed. I felt that Dr. Rico did not trust my opinions about the proposed change for our business. I also felt that he did not trust my opinions on matters outside the business. I was also worried that he might also find the other online systems too expensive.
Judgment	I realized that my reaction was not appropriate, and that Dr. Rico had merely been thinking of the impact of the monthly subscription expenses on the profit. His asking about the cost and the missing feature (new patient information form – self-service portal for patients) was not meant to show a lack of trust in my judgment.
Intervention	I continued my search for an online patient record management system that would meet our criteria.

Based on the agreed upon criteria, the team explored My Dental Clinic and DentalTap by using the free

versions to check the uses and the "look and feel." The three of them rated the apps per criterion on a scale of 1 to 5 (see Appendix C), with 1 being the lowest and 5 being the highest. Instead of averaging the team members' scores, they discussed their bases for the scores, and agreed on a final score for each criterion. Based on the scores and the feedback from Dr. Rico and Anne, the team chose My Dental Clinic.

The training for the app was held at the clinic on February 12, 2022. Dr. Rico accessed My Dental Clinic in the web version, while Anne accessed My Dental Clinic in the app version. Both of them found the system user-friendly. The team spent six days encoding all 350 patients' records into My Dental Clinic.

The My Dental Clinic dashboard shows the summary of the number of patients, upcoming appointments, patients for recall, and upcoming birthdays. Dr. Rico and Anne could add an appointment, new patient, and payment by using the online system.

As part of the new process, new patients should encode their personal information into My Dental Clinic. A link can be shared with the patient using the self-service function, allowing them to encode their information on their own devices. To summarize, the following are the features of My Dental Clinic; dental chart feature for adult and pediatric patients; online appointment schedule feature; multiple payment method options; finance overview dashboard feature with a summary of revenue and expenses; and data extract feature.

The team started using My Dental Clinic on February 27, 2022. Dr. Rico and the FA had two personal tablets that they no longer needed and that could be used to access My Dental Clinic. Both tablets were connected to Dr. Rico's mobile hotspot. For hygienic purposes, the tablets were covered with cling wrap, which would be replaced after the patient had used them.



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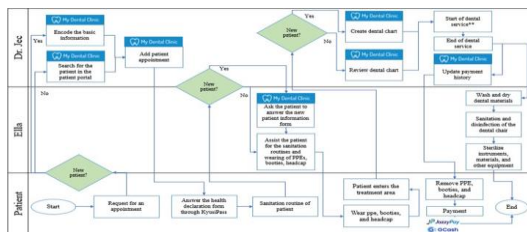
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The swimlane diagram in Figure 4 shows the clinic's new end-to-end integrated process with My Dental Clinic. This new process is called “EDi-WOW,” or “Enhanced Digital Ways of Working.”

Figure 4

EDi-WOW or Enhanced Digital Ways of Working Swimlane Diagram



Evaluating Action

A month after the migration, the FA asked Dr. Rico and Anne for feedback about My Dental Clinic. Dr. Rico’s and Anne’s feedback is as follows:

Dr. Rico: *“My Dental [Clinic] is easy to use. It was easier because we don’t need to use papers anymore. Sometimes, we could not read the handwriting of patients, especially the contact number, which would be a way of communication between us and the patient. Especially this pandemic, I recommend this because of less contact with the patients, and less ways of transmission of the COVID-19 virus.”*

Anne: *“This is better than before, Ma’am. It does not require too much work and it will reduce manual handling of records.”*

They were both happy with the change, and proud to share with our patients the new process of answering the patient information form digitally.

The project was a success. The team met its objectives and desired future state of migrating all of its patients’ records to an online patient record

management system. As the team got used to the app, the average process lead time of patient record management decreased (see Table 4).

Table 4

IAR Impact Assessment to Average Process Lead Time

	Average process lead time (minutes)		
	Before Edi-WOW	After EDi-WOW	Difference (%)
Dental care management	44.0	27.1	38.5
Health and wellness management	66.4	64.3	3.2
Patient record management	9.4	5.6	40.6
Payment management	9.0	5.4	40.6
Schedule management	3.0	0.8	74.7

Meta-Learning Content Reflection

Resolving the issue could help the patients and staff in terms of process efficiency, data security, and health and wellness. Although the “what” in identifying the issue was easy, the “how” was a challenge because of the several interventions that the team did. Dr. Rico and Anne had no experience using an online system to support their tasks.

Using the My Dental Clinic app, the team migrated 350 paper-based patients’ records to an online system. The collaborators were happy because the intervention improved the way they worked and promoted their safety against the threat of COVID-19. Moreover, one patient observed, “It’s great. Your clinic has an online patient information form. It’s like something that famous dental clinics use.” This is when the FA realized that what the team had done was indeed significant.

Process Reflection

The team started working on this issue in January 2022. The month before, the FA had started in her new full-time job and role. Also in December 2021, the clinic had a lot of patients, and she had to work with Dr. Rico to keep everything under control. Furthermore, the FA’s sister got engaged, and the FA had to help her plan her wedding. With all these events happening simultaneously, the FA was



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worried that she would not have the time to complete the research. When the number of COVID-19 cases surged in the last week of December 2021 due to the Omicron variant, the dental clinic had to be closed for one month because both Dr. Rico and the FA tested positive for COVID-19, and Anne had a medical condition. As a result, they had fewer collaborations so that they could focus on their families and their health.

Data gathering was easy because the team had all of the information on the clinic's active patients. However, the FA found it difficult to find off-the-shelf online patient record management systems because most online systems apply to medical practice. When she found the DentalTap and My Dental Clinic apps, she had to study their features and present them to her collaborators. She was surprised by how engaged her collaborators were. Initially, she thought it would be a challenge because both of them had no experience in using an online system to support their tasks. She made sure to get the team's insights on the criteria for choosing an online system because they would use it daily.

The FA updated the swimlane diagram to show the new process (see Figure 4 above). She also changed the process name to "E-WOW," or "Enhanced Ways of Working." However, her adviser (the Second Author) suggested the name "EDi-WOW," which is Filipino slang for "Oh, wow!" After mulling about the matter for four days, the FA realized that the "Di" could stand for "digital" because the clinic's operations had become paperless. Thus, the new process name is "EDi-WOW," or "Enhanced Digital Ways of Working."

Premise Reflection

When the clinic was temporarily closed in December 2021, the FA assumed that her collaborators would not be focused because of the health challenges everyone was facing. But when they returned to work in January 2022, she was overwhelmed by the level of support and participation of Dr. Rico and Anne. They were all motivated to improve the way

they were doing things because they wanted to protect the patients, staff, and our families. No one wanted to be a source of COVID-19 transmission.

The FA also assumed that it would be challenging to get Dr. Rico and Anne to accept the proposed change, given that they had no experience using an online system to support their tasks. Thus, she listened intently to Dr. Rico and Anne's feedback while the team was brainstorming and migrating. Their brainstorming sessions also allowed them to know each other better and share stories about their families and their challenges in life. The project was a success because of Dr. Rico and Anne's participation, support, and engagement.

Transformation

This action research has changed the FA's perspective and beliefs about running a business. She initially thought that she had complete control over her life and business. But brainstorming and collaborating with Dr. Rico and Anne to come up with the issues, planned actions, and implementation of the planned actions made her more flexible. She also learned to think outside the box to address the issues that significantly impacted the way we do things. She communicates better and has better working relationships with Dr. Rico and Anne. She is still applying the action research tools in her new job and role and even in her family gatherings. Since the COVID-19 cases have been decreasing, she is excited to plan the clinic's next strategies to adapt to the new normal and continuously bring brighter smiles to all our patients.

This IAR has changed the way the team works and collaborates. Dr. Rico and Anne were collaborative and engaged throughout the entire IAR. After the successful migration to the online system, Dr. Rico was motivated to also migrate the records of active patients in his mother's dental clinic.

The implementation of 5S in the first cycle not only made the processes efficient, but also promoted



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Anne's health and wellness because she no longer had to bend to search for manual records. She was happy with the new process, and thanked us for prioritizing the issue with the pain she felt in her lower back and neck, an issue that she had raised during one of the brainstorming sessions.

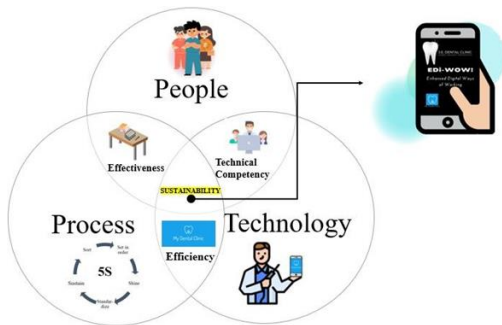
The patients feel safer because of the interventions. Allowing them to encode their basic information into the My Dental Clinic app has improved their customer experience.

Discussion, Conclusions, Recommendations

The team focused on addressing the lack of a sustainable patient record management system. The People, Process, Technology (PPT) framework guided the team in determining the best strategies that would address the issue. The FA incorporated the team's interventions into the three components of the PPT framework to show the relationship for each. She came up with an enhanced PPT framework as shown in Figure 5.

Figure 5

Edi-WOW: Adjusted People Process Technology Framework of J.E. Dental Clinic



The enhanced PPT framework shows the relationships among people, process, and technology, and the interrelationship of each component, such as effectiveness, technical competency, and efficiency.

The fusion of process and technology increased efficiency in managing the patients' records. According to Kunanets et al. (2020), an information system saves time and increases the efficiency of the dental clinic because "it provides the formation of detailed statistics on all its processes [and] records management in real-time" (p. 9). The clinic's processes became more efficient because the team eliminated all the manual processes in patients' record management by migrating to an app, My Dental Clinic.

When people follow an established process, they become more effective. As defined by Bititci (2015), effectiveness is the extent to which the result of action meets our expectations or requirements, or specifications (p. 17). In an organization, people operate processes that lead to results. (Bititci, 2015, p. 64). Bititci (2015) suggested that if we are to manage the performance of our organizations effectively, we need to manage the performance of our business processes (p. 64).

The brainstorming sessions helped the team in its collaborations. The interventions involved changing the organization's processes, which addressed the main issue of long average process lead time of patient record management and the lack of a sustainable patient record management system. The interventions optimized patient record management and increased Anne's effectiveness in doing her tasks which helped her maximize the time she spent on her tasks. She also excelled in prioritizing her tasks and managing her time effectively.

The relationship between people and technology improved Dr. Rico and Anne's technical competency. Dr. Rico and Anne must know how to use My Dental Clinic to maximize the value of the adapted online system. The migration to an online system enabled Dr. Rico and Anne to build their technological competency. According to Bikse et al. (2021), building relevant competencies and digital skills is required when using ICT to work more effectively. To develop key competencies, specific skills, and qualities, a person must have an opportunity to



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acquire new knowledge and relevant competencies to live and work in the new digital environment (Bikse et al., 2021).

Last, the three components combined resulted in sustainability, as supported by the EDi-WOW. According to Schalock et al. (2016), sustainability characterizes an organization's ability to adapt to change and provide a range of valued service delivery opportunities and effective and efficient practices. With EDi-WOW, organizations can transform their business to improve efficiency, effectiveness, and technical competency.

Small businesses wanting to digitally enhance their ways of working could find this framework useful. Upgrading to an online system for patient records management contributes to the organization's efficiency, effectiveness, and technical competency, which, overall, would result in an organization's sustainability.

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Sugbo Negosyo Program Digital Card Implementation: Technology Acceptance and Satisfaction Among Microentrepreneur-Beneficiaries

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Abstract

Purpose – A digital card system (DCS) with a quick response (QR) code payment was utilized to facilitate the disbursement of the Cebu Province-initiated micro-entrepreneurial financial assistance program. Unprecedented in its implementation, this study evaluates the effectiveness of and satisfaction with the DCS e-payment utilization by the beneficiaries.

Design/methodology/approach - The research is a mix of quantitative and qualitative methods, participated by 212 beneficiaries through face-to-face interviews. The Technology Acceptance Model (TAM) is this study's framework, with the study's hypotheses tested through partial least squares structural equation modeling (PLS-SEM).

Findings - The PLS-SEM results show that the DCS is evaluated as *useful* and *easy to use*, influencing the beneficiaries' *attitudes* toward its use and their *actual use* of the DCS which contributed to their *satisfaction* with the DCS use.

Research limitations/implications –The study's results establish the predictive strength of the TAM framework in evaluating a government e-payment system, particularly on the *actual use* and *satisfaction* of the DCS use. The study did not include the benefits on the side of program administration, particularly that of convenience, efficiency, and transparency in government disbursements.

Practical and social implications – With the government's efforts of digitizing services intended for convenience, safety, and transparency, the results of this study bode well for future similar government-sponsored undertakings, investigating the citizens' technology diffusion readiness for e-payment using the DCS.

Originality/value – The implementation of the DCS in the disbursement and monitoring of a government micro entrepreneurial grant, along with the beneficiaries' digital funds utilization is unprecedented. The original value of this study is on analyzing the e-payment technology acceptance level of readiness of countryside beneficiaries, contributing to the success of the government program's grant disbursement and accounting.

Keywords: e-payment system, MSMEs, technology acceptance model, PLS-SEM



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Relevant SDGs: SDG 1 – No Poverty, SDG 9 – Industry Innovation and Infrastructure

Introduction

Background of the Study

The Philippine enterprise survey conducted by the Asian Development Bank in April-May 2020 on the impact of COVID on the business community reports that “two-thirds of businesses closed temporarily . . .,” and the report further discloses that “constraints on additional credit were also binding” (p. 9). In response to the COVID-19 health crisis that resulted in the extensive loss of income due to operational stoppages among micro-enterprises in the province of Cebu, the provincial government launched the *Sugbo Negosyo* livelihood assistance program for micro-entrepreneurs in partnership with the Department of Trade and Industry Cebu Provincial Office (DTI CPO) and the Mandaue Chamber of Commerce and Industry (MCCI). In late 2020, a Php100 million budget allocation was approved for the unprecedented Cebu province-led economic stimulus program intended to resuscitate and encourage the opening of new micro entrepreneurial activities in the countryside. The financial grants were to be expended by the beneficiaries to purchase materials and inventory to rev up their respective businesses.

Instead of providing cash as the medium of grant disbursement, the *Sugbo Negosyo program* (SNP) used the *digital card system* (DCS) with specific *QR codes* to facilitate the beneficiaries’ purchase transactions from accredited partner suppliers through the digital payment system. To ensure the success of the SNP, the DTI CPO conducted a series of Enterprise Development Seminars for the beneficiaries. The MCCI likewise initiated mentoring sessions to assist the beneficiaries in developing practical and effective strategies to improve their sales, widen their market reach, and sustain their operations.

Statement of the Problem

Because of the pioneering digital card utilization in a government financial assistance program, and due to the diverse levels of exposure to and experience with e-payment among the beneficiaries, information on the satisfaction of users of the e-payment system implemented in the SNP has yet to be assessed. There is a need to investigate the beneficiaries’ level of *technology diffusion readiness, acceptance, and satisfaction* with the use of the DCS with the QR codes in their purchase transactions.

Objectives

This study’s objectives are to evaluate the technology acceptance levels of the beneficiaries on the use of DCS as well as to evaluate the effectiveness of the DCS as experienced in the SNP. To investigate this study’s objectives, the beneficiaries’ experiences and perceptions were examined in terms of the *ease of use, usefulness, attitude towards, actual use, and satisfaction* with the digital card use in the latter’s purchase transactions and in keeping track of their purchases.

The study further explored how the beneficiaries’ *age* and *competence in the use of electronic gadgets* moderate the relationship between their perception of the: a) *ease of use* of the digital card, their *attitude* toward the digital card, and b) the *usefulness* of the digital card towards their *attitude* toward the digital card.

Significance

The evaluation of the technology acceptance and satisfaction of the digital payment adoption in the SNP is not only useful for the program assessment but also augurs well for future similar government undertakings where the digital card system



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payments may be patterned after. The implementation of the DCS addresses the aim of the Philippines' Department of Information and Communications Technology (DICT) to "transform the government into a digital platform providing transparent and accountable governance, efficient operations, direct citizen engagement, and innovation" (DICT, 2019, p.22). Moreover, the use of the mobile QR code payment is aligned with the strategic thrust of the Bangko Sentral ng Pilipinas (BSP) requiring payment service providers to adopt a National QR code standard. The findings of this study provide information that helps improve the SNP and educate other local government units and line agencies intending to introduce similar e-payment technology involving citizen engagement.

The SNP and the utilization of the digital payment system fall within the UN Sustainable Development Goal (SDG) Target 9.3 which espouses to "*increase the access of small-scale industrial and other enterprises, particularly in developing countries, to financial services including affordable credit and their integration into value chains and markets.*" Related to and as a consequence of SDG 9 is SDG 1, "No Poverty" which identifies as one of the goals the creation of "*sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions.*"

Scope, Limitations, and Delimitations of the Study

One of the aims of implementing the DCS in the SNP was to facilitate the disbursement of the financial grant and for the convenience and safety of the beneficiaries. The other aim is for the SNP administrators to track real-time the purchase transactions of the beneficiaries. This study covered only the beneficiaries' experiences in and satisfaction with the use of DCS. The study did not include the benefits accrued on the side of program administration, particularly that of convenience, efficiency, and transparency brought about by the e-payment technologies.

Literature Review

The Technology Acceptance Model (TAM) serves as this study's theoretical framework. Introduced by Davis (1989), TAM is considered to be one of the most influential and prominent models examining technology acceptance (Mois & Beer, 2020; Purnamasari et al., 2020; Charness & Boot, 2016). In its inception, the main objective of the TAM framework was to "understand the motivation of users in using specific technologies" (Wibowo, 2019). As a model, TAM is used to predict the "factors that have an impact on technology usage behavior" (Al-Qaysi et al., 2020, p. 4963). In the seminal model of technology acceptance, Davis (1989) proposed two main theoretical constructs for exploring the influence on the adoption, acceptance, and use of information systems. These constructs, namely, "*perceived ease of use*" (PEOU) and "*perceived usefulness*" (PU), are used to "articulate the degree of user acceptance of technology" (Bvuma & Marnewick, 2020, p.6). Davis (1989) operationalized "*perceived ease of use*" as the degree to which "the potential user expects the target technology to be effortless" (Bvuma & Marnewick, 2020, p. 6). The construct "*perceived usefulness*" (PU) on the other hand, is operationalized by Davis (1989) as the "degree to which a person believes that a particular technology would increase his or her utility" (Ali et al., 2020, p. 4). Delorit (2021) in a study on the factors that affect mobile payments in the Philippines reports that the TAM is the framework used in the previous studies on e-payment. In the original TAM framework, Davis (1989) conjectured that there may also be other external variables that influence both the main constructs PEOU and PU. Other variables that have been measured along with PEOU and PU in the TAM are *subjective norms, attitudes, intentions, the ability of attitudes to influence intentions*, and other related variables (Wibowo 2019, p. 2). Davis (1989) hypothesized that "*attitude towards using the technology*" is influenced by PEOU and the PU and that PEOU has a direct influence on PU. Finally, the construct "*attitude towards using the technology*" is



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hypothesized to determine whether or not the user will use the technology.

This study utilizes TAM in investigating the participants' experiences and perceptions of the use of digital card payment, as implemented in the SNP. While not in the original TAM framework, this study also explores whether *age* moderates the relationship between a) *perceived ease of use* and *attitude towards use*, and, b) *perceived usefulness* and *attitude towards use*. In a study on the resistance to the use of online banking, Chaouali and Souiden (2019) report significant differences across different age groups. Earlier on, Morris and Venkatesh (2000) report the negative moderation of the increase in *age* to attitudes to technology adoption.

This study likewise investigates the moderating effect of *gadget use competence* on the relationship between the a) *perceived ease of use* and *attitude towards use*, and, b) *perceived usefulness* and *attitude towards use*. Cognizant of technology diffusion and the ubiquity of gadget use, participants who may have been exposed to such may have a favorable predisposition to adapt to the use of digital payments. Anshari et al. (2021) in their study on the factors that influence the adoption of eWallet report that the "constant interaction of various types of technology, paired with the rising Internet connectivity" (p.10) has resulted in the "minimal impact of the digital wallet adoption" (p. 10) among the millennials.

In the Philippines, digital payments, particularly those involving government transactions have made their inroads, albeit in incremental diffusion. The BSP formulated the Digital Payments Transformation Roadmap 2022-2023, outlining the country's online and digital money applications for digital payments, with the thrust to "promote financial inclusion and digitization of payments." The BSP discloses that lower transaction costs and the elimination of barriers to ownership of transaction accounts are the benefits of such digital payment innovations. The BSP roadmap likewise

suggests that "*the shift towards digital payments has become an imperative as physical distancing rules become the norm . . .*" (p.1).

Government digital payment has been implemented in the country's social welfare amelioration program by way of partnering with financial service providers. Estioko et al. (2022) attributes the improvements in the 4Ps transfers and the SSS benefits disbursements to the increase and value of these government digital payments. At present, the BSP requires payment service providers to adopt a National QR Code Standard, enabled by the emerging ubiquitous application of the QR code in the country. In digital payments through machine-readable QR codes, smartphones are used for transactions by scanning the QR codes provided by the merchants. The BSP envisions this regulation to be beneficial, "*Leveraging on the efficiency, safety, and affordability of the QR technology,*" by "*enabling micro and small merchants to accept digital payments which were meant for well-established businesses . . .*"(p.14).

Meanwhile, embodied in the Philippines' E-Government Masterplan 2022, the DICT articulates its commitment to "be the enabler, innovator, achiever, and leader in pushing the country's development and transition towards a world-class digital economy" (DICT, 2019, p. 4). The same document declares the overall objective of e-government which is to "improve public administration by building the infostructure and shared services, automating processes, and providing online portals to citizens and businesses" (p. 4). Specifically, the DICT identifies the following strategic objectives which may be achieved through the digital transformation of government, to wit: optimize government operations; engage citizens; transform services and empower government employees. Thus, the potential of digital payment technology as implemented in the SNP may provide opportunities for the challenging transition to the above-espoused process of e-government.



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The United Nations General Assembly recognizes the potential of e-Government in promoting transparency, accountability, and citizen engagement in public service delivery (UN, 2016). Huffman (2017) defines e-government as “the use of ICTs by government agencies to improve the delivery of information and public services to its citizens through transparent and accountable means” (p.27). According to the World Bank (2015), the benefits of e-government include “less corruption, increased transparency, greater convenience, revenue growth and/or cost reductions” (p. 1). The intent of the implementation of the DCS in the SNP was that of convenience and safety amidst the Covid 19 circumstances and revenue generation among the affected microentrepreneurs. The DCS likewise was envisioned for the SNP administrators to monitor not only the real-time purchase transactions by the beneficiaries but also the tracking of appropriate merchandise purchases meant for the enterprises. These intentions find alignment with the benefits of e-government identified by the World Bank.

This study assesses the effectiveness of the DCS e-payment as implemented in the SNP. The research objective is thus to evaluate the digital card system, specifically investigating the impact of *perceived ease of use*, *perceived usefulness*, and *attitude towards use*, the *actual use* of, and the *satisfaction* with the digital card system among the program beneficiaries. This study adopts the basic constructs of the Technology Acceptance Model (TAM), inspecting the relationships of the antecedents to test the *actual use* and *satisfaction* of the participants with the implementation of the DCS.

Research Philosophy, Framework, Design and Methodology

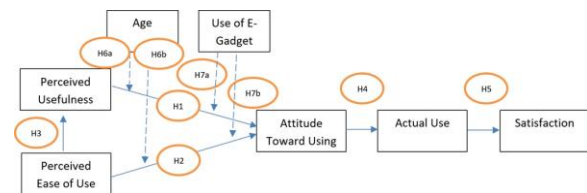
Framework

Figure 1 shows the conceptual framework of the study, illustrating the relationships of variables to be investigated, namely *Perceived Ease of Use* as well as the endogenous variables of *Actual Use*,

Perceived Usefulness, *Attitude towards Use*, and *Satisfaction*. Two moderating variables, *Age*, and *Use of Gadgets Competence* are likewise investigated in terms of their respective moderating influence on the relationship between *Perceived usefulness* and *Perceived ease of use* on the *Attitude* toward using the digital card.

Figure 1

Study Framework



In the seminal technology acceptance model (TAM), Davis (1989) investigated the influence of *perceived usefulness* and *perceived ease of use* on the *attitude toward the use of the technology*. The original TAM also evaluated the contribution of *perceived ease of use* to *perceived usefulness*. Thus, for this study, the following hypotheses are presented:

- H1: *Perceived usefulness* has a significant positive effect on *Attitude* toward using the digital card;
- H2: *Perceived ease of use* has a significant positive effect on *Attitude* toward using the digital card;
- H3 *Perceived ease of use* has a significant positive effect on *Perceived usefulness*

In addition, the TAM examines the impact of *attitude towards using the technology* on the *actual use* of the technology. Thus, the following hypothesis is presented:

- H4: *Attitude* towards using the digital card has a significant positive effect on the *Actual use* of the digital card



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This study extends the investigation of the *actual use* of the technology and its impact on the *satisfaction* of its use. Thus, the following hypothesis is also presented:

- H5: *Actual use* of the digital card has a significant positive effect on *Satisfaction*

Moreover, the *age* of the participant and the participant's exposure to and competence in *gadget use* are two variables tested to evaluate the moderating influence on *attitude towards using technology*. Thus, the following hypotheses are presented:

- H6a: *Age* moderates the effect of *Perceived usefulness* on the *Attitude* toward using the digital card
- H6b: *Age* moderates the effect of *Perceived ease of use* on the *Attitude* toward using the digital card
- H7a: *Gadget-use competence* moderates the effect of *Perceived usefulness* on the *Attitude* toward using the digital card
- H7b: *Gadget-use competence* moderates the effect of *Perceived ease of use* on the *Attitude* toward using the digital card

Methodology

The research is a mix of quantitative (causal) and qualitative methods. Data were collected ex-post-facto from the program beneficiaries through face-to-face surveys conducted from November to December 2021, towards the phasing out stage of the program. The sampling frame used was the list of the beneficiaries selected by the respective local government unit's program point persons. A total of 232 participants were interviewed, whose informed consent was obtained before the interviews. However, only 212 questionnaire responses were considered valid. The survey instrument consisted of three sections, namely, the classification questions, the scale items questions, and the open-ended questions. The scale item questions constitute the core questions of the constructs in Figure 1 designed

to measure the technology acceptance model, including *Perceived ease of use* (PEOU), *Perceived usefulness* (PU), *Attitude toward Using* (A) as well as the constructs of *Actual use* (AU), and *Satisfaction* (S). In addition, the participants' *Age* (AG) and self-assessment of their competence level of *Use of e-gadget* (EG) were also obtained. The questions were in the Cebuano Visayan dialect and were back-translated before the interviews. The participants were asked to rate on a five-point Likert scale their agreement/disagreement with the scale items (SA = Strongly Agree; A = Agree; NAND = Neither Agree nor Disagree; D = Disagree; SD = Strongly Disagree).

Based on this study's hypotheses, the following endogenous variables were investigated in the relationships of their respective independent variables: *Actual Use* (AU), *Attitude toward Use* (A), *Perceived Usefulness* (PU), and *Satisfaction* (S). The variables *Age* (AG) and *Use of e-gadget* (EG) were also tested for their moderating effects on the relationships between *Perceived usefulness* (PU) and *Attitude Toward Use* (A) as well as on the relationships between *Perceived ease of use* (PEOU) and *Attitude toward the Use* (A). The hypotheses were tested using partial least squares structural equation modeling (PLS-SEM) through the SmartPLS software.

The procedure was reiterated until the values indicated the acceptability of the model. The items in the scales were tested for internal consistency and Cronbach Alpha was used to test for reliability. The factor loadings were obtained to evaluate the convergent validity of the variables' scales and the significant correlations of the variables investigated indicate PLS-SEM fit for analysis.

For the qualitative part, an open-ended question asked the participants' impressions of the Sugbo Negosyo experience. The NVivo software was used to summarize the open-ended answers and the thematic coding analysis framework of Harding (2015) was used to categorize the open-ended responses.



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Data Results and Analysis

Table 1 shows the survey participants' *Age* and self-assessment of their *Use of Gadget Competence*. The mean *age* is 46.25 years, while the mean number of years of *gadget use* is 10.12. Also shown are the years of gadget use. Only 11% assessed themselves to be "not competent" in gadget use.

Table 1

Participants' Age and Self-Assessment of Gadget Use Competence

Age	n		%	Years of Gadget Use		Self-Assessment of Gadget Use Competence	n		%
	n	%		n	%		n	%	
23 - 32	32	15.1	0 - 5	64	30.2	Not competent	23	10.8	
33 - 42	51	24.1	6 - 10	82	38.7	Not so competent	108	50.9	
43 - 52	63	29.7	11 - 15	30	14.2	Competent	81	38.2	
53 - 62	45	21.2	16 - 20	31	14.6				
63 - 73	21	9.9	21 - 24	5	2.4				
Total	212	100.0	Total	212	100.0	Total	212	100.0	

The scales of the variables *Perceived Usefulness*, *Perceived Ease of Use*, *Attitude Toward Use*,

Actual Use, and *Satisfaction* were tested for factor loadings and internal consistency. Table 2 shows the values of the mean and Cronbach's alpha of variables. The values are greater than 0.07, which are assessed as "satisfactory to good" thresholds of reliability (Hair et al., 2019). The scale means scores range from 3.33 to 3.36, with the transmutation equivalent to "strongly agree."

Table 2

Scale Description, Factor Loadings, and Reliability

Scales and Items	Mean	Cronbach Alpha
<i>Perceived Usefulness</i>	3.36	0.917
<i>Perceived Ease of Use</i>	3.32	0.887
<i>Attitude toward Use</i>	3.35	0.913
<i>Actual Use</i>	3.35	0.909
<i>Satisfaction</i>	3.36	0.931

Transmutation Scores of Scale Means

Strongly Agree: 3.26 – 4.0; Agree: 2.51 – 3.25

Table 3 shows the "R-square values" of the endogenous latent variables, namely, *Actual Use*, *Attitude toward Use*, *Perceived Usefulness*, and

Satisfaction. The R-square statistics refer to the variance in the endogenous variable as influenced by the exogenous variable(s). The threshold values of 0.25, 0.5, and 0.7 are typically used to characterize a weak, moderate, and strong coefficient of determination, respectively (Hair et al., 2016).

Table 3

Coefficient of determination (R²)

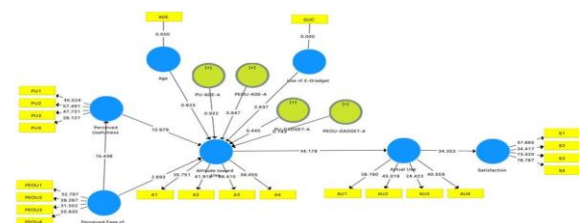
R-Square of the Endogenous Latent Variables		
Construct	R ²	Result
<i>Actual Use</i>	0.789	Strong
<i>Attitude toward Use</i>	0.809	Strong
<i>Perceived Usefulness</i>	0.497	Moderate
<i>Satisfaction</i>	0.744	Strong

Table 3 shows that the R-square value of *Actual Use* (AU) is 0.789 which means that 78.90% of the change in AU can be explained by *Attitude toward Use* (A). The table also shows the R-square value of *Attitude toward Use* (A), 0.809, which means that 80.9% of the change in A can be explained by *Perceived Usefulness* (PU) and *Perceived Ease of Use* (PEOU). Similarly, the R-square value of *Satisfaction* (S), 0.744, means that 74.4% of the change in *Satisfaction* (S) can be explained by *Actual Use* (AU). The R-square value of *Perceived Usefulness* (PU) is 0.497, which is considered moderate in strength. Only 49.7% of the change in *Perceived Usefulness* (PU) can be explained by *Perceived Ease of Use* (PEOU)

Figure 2 shows the structural model after running the PLS-SEM analysis.

Figure 2.

Structural Model





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Table 4 summarizes the results of the path coefficients of all the hypotheses tested in the structural model, with their **t-values** with the associated **p-values**. The results show significant correlations at a 5% level of significance between:

- Perceived Usefulness (PU)** and **Attitude toward Use (A)**, supporting **Hypothesis 1**;
- Perceived Ease of Use (PEOU)** and **Attitude toward Use (A)**, supporting **Hypothesis 2**;
- Perceived Ease of Use (PEOU)**, and **Perceived Usefulness (PU)**, supporting **Hypothesis 3**;
- Attitude toward Use (A)** and **Actual Use (AU)**, supporting **Hypothesis 4**; and,
- Actual Use (AU)** and **Satisfaction (S)**, supporting **Hypothesis 5**.

However, both **Age (AG)** and **Use of e-Gadget (EG)** did not moderate the relationships between **Perceived Usefulness (PU)** and **Attitude toward Use (A)** as well as between **Perceived Usefulness (PU)** and **Attitude toward Use (A)**. Thus, **Hypotheses H6a, H6b, H7a, and H7b** are not supported.

Table 4

Significant individual path coefficients in the structural model

Path	Original Sample (O)	Path Coefficient (t value)	*p values	Hypothesis Test Results
<i>Perceived Usefulness</i> → <i>Attitude toward Use</i>	0.725	10.979	0.000	H1 is supported
<i>Perceived Ease of Use</i> → <i>Attitude toward Use</i>	0.208	2.693	0.007	H2 is supported
<i>Perceived Ease of Use</i> → <i>Perceived Usefulness</i>	0.705	15.436	0.000	H3 is supported
<i>Attitude toward Use</i> → <i>Actual Use</i>	0.888	44.178	0.000	H4 is supported
<i>Actual Use</i> → <i>Satisfaction</i>	0.863	34.353	0.000	H5 is supported
<i>PU-AGE</i> → <i>Attitude toward Use</i>	0.059	0.922	0.357	H6a is not supported
<i>PEOU-AGE</i> → <i>Attitude toward Use</i>	-0.059	0.847	0.398	H6b is not supported
<i>PU-E-Gadget</i> → <i>Attitude toward Use</i>	-0.028	0.445	0.657	H7a is not supported
<i>PEOU-E-Gadget</i> → <i>Attitude toward Use</i>	0.011	0.143	0.886	H7b is not supported

*p<0.05**p<.01

The descriptive summary results show that the means of the scales (**perceived usefulness, perceived ease of use, attitude toward use, actual use, and**

satisfaction) are equivalent to “**strongly agree**.” The results of the hypotheses testing sustain **Hypotheses 1 and 2**, indicating how each of the variables **perceived ease of use** and **perceived usefulness** significantly contributes to the **attitude towards the use** of the DCS. Also, the path analysis supports **Hypothesis 3**, showing the significant contribution of **perceived ease of use** to **perceived usefulness**. The results further show how the **attitude towards the use** significantly affects the **actual use** of the DCS, supporting **Hypothesis 4**. In turn, the **actual use** reveals its significant contribution to the **satisfaction** of the DCS use, supporting **Hypothesis 5**.

Also tested in this study are the moderating effects of **age** and **competence in gadget use** between the relationships of **perceived ease of use** and **attitude towards the use** of the DCS as well as the **perceived usefulness** and **attitude toward the use** of the DCS. Approximately 60% of the participants’ age ranges from 43 to 73, indicating a wide age gap. The results of the path analysis show that **age** fails to moderate the relationships between both the **perceived ease of use** and **attitude towards the use** of the DCS as well as **perceived usefulness** and **attitude toward the use** of the DCS. Thus, **Hypotheses 6a and 6b** are not supported.

Similarly, the results of the path analysis show that the beneficiaries’ competence in **gadget use** also fails to moderate the relationships between both the **perceived ease of use** and **attitude towards the use** of the DCS as well as **perceived usefulness** and **attitude toward the use** of the DCS. Thus, **Hypotheses 7a and 7b** are not supported.

Table 5 summarizes the participants’ open-ended responses to the question “Please share your experiences on your participation in the Sugbo Negosyo program.” The outcomes generated six thematic categories, namely: the usefulness of the DCS, the ease of use of the DCS, the attitude of the participants towards the use of the DCS, their satisfaction and dissatisfaction with the use of the DCS, and some participants’ suggestions. Except



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for the last category of suggestions, the first five thematic categories find similarities with the TAM variables tested in this study.

The first category is on the perceived usefulness of the DCS, with the responses focusing on how the DCS facilitated the purchase transactions and in keeping track of their business requirement spending. The second category is on the perceived ease of use of the DCS and how convenient it was for the beneficiaries to have done their purchases. The third category is on the beneficiaries' attitude toward the attributes of the DCS use, citing that such a system is a great idea and that the DCS carries features that safeguard their purchases. The fourth and fifth categories present the participants' satisfaction and dissatisfaction, respectively, with the use of the DCS in their purchase transactions. The participants' articulation of their appreciation of having been exposed to different suppliers is considered as the satisfaction of the DCS use.

Most of the dissatisfaction responses, on the other hand, include the limited number of suppliers, with some accredited vendors not carrying the merchandise and/or raw materials required for the beneficiaries' business operations. The other sources of disappointment include the in-store delays due to the long queue of beneficiaries shopping at the same time, as well as the cashiers' "learning curve" on the DCS transactions due to the novelty of the system. Finally, one of the articulated recommendations is to have the partner suppliers prepare the beneficiaries' database information to expedite point-of-sale transactions.

Table 5

Open-ended thematic responses on the Sugbo Negosyo Program experiences

- I. Usefulness of the digital card system
 - A. Facilitated Purchase Transactions
 - B. Easy to Track Expenses

- 2. Ease of Use of the digital card system
 - A. Easy to Use
 - B. Convenient to use; special beneficiaries' lane in SM Seaside
- 3. Attitude toward the Sugbo Negosyo digital card system
 - A. Safe to Use
 - B. Great Idea
- 4. Satisfaction with the Sugbo Negosyo digital card system
 - A. New supplier's introduction
- 5. Dissatisfaction with the Sugbo Negosyo digital card system
 - A. Transaction In-store delay due to long queue of beneficiaries
 - B. Problems encountered during purchase transactions
 - C. Limited purchases of business requirements due to limited supplier stocks
- 6. Suggestions for the Sugbo Negosyo digital card system implementation
 - A. Suggestions to facilitate in-store purchase transactions: prepare the database of beneficiaries

Discussion, Conclusion, Recommendations

The descriptive summary results of the TAM constructs investigated in this study suggest

that the DCS is perceived by the beneficiaries as *easy to use* and *useful*, revealing the beneficiaries' high satisfaction levels with the use of the DCS. The path analysis hypothesis test results find consistency with the original technology acceptance model which proposed that *perceived usefulness* is influenced by *perceived ease of use*.

The results of investigating the moderating effect of *age* and *gadget use* reveal that the influence of the participant's perception of the *ease of use* as well as *usefulness* on the *attitude toward the use* of the DCS remains regardless of age range, not affecting both the relationship between *ease of use* and *attitude toward the use* and the relationship between *usefulness* and *attitude toward the use* of DCS. Similarly, the lack of moderating effect of the competence of *gadget use* suggests that the influence of the participant's perception of the *ease of use* as well as *usefulness* on the *attitude toward the use* of the DCS remains regardless of the participant's level of competence in the use of common electronic gadgets.

This study's results demonstrate the predictive strength of the TAM on the *attitude towards the use* and the *actual use* of the DCS. The success of the use of the DCS as implemented in the SNP hinges on the favorable attitude of the beneficiaries towards its use. The beneficiaries were able to use the DCS for



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its intended purpose and the results further reveal that they were *satisfied* with the use of the DCS.

While unprecedented, the implementation of the DCS payment in the SNP was able to deliver its intent in facilitating the distribution of the financial grant as well as in monitoring the grant's appropriation. Despite its nascent stage, the technology acceptance model path analyses provide encouraging outcomes, that is, the beneficiaries assess the digital card system as *useful*, and *easy to use*, and has provided them the *satisfaction* of its use in their purchase transactions, regardless of age difference and competence in gadget use.

The study results imply compatibility of the DCS use with the aim of the DICT's E- Government Masterplan 2022 on the digital transformation of government. The findings also show how the DCS provides some of the benefits of e-government as outlined by the World Bank including greater convenience, increased transparency, and fewer opportunities for corruption. Moreover, the study's outcomes are aligned with the thrust of the BSP as embodied in its Digital Payment Transformation Roadmap of promoting "financial inclusion and digital system of payments." The DCS facilitated the participation of the beneficiaries to the SNP including those without bank accounts. This study demonstrates the theoretical applicability of TAM in a government e-payment program.

For a government-initiated digital payment system, the results of the DCS implementation bode well for future similar projects. If the intention is to facilitate digital payments among citizens, particularly where financial inclusion for the unbanked is concerned, and in the current situation where physical payment transactions remain a challenge, then the prospect of adopting a digital payment system similar to the SNP implementation is auspicious. Future government projects involving citizen participation with e-payments may be informed by this study's results.

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Digitalization during COVID-19 Pandemic: Impact on Business Performance in the Philippines

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Abstract

Purpose – This study examines how business digitalization can enhance the relationship between information technology, employee skills, and digital strategy to improve business performance during a crisis, looking through the lens of a resource-based View.

Design/methodology/approach – The initial study was developed by reviewing the literature on previous studies related to enterprise digitalization, digital transformation, and windows of opportunity during COVID-19. Reference to previously designed instruments deployed through an online survey will examine the relationship among the variables.

Findings – The findings confirm that H2: CRD \square DO and H3: DO \square BF have a significant direct effect while H4: CRD \square DO \square BF have significant indirect effect. In summary, the total effect is significant among the variables.

Research limitations/implications – Online Survey was conducted due to the COVID-19 pandemic restrictions. The current research was limited and provided the opportunity to enhance future research.

Practical and social implications – This study will provide insight to aid readers in their decision-making process on how digitalization can contribute to business performance, especially during the crisis and lockdown.

Originality/value – The study will aid decision-makers in evaluating enterprise digitalization initiatives and how they can create organizational readiness to prepare their resources for this paradigm shift.

Key Words: Resourced-based view, digitalization, employee skills, digital strategy, financial performance

Relevant SDGs: SDG 8 Decent work & economic growth, SDG 9 Industry, innovation, and infrastructure

Introduction

Background of the Study

The COVID-19 outbreak is a global crisis negatively impacting our economy (Hu H. et al., 2021; Hu S. & Zhang Y, 2021; Abed, 2021; Kaushik, M. & Guleria, N., 2020; Shen H. et al., 2020 Adam & Alarifi, 2021; Xiong et al., 2021). Chapman et al. (2019) cited Taleb (2007),



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considering impossible events that created havoc are called the *Black Swan phenomenon*, known to express surprise for its rarity and possible implications. It is synonymous with the COVID-19 phenomenon.

The COVID-19 pandemic is two-faced. First, it is considered a black swan phenomenon, and second, it gives an excellent opportunity to thrive in a digital environment (Kemp, 2021). Most businesses shifted online, given the face-to-face restrictions. New business models are on the rise, giving way to digital ecosystems. The change in customer preference is moving towards eCommerce; mobile wallets, online deliveries, digital marketing, and online logistics services are at the forefront, and rising stars are to survive the challenges of the pandemic. (Kemp, 2021). The pandemic moved the brick-and-mortar businesses to digital entrepreneurship to thrive during the pandemic. eCommerce became a new option for entrepreneurs as it showed a new channel of opportunities to increase their market reach.

Statement of the Problem

Given these challenges faced during this crisis, the challenge we aim to address through this study is: "Does digitalization of the business enhance the relationship between information technology, employee skills (know-how), and digital strategy, leverage in improving business performance during a crisis?"

This study will examine the relationship between the dependent variable, business performance, independent variables, information technology (internet, applications, digital marketing, fintech, logistics et al.), employee skills (know-how), digital strategy, and mediating variable digitalization outcome. Understanding the relationships between all variables would provide better insights to identify the factors for prioritizations to balance the situation and aid the business survive during this pandemic. This study focuses on the following research questions:

- RQ1. What degree of influence does "information technology, employee skills, and digital strategy" (Robert Eller, 2020) have on

the improvement of business performance?

- RQ2. What is the degree of influence of digitalization outcome on business performance?
- RQ3. What is the degree of the "relationship between IT, employee skills, digital strategy" (Robert Eller, 2020), and digitalization outcome leading to improvements in business performance?

Objectives of the Study

The study aims to identify and establish the significant relationships between business performance, information technology (e.g., internet, applications, digital marketing, fintech, logistics et al.), employee skills (know-how), digital strategy, and digitalization outcome contributes to the improvement of the company's business performance and identifying key factors that may affect its growth.

Significance of the Study

(Crittenden et al., 2019) cited, "Survival and growth in the ever-rapidly changing marketplace require us to divest ourselves of legacy thinking and embrace internal innovation that adds value"(p.259). Bizhanova et al., 2019) suggested that "Internet penetration has changed traditional regulations of business in all aspects of our lives"(p.2). Many have moved to the digital platform disrupting the legacy of doing business, especially during the pandemic, where regulatory bodies-imposed quarantine restrictions on mobility, face-to-face transactions, and more.

The study will benefit businesses to be flexible to adapt to the changing demands of the situation, customers' needs, and changing government restrictions. As a result, it can be an input for the company to develop various strategies to meet customers' needs. Management and business owners, as the company's decision-makers, will benefit from this information, as tools will provide inputs to understand the degree of relationships amongst the factors affecting the company's operation. Results may assist them in prioritizing initiatives to help the company's performance growth initiatives. It will also show the



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employees' skills gaps, process gaps that may need rectification, or urgent investments in some initiatives to bridge the identified gaps and move efficiently towards the new normal (Eller et al., 2020; Rodríguez et al., 2020, p.124). In effect, it may also provide inputs to policymakers and government to hasten policy approvals to aid the country's economic development.

We must adapt to the new normal to hasten our contribution to the country's economic growth. Challenges are opportunities in disguise; there are growth opportunities. Crittenden et al. (2019) cited, "You either disrupt your industry, disrupt yourself, or become the victim of disruption" (p.266)

Scope and Limitation

The study was conducted in the Philippines over a limited period during the COVID-19 pandemic. The researchers opted for an online survey due to the COVID-19 restrictions. In addition, validation calls were performed to support the respondents.

Five (5) variables were identified during the early part of the research. These variables were information technology representing the internet, fintech for digital payments; digital marketing; logistics for ride hauling and delivery services; and eCommerce. Business performance means financial growth.

Finally, the outcomes' validity and results at the time of the analysis. Future research relevant to this study is not considered, as the validity of the current results may change for future research.

Literature Review

The literature review will first examine the impact of the COVID-19 pandemic globally and in the Philippines and how most businesses transferred to the digital ecosystem in response to business challenges, government restrictions, and changing customer preferences. Next, we examine the concept of Resource Based View and how the idea links to digitalization during the COVID-19 pandemic and can provide an opportunity to impact business

performance in the Philippines positively.

Impact of the COVID-19 pandemic

The COVID-19 pandemic created havoc globally, resulting in mandatory policy lockdowns, limiting mobility, limiting face-to-face activities, and mandatory social distancing was observed (Inter-Agency Task Force, 2021; World Bank, 2020). These measures affected business sectors resulting in job loss (World Bank, 2020). The Philippines also felt the impact of these restrictions, reflected in our negative growth of -8.3% for Q4 of 2020. The annual Gross Domestic Product (GDP) of -9.6%. The industry's rate from 2018 to 2019 is 5.5%, with a negative growth of -13.2% for 2019-2020. In the service sector, from 2018-2019, there was 7.2% growth, and from 2019-2020 a negative growth rate of -9.2% (Philippine Statistics Authority, 2022). These issues have also greatly affected employment, showing negative growth and even lower for the same period compared to 2019 and 2020 (International Labor Organization, 2020).

COVID-19 Two-faced perspective

The COVID-19 pandemic is two-faced; first is the negative impact on the global economy, and second, it gave an excellent opportunity to thrive despite the pandemic restrictions.

A paradigm shift is a key to recovering business performance. We need to work and look for solutions to adapt to the new normal and help our economy bounce back slowly. (Shen et al., 2021) The global impact varies based on the region's degree and speed of operation, affecting corporate performance given the different growth rates within the region. (p2217)

A Paradigm Shift and Change in Customer Preference

To minimize the impact of the crisis on the business, new business models like work from home, digitalization, eCommerce, Digital Marketing, and Fintech are the recent business trends that were adopted to cope with the crisis and became the alternative to the traditional means. (Kaushik &



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Guleria, 2020, p.10; Kemp, 2021). Globally, internet usage is 59.5% (4.66Billion) of the population with a growth of 7.3% (approximately 316 million and 76.8% of the global population purchased a product online. (Kemp, 2021). Digitalization has been the direction of most businesses to address customers' needs and improve company performance. Product searches and purchases have transferred primarily online due to changes in customer behavior and imposed restrictions, limiting mobility. (Kemp, 2021) An estimated 80.2% of the population purchased goods online, and 89.3% searched for products or services. (p71). In the same way, there was also an increase in demand for digital payments, online hailing services, and logistics services which completed these transactions to complete the non-face-to-face customer experience (Kemp, 2021). Companies have also shifted from traditional marketing to digital marketing, as seen in the increase in demand and ads in various social media applications (Kemp, 2021).

Leveraging digital technologies to reach the target market during COVID-19 lockdowns to address the challenges due to COVID-19 restrictions, the business owners deemed it necessary to move to the preferred, ready, and widely used digital technologies and innovations (Kemp, 2021). As we adapted to the new normal, we were all forced to go online from work, school, and business. As they say, this is the new normal. Not all companies could adapt quickly, and those who thrive were able to move to the digital platform. Crittenden et al. (2019) cited, "You either disrupt your industry, disrupt yourself, or become the victim of disruption" (p.266)

Insights on Resource-Based View

The resource-based view (RBV) concept examines the firm's organizational capabilities. The firm's resources of competitive advantage are valuable, rare, difficult to imitate, and non-substitutable (VRIN) and controlled by the firm to develop, nurture and protect its competitive advantage (Barney, 1991, p.117; Trung Thanh et al., 2020; Eller et al., 2020; Verhoef et al., 2021). It proposes the effective use of the organizational capabilities and resources that will enable firms to implement better business strategies

to generate valuable products and services for the market. It examines the internal resources and its performance, looking into the company's strength reflected in its resources and capabilities influencing its strategic decisions (Tywoniak, 2005). The essence of RBV is to meet the four conditions of steady, sustained competitive advantage (Peteraf, 1993).

Barney (1991) defines a firm's resources as the organization's assets, capabilities, information, knowledge, etc., which contribute to the firm's business performance and competitive advantage, which translate to the firm's economic value. The organization's sustained competitive advantage is its ability to provide value-creating products and services that compete with the competitor's inability to duplicate the strategy (Barney, 1991, p.117).

One step to achieving a firm's competitive advantage is regular assessment of the company's resources and the firm-specific investments by their stakeholders like employees, suppliers, and customers (Hoskisson et al., 2018; Barney, 2018; Freeman et al., 2021). Building potential capabilities through skills acquisition through learning is one way to ensure the company can grow its resources' competencies and be ready to face new challenges (Barney, 1991). The resource-based view focuses on protecting resources for the current competitive advantage. However, given the difficulties we experienced with the COVID-19 pandemic, emphasis on protecting existing resources may be shifted to continuously creating capabilities or resources to yield competitive advantage (Levitas & Ndofor, 2006; Winter, 2003). On the contrary, given the pandemic dynamics, the firm must extend its capabilities to deal with this changing environment. (Teece et al., 1997). Winter, (2003), cited by Levitas & Ndofor, (2006), asserted that "RBV has advanced to the continuous creation and augmentation of resources and capabilities, and beyond the now-obsolete protection of (static) competitive advantage."

Digitalization during the COVID-19 pandemic, a time for change

As a result of the COVID-19 pandemic, businesses need to rethink their business continuity plans to



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ensure their readiness to operate. The pandemic created a paradigm shift from traditional brick and mortar towards a virtual digital ecosystem due to the lockdowns, mobility restrictions, and changes in customers' preferences. Companies need to reevaluate if they can still provide the competitive advantage to ensure the company's positive business performance growth.

Survival and growth during a crisis require crisis preparedness. Crisis preparedness is vital for companies to maintain their competitive advantage to achieve sustainable development to promote positive business performance. Companies must innovate on their strengths and identify the resource gaps (Crittenden et al., 2019). Our essential understanding of RBV leads us to identify some key resources vital to digitalization. Employee competencies are crucial for organizations to move toward digitalization (Blanka et al., 2022; Weber et al., 2022). Address the employee skills gap to ensure the employee's readiness to incorporate new technologies, processes, procedures, and customer needs to align with the changes in response to the pandemic restrictions (Verhoef et al., 2021; Eller et al., 2020). During the pandemic, we saw the rise of various digital ecosystems, platforms, and applications adapting to the channels and customers' expectations (Crittenden et al., 2019; Kemp, 2021; World Bank, 2020). In the Philippines, we experienced negative growth during this period. Not all have transferred from brick-and-mortar to digitalization of their business as many have decided to close shops (Philippine Statistics Authority, 2022; World Bank, 2020). Organizations have a unique strategy in response to their current directions, challenges, goals, and growth. They look into "value creation, value capture mechanism, and value proposition of the technology." (Eller et al., 2020, p.121). Understanding the influence of information technology, employee skills, and digital strategy on improving business performance is crucial to ensure our competitive advantage. President Ferdinand Marcos Jr recognizes the need for local executives to harness innovations in digitalization to provide better service to Filipinos (Peña, 2022). Furthermore, Peña, (2022) cited, "It is crucial that local businesses understand and equip themselves to move the same direction as we, "as data

from the World Economic Forum and the Asian Development Bank already highlighted the "trend" on digital transformation, saying that the COVID-19 crisis even "served as a watershed moment for digital transformation to blossom."

Research Philosophy, Framework, Design, and Methodology

Research Philosophy

The current study undertakes positivism to identify the variables' relationships and causality. The study entails working on the data gathered through an online survey. The researcher shall maintain an objective stance, given that it will follow a positivist philosophy.

Theoretical Framework Background: A Resource-based View and Digitalization

The foundation of the study aligns with the proposition of the RBV on the competitive advantage, which we would equate with the organization's business performance (BP) through the organization's resources and capabilities (Barney, 1991). The study carries out the conceptual framework inspired by the study of Verhoef et al. (2021) and Eller et al. (2020) on digitalization and digital transformation.

Digitalization is transitioning from analog to digital; an example is an online survey and online ordering compared to the traditional way (Verhoef et al., 2021; Eller et al., 2020). Digitalization includes process improvement that enhances customer experiences and cost-saving, while digital transformation is a companywide change that leads to new business development (Verhoef et al., 2021, pp. 889-891; Eller et al., 2020). Furthermore, Gartner defined digitalization as "the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business." (Gartner Inc., 2021). This study will focus on digitalization as a business performance enabler. This section will highlight key elements we would consider in the study.



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In digitalization, *Information Technology (IT)* is a change catalyst that may initiate changes in existing processes. Through digitalization and information technology, optimized business processes by integrating various systems and technologies, adding customer value and customer experience, and increasing employee efficiency (Verhoef et al., 2021, p.891). IT enables digitalization.

Employee skills are vital for any change initiatives, just like digitalization. Skills acquisition through learning will ensure success in implementing digitalization initiatives (Blanka et al., 2022; Weber et al., 2022; Verhoef et al., 2021; Eller et al., 2020). We expect a higher adoption success rate when change recipients easily understand how to integrate the new processes with the recent system changes in their daily routines. Integrating and blending new learnings and encouraging knowledge exchange among peers is vital to the company's success. (Eller et al., 2020) *Digital Strategy* is not one size fits all. Organizations have a unique strategy in response to their current directions, challenges, goals, and growth plans. They look into "value creation, value capture mechanism, and value proposition of the technology" (Eller et al., 2020, p121).

The adoption of quarantine measures to control COVID-19 created a negative impact on all businesses. Some companies have to lay off workers and close their businesses and experience a financial crunch (Shen et al., 2021; World Bank, 2020; International Labor Organization, 2020).

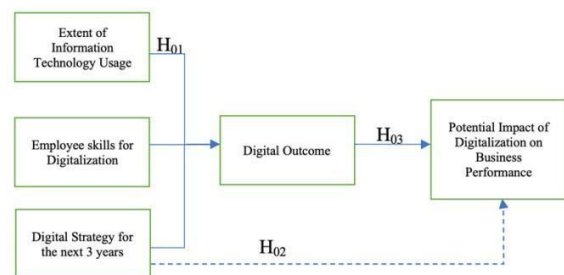
Information technology, employee skills, and digital strategy are vital components of an organization that we associate with RBV. Hence, we would treat the three as one and call it *Company Resources on Digitalization (CRD)*. *Digitalization Outcome and Business Performance*. The result of digitalization initiatives is vital to validate its relationship with business performance. IMD World Competitiveness Ranking measures how digital technologies are critical drivers for economic transformation in business, government, and broader society (IMD World Competitiveness Center, 2022). Showing the enhanced financial performance achieved by companies will provide evidence of the positive impact of digitalization

initiatives on the company. Financial performance is one of the indicators of the company's business performance.

Hypotheses Ho1 to Ho3 propose that company resources on digitalization (CRD) relate to digitalization outcomes. Digitalization outcome refers significantly to business performance (Eller et al., 2020). All essential resources discussed earlier contributions to the success of digitalization initiatives that may lead to positive business performance. Nguyen et al. (2013) Suggest that there are interconnected factors to make an IT adoption successful (p. 208). Digitalization involves key components like IT, employee skills, digital strategy, and digitalization outcomes (Eller et al., 2020). The digital strategy will help shape the other components from start to end. Employee skills are vital to the initiatives' success in building capabilities and resources (Eller et al., 2020, p.122). It assumes that the Company Resources on Digitalization (CRD) mediates digitalization outcome (DO) may lead to improved business performance (BP).

Conceptual Framework

Figure 1 *Conceptual Framework*
Company Resources on Digitalization (CRD)



In Figure 1 Conceptual Framework, the leftmost columns are the independent variables, information technology, employee skills, and digital strategy, and all are company resources on digitalization. Digitalization Initiatives consider these factors when implementing digitalization initiatives. They will impact the digitalization initiatives' success. The mediating variable, Digitalization Outcome, is located between the independent and dependent variables, business performance. We would like to measure its



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effectiveness as an enabler of business performance. Finally, the dependent variable, business performance, is located in the rightmost column in figure 1. Examination of results validates the impact of digitalization initiatives on business performance. We will consider financial performance indicators contributing to the growth, productivity improvement, and operation efficiency et al. of the business showing a positive increase in business performance.

In this study, we would like to investigate how digitalization initiatives add value to enable companies to cope during a crisis like what we are experiencing now, COVID-19. Many have moved to the digital platform disrupting the legacy way of doing business. "Information technology, employee skills, and digital strategy are determinants of the success of a digitalization initiative" (Eller et al., 2020). Digitalization outcomes mediate the relationship between them and business performance. Altogether they can create positive business performance by increasing business performance

Hypothesis

- **Ho1:** Company Resources on Digitalization does not significantly influence Digitalization Outcome.
- **Ha1:** Company Resources on Digitalization significantly influence Digitalization Outcomes.
- **Ho2:** Company Resources on Digitalization do not significantly affect Business Performance.
- **Ha2:** Company Resources on Digitalization significantly affect Business Performance.
- **Ho3:** Digitalization Outcomes do not significantly affect Business Performance.
- **Ha3:** Digitalization Outcome significantly affects Business Performance.

Methodology

This study worked under a survey research design. COVID-19 restrictions prevent any face-to-face transaction; hence, an online survey is the most feasible means to gather the data. The questionnaire adopts existing survey instruments from a previous

study by Eller et al. (2020). We conducted pre-testing. The online survey target audience is limited to three (3) key levels: business leaders, management and professionals, and entry-level and support team members of organizations. The business leaders are the decision-makers, usually the business owners or top management of the company. The management and professionals are often the influencers, middle management, experts, or field specialists. The entry-level and support are the front liners who experience the challenges and would request change or improvement to alleviate their working condition or outputs. The study was done locally in the Philippines.

Independent variables:

Information technology (IT) will use the five-point Likert Scale; the values are from 1 "never" to 5 "to a great extent." The employee skills variable (ES) The five-point Likert Scale is from 1, "strongly disagree," to 5, "strongly agree." The digital strategy (DS) was measured with the five-point Likert Scale from 1, "not important" to 5, "very important" (Eller et al., 2020).

Dependent variable:

The business performance (BP) will use the five-point Likert Scale from 1, "very low," to 5, "very high." The business performance for this research would consider financial and non-financial performance indicators contributing to the business's growth, productivity improvement, and operation efficiency (Eller et al., 2020).

Mediating variable:

The digitalization outcome (DO) will use the five-point Likert Scale from 1, "not important," to 5, "significant." "The business performance for this research would consider financial and non-financial performance indicators contributing to the business's growth, productivity improvement, and operational efficiency (Eller et al., 2020).



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Results

There were 60 respondents with 51 valid responses. Data reveals that the top 3 industries of 31% of the respondents are from IT or ICT-related industries; 15.6% are from manufacturing; 19.6% are from retail-associated industries. 92.2% are from NCR. The top three (3) respondents are primarily from top management and business owners 43.13%; senior management 11.76%, and middle management 33.33%.

Structural equation modeling employing partial least squares (PLS-SEM) is typically analyzed and interpreted sequentially in two stages, which involve the analysis of the measurement model followed by the analysis of the structural model (Amora et al., 2016; Amora, 2021). Analysis of the measurement model includes the assessment of convergent validity, discriminant validity, and reliability (Kock, 2014).

Reliability test results (refer to Table 1) revealed Cronbach Alpha of 0.70 to 0.98. A conservative criterion discussed by Kock (2022) states that the composite reliability and Cronbach's alpha coefficients should be 0.70 or higher. Composite Reliability is between 0.80 and 1.0 while Full Collinearity VIF is between 2.67 and 3.30. Common method bias can be assessed using full collinearity VIF (Kock, 2022; Kock, 2015; Kock & Lynn, 2012). Full collinearity VIFs of 3.3 or lower suggest the existence of no common method bias (Kock, 2015; Kock & Lynn, 2012).

Table 1

Reliability coefficients

Variables	Cronbach's Alpha	Composite Reliability	Full Collinearity VIF
DO	0.98	1	2.89
BF	1	1	2.67
CRD	0.7	0.8	3.3

Table 2

Convergent Validity Statistics of the first-order reflective constructs (IT, ES, DS, DO, and BF)

Variables / Indicator	IT	ES	DS	DO	BF	AVE
A. Information Technology Usage (IT)						0.74
IT1	0.85	0	0.32	-0.45	0.15	
IT2	0.9	-0.02	-0.06	0.19	-0.3	
IT3	0.83	0.03	-0.26	0.26	0.21	
B. Employee Skills (ES)						0.9
ES1	0	0.92	-0.11	-0.12	0.23	
ES2	0	0.94	0.15	-0.15	0.04	
ES3	0.01	0.96	0.26	-0.22	0.05	
ES4	-0.01	0.96	-0.21	0.2	-0.1	
ES5	0.02	0.96	0.21	-0.19	-0	
ES6	0.01	0.95	-0.01	0.05	-0.1	
ES7	-0.03	0.95	-0.29	0.43	-0.2	
C. Digital Strategy (DS)						0.95
DS1	0.04	0.04	0.97	0.16	-0	
DS2	0.02	-0.01	0.98	0.01	0.04	
DS3	-0.01	0.03	0.99	-0.05	0.02	
DS4	-0.01	-0.01	0.96	0	-0.1	
DS5	-0.02	-0.02	0.97	-0.2	0.07	
DS6	-0.02	-0.01	0.99	0.07	-0	
D. Digitalization Outcome (DO)						0.93
DO1	-0.01	-0.03	-0.09	0.96	-0.2	
DO2	-0.02	-0.01	0.15	0.98	0.12	
DO3	0.02	0.01	-0.05	0.96	-0.1	
DO4	0.02	0.02	-0.07	0.96	0.13	
DO5	-0.03	0.02	0	0.97	-0.1	
DO6	0.02	-0.02	0.05	0.98	0.08	
Business Performance (BP)						
BF1	0	0	0	0	1	1
Notes:						
1. AVE = Average Variance Extracted. IT, DS, and ES are formative indicators of Company Resources of Digitalization (CDR) which are presented in a separate table.						
2. Values in bold (blue font) are indicator loadings. All indicator loadings are statistically significant at .001 (i.e., p < .001). Other values are called cross-loadings.						



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Table 3

Convergent validity of the Company Resources of Digitalization (CDR)

Formative Indicators of CDR	Indicator weights	Pvalue	VIF	WLS
Information Technology Usage (IT)	0.349	0.003	1.31	1
Employee Skills (ES)	0.424	0	1.51	1
Digital Strategy (DS)	0.526	0	1.86	1

Notes:

- The IT, ES, and DS were treated as a whole in the present study. The three variables are formative indicators of Company Resources of Digitalization (CDR). This means that CDR represents the three variables. Hence the convergent validity for CDR was assessed.
- There is convergent validity for a formative construct if the p-values are less than .05, the variance inflation factors (VIFs) are less than 2.5, and the weight-loading sign (WLS) is positive.

Table 4

Discriminant validity of the variables

	DO	BF	CRD
DO	0.97		
BF	0.71	1	
CRD	0.74	0.7	0.76

Notes:

- The present study used CRD as the independent variable. The IT, ES, and DS served as indicators of CRD.
- The primary variables of the study are CRD, DO, and BF. Hence, the discriminant validity was assessed.

3. The values in the diagonal are square roots of the AVE, while the values in the off-diagonal are correlations among the variables. According to Fornell and Larcker (1981), there is discriminant validity if the square roots of the AVE are more significant than the correlations among

Model Fit and Quality indices

Table 5

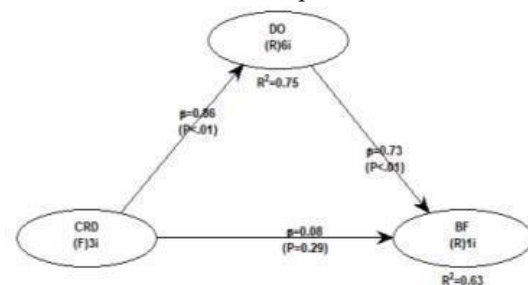
Model Fit and Quality indices of the model

	Value	P-value	Criteria
Average path coefficient (APC)	0.557	0	P should be less than .05
Average R-squared (ARS)	0.69	0	P should be less than .05
Average adjusted R-squared (AARS)	0.68	0	P should be less than .05
Average block VIF (AVIF)	3.368		Acceptable if ≤ 5 ; ideally ≤ 3.3
Average full collinearity VIF (AFVIF)	3.68		Acceptable if ≤ 5 ; ideally ≤ 3.3
Tenenhaus GoF (GoF)	0.76		small ≥ 0.1 , medium \geq

Structural Component

Figure 1.

Mediation model with the parameter estimates





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Table 6

Effects of the variables

Hypotheses	Path coefficients	Standard Error	P-value	Effect Size	Remark
A. Direct Effects					
H1: CRD → BF	0.077	0.136	0.287	0.053	Not significant
H2: CRD → DO	0.865	0.101	0	0.748	Significant
H3: DO → BF	0.729	0.106	0	0.579	Significant
B. Indirect Effect					
H4: CRD → DO → BF	0.631	0.078	0	0.434	Significant
Total Effect	0.708	0.107	0	0.487	Significant

Note: f^2 is Cohen's (1988) effect size: 0.02=small, 0.15=medium, 0.35=large.

Discussion, Conclusions, Recommendations

The study contributes to understanding the degree of influence and relationship between our predictors' mediator and dependent variables. The findings confirm that H2: CRD → DO and H3: DO → BF have a significant direct effect while H4: CRD → DO → BF have a substantial indirect effect. In summary, the total impact is notable among the variables. This aligns with 92% of our respondents' desire to undertake digitalization benefits in the next three years. The five respondents that said no are start-ups, solopreneurs, or MSMEs, whereby digitalization may not be a priority now since the operation now requires high-level digitalization.

The study contributes knowledge to show how digitalization is a catalyst during the pandemic that can help every business and company move forward and continue their business even with COVID-19 restrictions. Many have moved to the digital platform disrupting the legacy of doing business, especially during the pandemic, where regulatory bodies imposed quarantine restrictions on mobility, face-to-face transactions, and more. The overwhelming impact of the crisis on business performance was felt both locally and globally. New business models like work from home, digitalization, eCommerce, digital marketing, mobile payment, etc., are new business trends adopted by many to cope with the crisis and thrive. (Kaushik & Guleria, 2020; Kemp, 2021; IMD World Competitiveness Center, 2022; World Bank, 2020)

As we look into the changing company's needs and requirements, we need to consider various approaches available that contribute to the positive growth of the business performance. Some techniques we can consider to aid in the positive development of business performance are combination approaches with digitalization initiatives like staff on demand, algorithms, workflows, community and crowd to move forward exponentially (Ismail et al., 2014). We create a positive impact to our environment as we reduce physical waste and move to digital content (Dyck et al., 2018). Many have seen the positive impact of digitalization or digital transformation, is your organization ready to plunge in the bandwagon towards?

It is probable that the Visayas and Mindanao area may have different views on this study as most of the respondents are from NCR. We encourage further studies to consider these other regions to provide an overall view of the country. Future studies can consider combining theories to provide a wider perspective and deeper insights as to the other possible components that can bring competitive advantage and positive business performance. Digitalization would need to look into the capacity and readiness when they explore digital technologies to create competitive advantage.

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Accelerating technology commercialization in the midst of a structured environment: The case of a state university in the Philippines

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This research examined the existing policies of the Central Bicol State University of Agriculture (CBSUA) relative to the implementation of national laws associated with research and innovation that will lead and contribute to the development of an innovation ecosystem that centers on the transfer and commercialization of locally-generated technologies. Thus, a review of the policies enunciated and initiatives undertaken by the university was carefully undertaken. It established the gaps and ambiguities in the current mechanisms and aimed to adequately address the policy constraints for the full implementation of technology transfer and commercialization of the intellectual properties of the university.

Three policy options were identified. The first option was to create a *Technology Commercialization and Business Development Division under the Office of the Vice President for External and International Linkages*. The second one was to *Outsource some university technology commercialization-related needs*. To maintain the *Status Quo with the enhanced function of the Intellectual Property Management Office* was the third and last identified option.

After analyzing the three policy options using the Multicriteria Analysis Tool, the researcher posited that creating a *Technology Commercialization and Business Development Division that will function under the Office of the Vice President for External and International Linkages* is the most suitable and fitting option for CBSUA to achieve its goal of increasing the university's patenting and licensing activities. Technology transfer and commercialization will be enhanced through the formulation of strategic programs anchored on the initiatives of the university to bring faculty developed technologies and works of art to the market. These research investments should be able to benefit the people, and at the same time, produce revenues for both the technology generator and the university. Moreover, different strategies will be crafted for each program to attain its objectives at a given period.

Universities are considered as powerful sources of technologies by the industry. It is a rich source of scientific knowledge that could be translated into copyrights, inventions, patents, utility models, and innovations. Thus, the commercialization of university technologies is believed to be an essential driver to spur economic growth and development in the Bicol Region and the entire Philippines. CBSUA prides itself on being a Level IV SUC (State Universities and Colleges) and aspires to be a global research university beyond its 100 years of existence. CBSUA is committed to generating knowledge that can be used by the people. Thus, crafting this policy on the creation of a Technology Commercialization and Business Development Division under the Office of the Vice President for External and International Linkages is deemed to be the most appropriate and logical step to undertake.

Keywords: Technology Commercialization, Innovation Ecosystem



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Background/Introduction of the Issue

History of the Problem

Research is acknowledged as an engine of economic growth in knowledge-based economies. The demands of competition in the global economic perspective are challenging nations to develop and reform research and innovation-related policies. Since Higher Education Institutions (HEIs) are predominantly the source of knowledge and have become a significant catalyst for economic progress, they are often referred to as knowledge factories. As such, the management and utilization of Intellectual Property (IP) has become an important concern in universities and a primary consideration for government policy (Sharma et al., 2006 as cited by Jose, 2006).

In a study conducted by Reichert (2019), it was emphasized that higher education institutions/universities perform a significant function in the generation of knowledge. Thus, businesses, industries, the private sector, and other government agencies consider the university as a trustworthy partner and an ideal entity to engage in technology generation. They are confident that the university officials and faculty will create knowledge because of their curiosity and passion for discoveries and are not driven by commercial and personal interests. Hence, universities have to elevate themselves into a highly responsible entity that can quickly respond and adapt to the needs of the society, as reflected in its strategic programs. The university should shape its students and faculty to become future innovators and leaders.

The Philippine Government is committed to strengthening its technology commercialization initiatives. Some local universities had released their IPR policies and had been performing patenting and technology transfer activities even before the enactment of the Philippine equivalent of the Bayh-Dole Act. A report by Tansinsin (n.d.) as cited by Nezu, et. al (2007) stated that from 1995 to 2004, there were eleven (11) patents granted to Philippine universities while thirty-two (32) patents and five (5) Utility Models had pending registrations. The passage of the Philippine Technology Transfer Act of 2009 signaled

the government's endorsement of the commercialization of IPRs derived from publicly-funded projects by research and development institutions (RDIs) and universities. Furthermore, in 2010, the Intellectual Property Office of the Philippines (IPOP) launched the Innovation and Technology Support Office (ITSO), which is the equivalent of patent libraries in different institutions. Since its launch, ITSO franchises (mostly universities and government institutions) have undertaken 195 patent applications.

Despite this increase in patenting activity from RDIs, commercialization of technologies from the academic and government sector remains modest. Perhaps one of the most famous successful university technology licenses before the Technology Transfer Act is that of *lagundi* herbal cough medicine, which generated royalties of approximately USD 4,000 in 1997 and USD 210,000 in 2009. After the implementation of the Technology Transfer Act in 2014, the University of San Carlos was able to encourage a local investor to create a start-up that would utilize its novel technology to produce new products from mango waste, which, aside from generating royalty stream for the researchers, also had the impact of creating jobs and utilizing waste to create new products (Bantigue, 2019).

A study by Catibog (2016) revealed that state universities and colleges (SUCs) and other research institutions in the Philippines find it hard to protect and commercialize their technologies. Although there are some success stories, much is needed to overcome constraints such as low funding, few researchers and scientists, and low productivity in terms of technological outputs. A technology audit conducted by the Philippine Council for Agriculture, Aquatic, and Natural Resources Research and Development (PCAARRD) in 2012 as reported by Dagaas (2017) revealed that many governments funded technologies in the past decade have been developed but only about 15% of these were transferred, by way of commercialization, to the market. Other technologies were utilized mainly by way of extension activities. Moreover, the same audit reported that only "few of the new technologies with market value have intellectual property protection and the majority of IP protection comes in the form of 'copyrights' from the



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publication of research results and designs” (Dagaas, 2017, p. 20).

The Philippine Government has encouraged SUCs in the country to increase and expand its resource generation activities since budget appropriations have been declining over the years. The government has also demanded to create a significant impact from the technologies they generate to spur regional development. SUCs have to be creative in mobilizing both their internal and external fund sources to confront the challenges of a dwindling budget from the Department of Budget and Management (DBM). It has to “demonstrate its managerial and entrepreneurial capacity by productively managing its intellectual property and human resources and to creatively tap external fund sources” (Central Bicol State University of Agriculture [CBSUA], p.4).

It may be noted that CBSUA has produced a total of twenty-one (21) research-based technologies since 2011. Please see Annex A for a list of the technologies for potential IP protection. The University already filed 18 patent applications in IPOPHL, but none of these were patented nor commercialized. Specifically, the College of Engineering and Food Sciences (CEFS) and the College of Agriculture and Natural Resources (CANR), filed thirteen (13) patents and three utility model applications. The College of Arts and Sciences (CAS) submitted one application for utility model while CBSUA Sipocot campus filed one patent application.

There could even be more technologies and creative works by faculty members that could have been protected and moved to the market. However, it seems that faculty members do not prioritize going through the IP protection and commercialization process. Faculty members are more inclined to perform their instruction and research functions. In general, universities have not placed significant value or have not yet realized the worth of technology commercialization, which includes generating income for the university, uplifting the status of the regional or national economy, and providing research-based solutions to problems in the community.

Given the above challenges that hinder state

universities from achieving their mandates, the innovation ecosystem of the university should be carefully examined. It shall focus on the factors that need to be considered in introducing and implementing research commercialization at the university. These factors may involve “institutional and organizational resources such as supportive commercial infrastructure, the strength of the university research base, and the availability of venture capital” investments (Chang et al., 2009). Since universities are social and economic institutions, there is a need to understand faculty behavior and institutional policies influencing technology transfer and technology commercialization. Theoretically, faculty members who conduct research activities in the university laboratories are the suppliers of technology. The quality and quantity of their output affect the success of commercialization activities (Phan and Siegel, 2006). In a university like CBSUA, it is the faculty, from different academic departments and colleges in its four campuses, who undertake scientific inquiries and produce technologies and creative works. Another strategy taken by the academic colleges and the Research Division of CBSUA is creating multi-disciplinary or interdisciplinary research and development (R&D) project teams to spawn ingenious concepts and to turn these new innovations into valuable technologies or products.

Moreover, individual and institutional factors affect the success rate of technology transfer in research universities. Knowing that academic research and technology transfer are key indicators of economic growth and global competitiveness, the effectiveness of technology transfer mechanisms must be evaluated to determine strengths and weaknesses and improve the overall process of commercialization.

The CBSUA Development Plans for 2014-2018 (CBSUA, 2014) and 2020-2024 (CBSUA, 2020) stated that CBSUA shall be a leading university in the Philippines by 2018 and in the ASEAN Region by 2024. The plans also point out that CBSUA aims to become an agricultural research university of global standards (CBSUA, 2020). This vision challenges all the academic units to be actively engaged in its trilogy of functions and improve its research productivity in terms of income, volume, and productivity. Thus,



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CBSUA should be able to act swiftly as it confronts the challenges in research and technology commercialization.

The CBSUA is cognizant of its role as the region's primary generator and transmitter of scientific and technical knowledge, particularly in the agriculture and allied sciences sectors, that can be used to improve the economic welfare of the region. To achieve this, the university actively engaged in creating a culture of research and scholarship to improve its research infrastructure (Bordado, 2018). As a transmitter of knowledge, CBSUA has recognized the need to better manage its intellectual properties and the process by which it commercializes them. The CBSUA Intellectual Property Management and Commercialization Policy (2018) states that the promotion, transfer, effective utilization of knowledge resulting from the inventions and creative works generated from research and development, either funded by the government or private organizations, should be properly managed for the benefit of the regional and national economy.

Causes of the Problem

The issue on the non-commercialization of technologies at CBSUA calls for a policy solution that can counter the following market and government failures associated with it.

Market Failure

1. Public Good

Knowledge, science, and technology are public goods. They are non-rivalrous and non-excludable since people who use them cannot prevent other people from benefiting from them.

2. Positive Externality

The inventions or innovations produced by CBSUA faculty may benefit the community, such as farmers, processors, *agripreneurs*, or anyone who would like to utilize the

technology generated. Since CBSUA's technologies are government-funded, then it is easier for anyone to use or invest in its commercialization. One example would be the vegetable washer that the university has produced. A farmer's cooperative, an LGU, or any group or individual can avail of this washer to clean mechanically the vegetables they produce on the farm and make these vegetables ready for the market. Lettuce, for instance, can be washed/cleaned using the washer machine. Upon washing, it is now ready for vacuum packing and can be sold in the supermarkets already. This innovation is one way for the farmers' fresh produce to penetrate the modern market. Income can then be increased because they were able to add value to the products. This particular technology, however, has not been totally commercialized because of some policy constraints to technology commercialization.

3. Negative Externality

Schillo (2014) argued that the public nature of knowledge gives rise to externalities or spillover effects. Knowledge leaks are made even more possible, for instance, by imperfect patenting systems or by the natural movement of skilled workers across firms and countries. Such leaks enable third parties to benefit, albeit indirectly, in the returns of others' investment in R&D.

In the case of CBSUA, where the current level of protection of intellectual properties is low, some of the information and technologies may be leaked and used by other people without any benefit to the university. Faculty members present results of their researches in scientific fora and publish the same in journals, which could be free sources of information for others. Moreover, faculty members are often invited as resource speakers in conferences and trainings, which are avenues for the free flow of information to the public. Thus, unavoidable knowledge leaks offer opportunities for people and firms



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to benefit from the effort of others, which constitutes as a hampering factor in R&D (Schillo, 2014).

4. Information Asymmetry

The CBSUA, at present, has no mechanism to compel researchers to report the technologies derived from their researches. Hence, some vital information or aspects of the technologies which cannot be correctly deduced from the research reports alone may only be known to these researchers. Information on these technologies, therefore, needs to be written in technology formats to ensure that all salient features and facets are reported. Agreements between the university and researchers on intellectual property rights, including sharing and royalties, should be clear. Again, this is a case where there is a lack of sound policies on university commercialization.

5. Moral Hazard

Weak innovation policies, unfortunately, encouraged some researchers to directly sell their products to the market even though these were produced using government resources. It becomes, though maybe inadvertently, counterproductive to the government. Further, the university should ensure that technologies produced are not hazardous to the people, the environment, and the morals of the community.

Government Failure

1. Agency Loss

The CBSUA does not reflect in its organizational structure, an office for innovation and technology commercialization. There is no specific office in the university that is tasked to specifically look into the commercialization or licensing of potential technologies and intellectual properties of the university. This issue may be attributed to the unclear mandate of the

university on commercialization activities for its research products.

While the university has an Intellectual Property Management Office under the Office of the Vice President for Research, Extension, Production, and Entrepreneurial Development (OVPREPED), its task is limited to the protection of potential intellectual properties of the university by assisting the faculty researchers in filing applications for copyrights, utility models, patents, trademarks and the like. It does not undertake business development activities arising from these intellectual properties.

2. Effects of limited competition on efficiency

State universities do not have a direct mandate to sell its research-based products. Current policies do not encourage CBSUA to move into an innovative entrepreneurial entity. Thus, products of the university may be produced inefficiently and without maximizing profits. The university is contented with the status quo. If it continues to be unmindful of the importance of systems and product innovation, its capacity to gain benefits for the university and contribute to the growth of the local economy may be hampered.

Analysis of Past and Existing Policies

CHED Policies supporting research, innovation and technology transfer and commercialization for Philippine Higher Education Institutions

Higher education research in the Philippines is acknowledged as a major facet in the national innovation process. Thus, to produce high-quality research, the Commission on Higher Education (CHED) is mandated by the Philippine government to support universities and colleges in the country in generating, transmitting, and applying knowledge. The “CHED is tasked to develop policies and formulate plans and programs on research pursuant to the **Republic Act 7722**, known as the **Higher Education Act of 1994**” (CHED, 2016, p. 1). Section 8 of this Act allows the commission to “direct or redirect the research initiatives of HEIs to achieve agro-



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industrialization and development” (CHED, 2016, p.1). The Act further stated the following:

The knowledge society or knowledge economy characterizes the university not just a generator of knowledge, an educator of young minds and a transmitter of culture but also as a major agent of economic growth, a Research and Development laboratory and a mechanism through which the nation builds its human capital to enable it to participate in the global economy. (CHED, 2016, p. 1).

In 1998, CHED implemented the **National Higher Education Research Agenda** (NHERA) for the period 1998-2008 with the aim of facilitating the proper utilization of research output from HEIs. Through this program, 12 Zonal Research Centers (ZRC) were identified and lead in promoting research and development in their respective zones (CHED, 2017, p. iv). In 2009, the second phase of the agenda, **NHERA-2**, was implemented with the same general objectives and guiding principles in promoting research. The agenda reiterated that the “higher education sector shall support Filipino research talents, and that universities, in particular, are expected to lead in the conduct of discipline-based, policy-oriented, technology-directed and innovative/creative researches that are locally responsive and globally competitive” (CHED, 2017, p. 1).

CHED and HEIs, as part of the National Innovation System, are envisioned to actively participate in the R&D initiatives for Science and Technology and other sectors that were identified as priority areas following the National Science and Technology Plan (DOST, 2002). In 2016, the Department of Science and Technology spearheaded the formulation of a Harmonized National Research and Development Agenda (HNRDA) for all research undertakings of all agencies in the Philippines. The PCAARRD, along with other agencies and academic institutions involved in research and development in the agriculture, aquatic and natural resources (AANR) sector, led the crafting of the HNRDA for the AANR which aimed to develop high impact technologies that will spur economic growth in this sector (DOST, 2017).

At the HEI level, **RA 8292** or the **Higher Education**

Modernization Act of 1997 was enacted. It empowered SUCs in the Philippines to engage in corporate activities for income generation. The Board of Regents (BOR) governed SUCs and became responsible for the overall policy formulation and direction of the University. The BOR promulgated and implemented policies in accordance with the declared state policies on education and other pertinent provisions of the Philippine Constitution on education, agriculture, science, and technology, as well as the policies, standards, and thrusts of the CHED under Republic Act No. 7722, otherwise known as the Higher Education Act of 1994 (p. 1). Section 3 of RA 8292 states that

The governing body of state universities and colleges is hereby in the Board of Regents for universities and in the Board of Trustees for colleges which shall be composed of the following: The CHED Chairperson acts as the Chairman of the Board while the University President acts as the Vice-Chairman. Members of the BOR include the Chairperson of the Committee on Education Arts and Culture of the Senate; the Chairperson of the Committee on Higher and Technical Education of the House of Representatives; the Regional Director of the National Economic and Development Authority (NEDA); the Regional Director of the Department of Agriculture (DA); the President of the faculty council federation of the University; the President of the student council federation of the University; the President of the alumni association of the University; and two prominent citizens from the private sector who have distinguished themselves in their profession or fields of specialization of the University (pp. 1-2).

Thus, CBSUA’s BOR, among its other administrative functions, exercises its power “to enter into joint ventures with industry players for the profitable development and management of the university’s economic assets, the proceeds from which will be used for the development and strengthening of the college or university” (CHED, 1997, p. 5).

In the “postwar years until the 1970s”, the Philippines was at the top of international rankings in terms of graduate education in Asia, but it skidded down in the last three decades (CHED, 2013, p.1). “In



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2012-2013, the Philippines fell behind China, Indonesia, Malaysia, Thailand, Singapore, and Vietnam on almost all of the World Economic Forum's Global Competitiveness Indicators for technological innovativeness (including the quality of scientific output)" (CHED, 2013, p.1). To reclaim the Philippines' leadership in graduate education in Asia, the Philippine government, through CHED issued **Memorandum Order (CMO) No. 46 series of 2012** entitled "**Policy Standard to Enhance Quality Assurance (QA) in Philippine Higher Education** through an Outcomes-based and Typology-based QA" (CHED, 2012).

The CMO attempts to set minimum standards for programs and institutions of higher learning. The policy-standard, which applies to private and public Higher Education Institutions in the country, is issued to enhance the quality assurance system of Philippine higher education through learning competency-based standards and an outcomes-based system of quality assurance that is differentiated by type of HEI (p. 1).

The main goal of this is for HEIs to produce more competent graduates and generate technologies that will boost national and regional economies. This, in turn, is expected to elevate the country's global competitiveness.

In 2016, the CHED issued **CMO No. 52 series of 2016** entitled "**Pathways to Equity, Relevance, and Advancement in Research, Innovation, and Extension in Philippine Higher Education**" (p. 1).

The CMO articulates the strategic thrusts and pathways that can feasibly address the dynamics and challenges in research, extension, and innovation in Philippine higher education to fully actualize the potentials of HEIs as a) platforms for knowledge production and advancement, b) engines of development through responsive and relevant research programs, and c) producers of multi-specialists, creators, problem-solvers, collaborators, inventors, thinkers and innovators who can examine phenomena, explore new frontiers through multidisciplinary and interdisciplinary lenses. In pursuit of these desired ends, the CMO presents three intended pathways, which specify key principles,

programs, and mechanisms, namely, Pathways to Equity, Pathways to Relevance, and Pathways to Advancement. It is also expected that these pathways will provide the scaffolding for the development and articulation of the new innovation and research ecosystem in Philippine higher education (p. 3).

The above legislations and CMOs manifest the government's commitment towards "enabling Philippine HEIs to become platforms for research and development, innovation, and extension in pursuit of inclusive social and economic development" (CHED, 2016, p.1). It reflects the government's initiatives to allow "Philippine HEIs to optimally participate in national transformation through the production and transfer of knowledge that is fundamental to the country's engagement in the knowledge-based global economy" (CHED, 2016, p. 1).

Current Government Legislations supporting intellectual property protection, innovation and technology transfer and commercialization in the Philippines

The changing landscape and expected roles of HEIs, particularly SUCs, for rapid commercialization of technologies and intellectual properties generated by SUCs, are supported by government legislations and policies that influence its operations. **Section 10, Article XIV** of the **1987 Philippine Constitution**, states the following:

Science and technology are essential for national development and progress. The State shall give priority to research and development, invention, innovation, and their utilization; and to science and technology education, training, and services. It shall support indigenous, appropriate, and self-reliant scientific and technological capabilities and their application to the country's productive systems and national life (p. 46).

In a global context, the role of technology is given importance and focus on the Sustainable Development Goals (United Nations, 2015), which include the following:



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Goal 9: Industry, innovation, and infrastructure. Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation. It says that innovations are crucial drivers of economic growth and development; hence, investing in scientific research and innovation are important ways to facilitate sustainable development (p. 25).

Goal 2: Zero Hunger. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture. All people, especially children, should have access to sufficient and nutritious food all year round through the use of sustainable agricultural practices, allowing equal access to land, technology, and markets. Furthermore, cooperation among partners is required to ensure investment in infrastructure and technology to improve agricultural productivity (p. 19).

On October 11, 2016, President Rodrigo Roa Duterte signed **Executive Order No. 5, s. 2016 (EO 5)** approving and adopting the long-term national vision or **AmBisyon Natin 2040** as a guide for development planning. EO 5 further states that:

All development plans until 2040 will be anchored on the long-term vision and these will emphasize the centrality of the Filipino people and their aspirations in the planning, design, and implementation of government interventions for a *matatag, maginhawa, at panatag na buhay para sa lahat* (strongly-rooted, comfortable, and secure life for all). This pertains to all dimensions of development: economic, human and physical capital, institutional, social and cultural. By 2040, the Philippines is a prosperous middle-class society where no one is poor. People live long and healthy lives and are smart and innovative. The country is a high-trust society where families thrive in vibrant, culturally diverse, and resilient communities (pp. 2-3).

These aspirations are embodied in the Philippine Development Plan (PDP) 2017-2022, which laid down a solid foundation for a more inclusive growth, a high trust society, and a globally-competitive economy. To accelerate and sustain economic growth, major strategies to be undertaken include advancing to a knowledge economy and accelerating the full harvest

of the demographic dividend. Technology adoption will be promoted, and innovation is encouraged (NEDA, 2016).

Moreover, the **AmBisyon 2040** is guided by the **Duterte Administration's 0-10 Point Socioeconomic Agenda**. The agenda includes science and technology as one of its priorities. Agenda number 8 pushes for the promotion of "science, technology, and the creative arts to enhance innovation and create capacity towards self-sustaining and inclusive development" (NEDA, 2016, p.1).

Other policies and laws launched by the government in support of technology commercialization in the Philippines include the following:

Republic Act 10055 (Philippine Technology Transfer Act of 2009). An Act providing the framework and support system for the ownership, management, use, and commercialization of intellectual property generated from research and development funded by government and for other purposes. This act declares that the state fully recognizes that science, technology, and innovation are essential for national development and progress. It shall, therefore, give priority to research and development, invention, innovation, and their utilization. It shall also encourage the widest and most systematic participation of all stakeholders in policy-making related to science and technology, and in the generation, transfer, and utilization of intellectual property, especially for the benefit of the general public. The State shall facilitate the transfer and promote the utilization of intellectual property for the national benefit and shall call upon all research and development institutes and institutions (RDIs) that perform government-funded research and development (R&D) to take on technology transfer as their strategic mission and to effectively translate results of government-funded R&D into useful products and services that will redound to the benefit of Filipinos, notwithstanding the income generated from intellectual property rights (IPRs) and technology transfer activities. The State acknowledges that the successful transfer of government-funded R&D results depend on the proper management of intellectual property, development of capacity by RDIs



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to become self-sustaining and competitive, and on enhancing interaction and cooperation with the private sector, particularly small and medium enterprises through collaborative and contract research based equitable, fair access, and mutual benefit for all involved partners (pp. 1-2).

Republic Act 8293. An Act prescribing the **Intellectual Property Code** and establishing the **Intellectual Property Office**. This Act shall be known as the “Intellectual Property Code of the Philippines.” In this Act, the State recognizes that an effective intellectual and industrial property system is vital to the development of domestic and creative activity, facilitates the transfer of technology, attracts foreign investments, and ensures market access for our products. It shall protect and secure the exclusive rights of scientists, inventors, artists, and other gifted citizens to their intellectual property and creations, particularly when beneficial to the people, for such periods as provided in this Act” (1997, p. 1). Also included is **Republic Act 112931**, also known as the “**Philippine Innovation Act**.” It states that:

This Act fosters innovation as a vital component of national development and sustainable economic growth. Pursuant to Section 10, Article XIV of the Constitution that recognizes science and technology as “essential for national development and progress” and gives priority to “research and development, invention, innovation, and their utilization”. The Act considers innovation as a vital component of the country’s development policies to drive inclusive development, promote the growth and national competitiveness of micro, small, and medium enterprises (2018, pp. 1-2).

The abovementioned government legislations and policy pronouncements highlight the increased expectations on state universities and colleges to enhance the utilization of government-sponsored research and to transfer knowledge and technology generated for economic development. Similarly, it was further observed by Chang et al. (2009) that in the early 21st century, “favorable institutional and organizational resources, including supportive commercial infrastructure, organizational incentives, more robust research base, and availability of venture

capital play significant roles in enhancing academic research and commercial performance” (p. 936).

Statement and Analysis of the Problem

Issue Definition

As mentioned earlier, CBSUA is a case of an SUC which has a slow movement of technologies despite its robust research activities. In a span of 10 years (2009-2018), CBSUA has produced only 21 research-based technologies from about

408 research studies (Annex A), none of which have been patented nor commercialized. There were also instances wherein faculty-researchers marketed their own inventions or products, but CBSUA never gained from these potential intellectual properties. There may be other potential technologies generated from the researches but these were not easily identified by the researchers because they lacked the capacity to evaluate and assess their own technologies. Furthermore, there is no specific office tasked and dedicated to manage these potential intellectual properties of CBSUA.

Thus, an assessment of the innovation ecosystem focusing on the technology transfer and commercialization initiatives of CBSUA should be conducted. The policies of CBSUA, as well as national laws relative to research and innovation, should be reviewed to properly address constraints in the commercialization of technologies.

Current State of the Problem

To further analyze the causes of the problem on the non-commercialization of CBSUA technologies, the researcher invited faculty members who have generated technologies through their researches to a Focus Group Discussion (FGD). An FGD is a research methodology that groups together people with shared or identical backgrounds or experiences to deliberate or examine a particular issue/theme of interest to the group. The discussion is facilitated by a moderator who presents the issues and leads or motivates the group to join and share ideas in an active and dynamic discussion so that best responses can be elicited from



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them (Overseas Development Institute, 2009).

A Focus Group Discussion was conducted to flesh out the causes of the problem on the non-commercialization of research-generated technologies of CBSUA. Among those invited were some of the researchers who submitted their technologies for intellectual property protection but were not yet granted with patents or utility models.

A set of questions was developed to guide the researcher in eliciting responses and reactions that will achieve the objective of the FGD. The facilitator provided scenarios and encouraged the researchers to reflect on their experiences in technology commercialization. In the discussion, the participants relayed the circumstances that contributed to the slow movement of their technologies. These responses or the identified causes were categorized into Man, Method, Material, and Machine and were illustrated in a fishbone diagram. The diagram revealed that while problems, such as lack of laboratories and trainings, limited budget, and others, were deemed critical, it was the systems and processes within the university which greatly impeded rapid commercialization. These included the procurement process, accounting, and other administrative procedures. This may be attributed to several factors, but most important was the absence of an office within the university whose task is focused on the commercialization processes and initiatives of the university. The fishbone diagram analysis helped in identifying the underlying factors and causes of the problem. It is important that the factors contributing to the failure are identified so that corrective actions may be developed. Thus, the fishbone diagram provided a deeper understanding of the problem leading to better crafting of possible actions and decisions on what policy options to take to correct the problem.

The same group was, likewise, asked for their suggestions on possible actions that the university can take to hasten commercialization. It was at this point when the University Planning Officer had been invited to join in the discussion. The insights of the Planning Officer were valuable to determine if the solutions offered were feasible and can be accommodated in the

newly-crafted 5-year (2020-2024) Development Plan of the University. The facilitator made sure that there were at least two or three actions or possible solutions to the problem identified. The fishbone analysis was valuable in identifying the solutions.

The list of researchers who participated in the discussion can be found in Annex B, while the Guide Questions are enumerated in Annex C.

Below is a detailed discussion on the results of the fishbone analysis (Annex D). It is imperative to understand the factors contributing to the non-commercialization of CBSUA technologies to address the issue adequately:

1. Delay in the procurement of proper materials for research

Excellent research is essential in the creation of a valuable intellectual property. Unfortunately, however, weak institutional mechanisms, particularly on the administrative processes, i.e., procurement, bidding process, accounting, etc.) unnecessarily delay the implementation of a project. Thus, the completion, generation and transfer of technologies to the community, or its movement to the marketplace, and its eventual licensing to potential investors are pointlessly hindered. This situation compromises the relevance of innovation as an important impetus in pushing forward a country's economy.

2. Unmotivated People and Unclear Organizational Structure

The CBSUA does not have in its organizational structure an office for innovation and technology commercialization. There is no specific office in the university that is tasked to look into the licensing of potential technologies and intellectual properties, establishing business incubations or creating start-ups. This may be due to the unclear mandate of the university on commercialization activities for its research outputs.

While the university has an Intellectual Property Management Office under the Office of the Vice President for Research, Extension, Production, and



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Entrepreneurial Development (OVPREPED), its task is limited to the protection of potential intellectual properties of the university. The office helps faculty researchers file applications for copyrights, utility models, patents, trademarks, and the like. It does not undertake business development activities arising from these intellectual properties.

In addition to the unclear organizational structure, the university has a limited number of faculty engaged in technology research. This may be attributed to the scarce trainings and exposure of faculty to actual industry situations that would have strengthened the academe-industry continuum. Moreover, the research and development agenda of the university lacks a deep understanding and insights of the innovation pathway of the industry sector.

Further, the faculty experiences a heavy workload every semester. They divide their limited time and attention to satisfy their instruction, research and extension roles. The conduct of RDE by the faculty is undertaken primarily to improve their academic performance rating and position ranking. Commercialization of technology seems to be the least of concern of the researcher.

Likewise, the weak incentive system of CBSUA demotivates researchers to pursue commercialization activities. The research manual of the university provides rewards for completed researches but there are no specific provisions for technology commercialization.

3. High Cost of Machines and Equipment

The university lacks state-of-the-art laboratory facilities for research and technology development, like engineering, chemistry, biotech laboratories, etc. Moreover, the university is in dearth of laboratory instruments, equipment and machines that are needed in experimental researches. The limited budget of the university cannot cover the expenses for machines and various equipment needed to set up a facility of international standard.

4. Inconsistent Methods and Procedures

The CBSUA has no established office that is mainly devoted to technology commercialization. The database management system is inefficient, and most of the people are not aware of the technologies generated in the university. There is a revised Intellectual Property Management and Commercialization Plan (IPMCP) and its Implementing Rules and Regulations (IRR), but these have not been approved yet by the Board of Regents. The current IPMCP is not fully implemented. The accounting office also lacks awareness of the importance of IP protection.

Arguments for Change

At the university level, the advocates of technology commercialization presented the following arguments:

1. The technologies generated from researches conducted by the university faculty are not commercialized and have not been fully maximized.
2. The Philippines maintained its low ranking among ASEAN countries in terms of R&D and technological innovation.
3. Weak innovation policies encouraged some researchers to directly sell their output to the market even though these were produced using government resources. It becomes, though, maybe inadvertently, counterproductive to the government.
4. "University researchers find their intellectual freedom inhibited and their attention may be distracted from the university's essential functions of teaching and basic research" (Nezu, 2007, p. 31).
5. The lack of available information and technologies creates a vicious cycle that further inhibit innovative behavior. Because of the large degree of uncertainty, it is often difficult for businesses to provide funding



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for new ideas. Without such funding, new technologies are likely to remain untested and there is less exploration of new ideas. Ultimately, very few would want to invest in R&D unless the information is available, and returns are somewhat guaranteed.

6. Ensuring the returns to research and innovation entails some degree of change, but the lack of information on potential returns, as well as the inherent difficulty in measuring them, exacerbates this risk.
7. Public R&D efforts focused only on meeting certain priorities of the government, such as addressing the issues on health promotion, environmental degradation, and agriculture productivity. This creates the danger of having a narrow scope for research and innovation, which inadequately serves the broader goals of enhancing the country's competitiveness and promoting development.
8. The new CBSUA vision is to become an agricultural research university of global standards while the university mission is to lead innovations, build resilient and sustainable communities as well as to generate and utilize new knowledge and technologies.
9. The priority thrust of the university is for *acadepreneurialization*.

Proposed Solutions

Three (3) policy options have been identified, to wit:

- **Policy Option 1: Create a Technology Commercialization and Business Development Division (TCBDD) under the Office of the Vice President for External and International Linkages.**

This policy option aims to strengthen the technology commercialization initiatives of

the university by creating an office whose primary function will be to develop, manage and implement policies and programs that will protect, promote and commercialize CBSUA's technologies through patenting and licensing. Moreover, the office will work towards technology business incubation and spin-off of valuable technologies from the private and public domains. The TCBDD will serve as the technology transfer office of the university which will also provide the following services: technology assessment and valuation, business/entrepreneurial development, knowledge management, legal services, and promotion of the university's intellectual properties to potential investors.

- **Policy Option 2: Outsource technology commercialization-related needs, which would imply a strategic partnership with identified Innovation and Technology Support Offices (ITSOs) in the region.**

The ITSOs are Higher Education Institutions (HEIs), universities and institution-partners of the Intellectual Property Office of the Philippines (IPOP HL) which have been capacitated and equipped with in-house patent libraries (IPOP HL, n.d. par.1). The IPOP HL trained the personnel of ITSOs so that they can help hasten the process of IP protection of the host university/organization. These ITSOs also cater to the IP protection needs of clients from the universities, industries, private and public entities. The client, however, will have to pay certain fees for its services. Currently, there are about 100 ITSOs nationwide (IPOP HL, n.d., par. 1) but only Bicol University has an established ITSO in the Bicol Region. Its function, though, is limited to intellectual property protection but not business licensing.

Policy Option 3: Maintain the Status Quo with enhanced functions of the Intellectual Property Management Office (IPMO).



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The CBSUA, in 2012, established an Intellectual Property Management Office under the Office of the Vice-President for Research, Extension, Production and Entrepreneurial Development (VP-REPED). The IPMO has an Intellectual Property Management Code (IPMC) duly approved by the Board of Regents of CBSUA. In 2016, this IPMC was enhanced to include commercialization i crafted an updated Intellectual Property and Commercialization Plan (IPMCP). This plan, however, has not been approved yet by the CBSUA Board of Regents.

At present, the services of the IPMO are limited to training faculty membership writing an application for IP protection. It also assists in the filing of these applications with the IPOPHL. The IPMO is housed at the office of the VP-REPED with two temporary staff. This third option proposes that the current functions of the IPMO may be enhanced to include technology assessment, valuation, business development services, and other services of a genuine commercialization office.

Framework of Analysis

Overview of current knowledge

Technology Transfer as a Tool for Competitiveness

The transfer of technologies from universities to the industry increases the competitiveness of the industry since they gain access to the innovations generated by the university faculty. The university, in turn, becomes assured that their innovation initiatives are being utilized in the market. This university-industry partnership provides the necessary mechanism to facilitate a workable transfer and commercialization of technologies (WIPO, n.d.).

University Technology Commercialization Challenge

Universities are increasingly faced with the challenge of commercializing research results so that the public

can utilize them. One option done is to publish research results and put them in the public domain, but this does not always lead to technology commercialization. Registering research results through patents has emerged as a viable mechanism for researchers to commercialize their products.

This also favors the universities and businesses since incentives for researchers, universities, and the business people are created.

University Culture and Mindset

According to the WIPO (n.d.), weak University-Industry relations may be attributed to the reliance of foreign businesses to the technologies being passed on to them by their parent companies abroad. Furthermore, financial and human resources for R&D are relatively modest in the Philippines.

Figure 1 illustrates the Innovation Spectrum, which recognizes the academe as knowledge creators and the industry as the market. It can be seen that at the far left of the spectrum (i.e., in academia), there is a heavy concentration of government investment in fundamental research; while to the far right of the spectrum (i.e., in the commercial marketplace), there is a much higher level of industry investment in direct product development. This gap in resources for technology demonstration and development (TD&D) is colloquially known as the *Valley of Death* (Jackson, D. as cited in National Science Foundation-Engineering Research Centers [NSF-ERCs], n.d., p.6)

This “Valley of Death” depicts the point wherein many potential innovations are not utilized since the mechanisms to develop them or to bring them to the industry are not stable.



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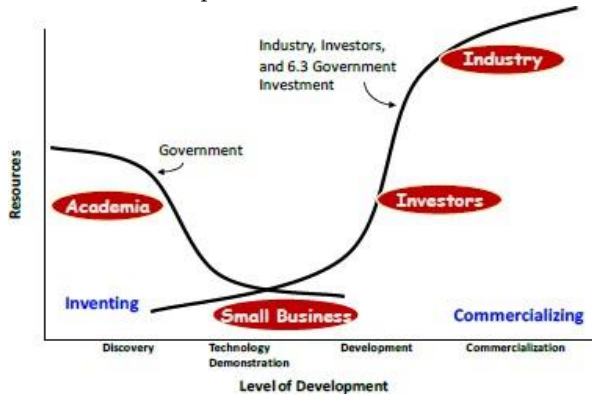
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Figure 1.

The Innovation Spectrum



The successful creation and commercialization of university-originated technology is believed to produce benefits that go beyond the immediate financial gains of the university (DeVol, 1999; Fisher, 1998; Jaffe, 1989; Jaffe et al., 1993; Shane & Stuart, 2002; Slaughter & Leslie, 1997; Zucker et al., 1998 as cited by Sharma et al., 2006, p.110). “The emergence of a knowledge-based economy, an economy in which production, use, and distribution of information and knowledge have become central to economic development,” has further spurred this trend (Sharma et al., 2006, p.110). Technology transfer and commercialization activities have taken on a more prominent role as university administrators, and policymakers have sought to enhance the role of universities as drivers of innovation, economic growth, and job creation. The output of academic research in developed and developing countries is utilized by industries in the production of goods and services, thus, subsequently contributing to economic growth and progress of a country. HEIs are considered partners of industries and private organizations in their quest for innovation and knowledge transfer (Noor et al., 2014). University technology transfer contributes significantly to technological innovation, job creation, and research income. It may be noted that the translation of academic research into potential commercial technologies generates a substantial return on investment benefitting the economy. Moreover, academic research generates employment directly through the hiring of project personnel like principal investigators, research assistants, laboratory

technicians, etc. Indirectly, jobs are created through technologies and innovations developed from research which may lead to the establishment of new companies and new industries like those related to biotechnology and nanotechnology.

In the Philippines, State Universities and Colleges (SUCs) are being challenged to use their limited resources to generate and develop creative ideas for new products in response to changing market needs in the shortest possible time. Today’s universities are expected not only to generate but also to transfer knowledge. Universities are under heightened pressures as they are not just required to produce more graduates, but they are to be the main generators of knowledge. Both ‘products’ are the primary resources required by advanced knowledge-based economies (European Molecular Biology Organization [EMBO], 2007). Payumo et al. (2014), citing Sampat (2006), claimed that technologies and creative works generated by universities are given importance by the industry and the private sector who are vital actors in the innovation system. Universities usually disseminate their research outputs through publications, research paper presentations in scientific conferences, or through their extension activities. In today’s knowledge economy, however, these rich sources of information on innovations should be utilized in a more creative way.

Nezu (2007) pointed out that in the Philippines, University-Industry (U-I) engagements are new and limited. There are only a few Philippine universities that have dynamic research offices with strong collaboration with the industry or business world. This can be attributed to several factors common in almost all government HEIs, such as restrictive administrative processes (bidding, etc.), very few full-time researchers, and a limited budget for research. These factors are also the reasons why industries generally lack the confidence to partner with our local universities for technology generation. Recently, however, some industries have sought the help of several local universities to solve their technical problems. The Engineering and Science Education Program of some Filipino universities paved the way for the increase in the number of engineering and science experts in the country whose skills are needed



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in the conduct of technical researches. Moreover, “Science Parks were also recently established at the University of the Philippines (UP) in Diliman, Quezon City and in Los Baños, Laguna, to encourage close collaboration between university and industry” (Nezu, 2007, pp. 6-7).

Underlying Assumptions

Guided by the studies cited in the preceding section as well as additional information gathered as explained below, the policy analysis is made with the following assumptions:

1. **Establishment of a technology transfer and commercialization office through the university’s Technology Commercialization and Business Development Division (TTCBD).** There should be a dedicated office within universities that will cater to their technology transfer and commercialization initiatives and programs.
2. **Attainment of university legal status.** Universities should have the necessary legal status to own and manage its intellectual properties for commercialization.
3. **Development of skilled human resources.** The university should have a pool of trained workforce to manage its technology transfer and commercialization initiatives effectively. The team should be multidisciplinary with “legal, business, scientific and licensing expertise” (Nezu, 2007, p. 40).
4. **Creation of programs in support of the TTCBD.** The TTCBD’s primary role is to manage the intellectual properties and assets of the university so that these can be promoted and transferred to the industry. For the TTCO to be successful in this endeavor, it shall

initiate programs that will assess the current technologies of the university, protect its intellectual properties through patents, promote these to potential business investors so that it will lead to the licensing of these intellectual assets. Through a solid program, the office shall be self-sufficient through the generation of revenue and income for the university.

Analytical Framework

Theoretical Framework

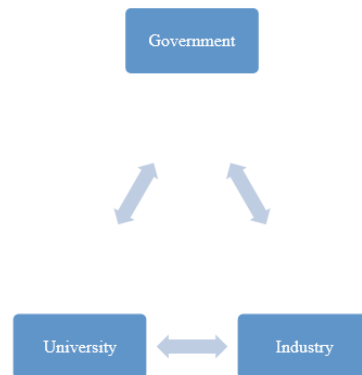
The policy direction of this paper is anchored on the “Quadruple Helix Model,” which was conceptualized by Carayannis and Campbell in 2009 (p. 201).

The model was built from the triple helix of university–industry–government collaborations, where entrepreneurial university is the central concept. Etzkowitz and Zhou (2018) stated the following:

The Triple Helix Model (Figure 2) is a universal model for the development of the knowledge-based society through innovation and entrepreneurship. It draws from the innovative practice of the Massachusetts Institute of Technology (MIT) with industry and government in inventing a regional renewal strategy in early 20th-century New England (par. 1).

Figure 2.

The Triple Helix Model.





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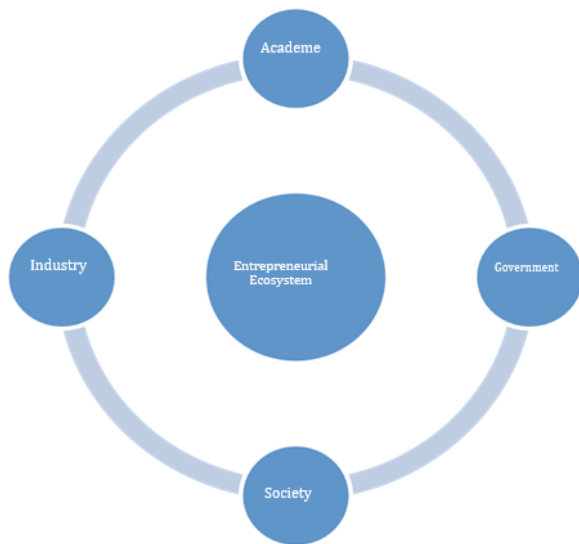
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In the Quadruple Helix Model (Figure 3), civil society was added as a new actor in the innovation process framework. The model highlights the importance of involving the public in realigning research paths that could lead to a more sustainable solution. In this model, the views and aspirations of the society are recognized in crafting innovation initiatives (Cavallini et al., 2016).

Figure 3.

The Quadruple Helix Model.



A number of researchers (Fisher, 1998; Gibbons, 2000; Roberts and Malone, 1996 as cited by Sharma et al., 2006) pointed out how Stanford University has played significantly in the progress of Silicon Valley. Thus, universities are regarded as “engines of innovation” (Sharma et al., 2006, p. 116) where innovative and novel ideas “spur the creations of commercial products, applications and highly successful companies such as Google, Lycos, Cirrus Logic, etc.” (Sharma et al., 2006, p. 116).

To successfully commercialize their IP assets, universities should actively collaborate with the government and the business sector. Universities should go beyond their walled compounds and should collaborate with society, government, and industry, where their continuous interaction may allow the free

flow of thoughts and ideas. Sharma et al. (2006) posits that “innovation sustained by this free flow of ideas has always been (and will continue to be) the driver for commercializable ideas coming out of the university” (p. 131).

In reality, however, the four components do not interact in a unidirectional path but on a multi-layered and dynamic collaborations. A reliable support mechanism is encouraged to espouse the participation of the actors and develop an effective innovation system. The entrepreneurship ecosystem model of Isenberg (2011) provides a pathway to create, enhance, cultivate, and evolve the cycle towards an effective transformation. Science, policy, industry, and society are pooled together by the domains that comprise the entrepreneurial ecosystem. These domains include favorable markets, valuable human capital, substantial support mechanism, conducive culture, access to finance, and enabling policy.

The conditions set forth in the development of an entrepreneurial ecosystem are influenced by the business climate. These are the drivers of change in the innovation system. The fast pace of innovation has changed the value of products and services. Technology and connectivity brought transformations in businesses such as automation and miniaturization. The Fourth Industrial Revolution (Industry 4.0) took a massive leap in advancing the production and operational strategies of the enterprises through smart digital technology. In the context of marketing, barriers within industries are gone; they synergize to compete. The trend in the consumer buying process is becoming more social and responsible (Kotler et al., 2016). These changes will be endless and will continue to disrupt economies. Thus, for an innovation system to work, it must create a supportive environment that includes a core of large established businesses, entrepreneurial resource providers, and an accessible information source for entrepreneurial ventures. These features create a culture of entrepreneurship and form a holistic approach to understanding the appropriate inventions in the commercialization process (Mason and Brown, 2014)



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Conceptual Framework

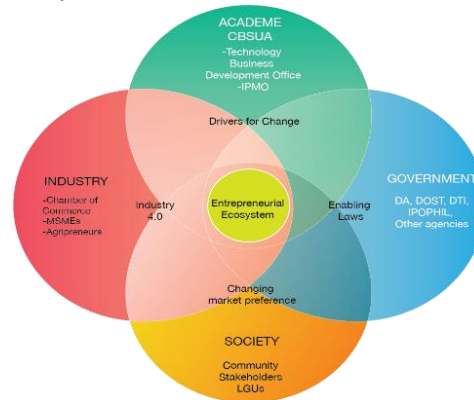
In DTT's policy paper (2018), it was stated that the Philippine universities generally remain detached from problems as signaled by the market and often fail to appreciate the importance of commercialization. In the case of some institutions, they are also unable to respond timely to the commercialization intent of some businesses because of their onerous processes or lack of mechanisms or preparedness to deal with such. On a regular basis, University researchers do not consider commercialization as part of their core mission since their performances are evaluated based on the number of their research publications. In addition, research activities in universities usually do not end up being commercialized due to the lack of personnel with the capability to deal with technology transfer and commercialization. There is also a need to be acquainted with business plans, conducting market research and feasibility studies, and valuing technology because these are sometimes part of the requirements for IP filing. Add to these the reality that financial constraints limit the commercialization of university technologies because IP management entails high transaction costs and consumes much time due to the complexity of the process and requirements.

Using the Quadruple Helix model in the context of CBSUA and its initiatives for technological commercialization, the relationship among the various players and stakeholders can be observed. CBSUA will establish its own Technology Commercialization and Business Development Division Office in close coordination with the existing IPMO. The university will employ proactive measures by forging strong partnerships and linkages with the government, composed of the various agencies, the industry consisting of MSMEs, Chamber of Commerce and Agripreneurs, and lastly, the community, stakeholders, and LGU's forming the society. The problems and issues presented in DTT's policy paper can be well addressed as the conceptual framework of this policy paper by having a stable enabling environment equipped and ready to respond to the call of Industry 4.0. The framework is problem-based and market-driven, considering the changing preferences and laws governing the country. This scenario leads to

and creates an inclusive entrepreneurial ecosystem.

Figure 4.

Conceptual framework of an entrepreneurial ecosystem.



Analysis of the Options based on the Analytical Frameworks

Policy Option 1: Create a Technology Commercialization and Business Development Division (TCBDD) under the Office of the Vice President for External and International Linkages.

Universities are usually disconnected from the business community since they are focused on their academic function and usually are not aware of how their intellectual properties will be mobilized and managed. The World Intellectual Property Office (n.d.) noted that universities should have a strong and proactive office dedicated to managing the intellectual properties and technology transfer system of the university. The office should have a team of staff who are competent with legal, technical and management expertise.

Traditionally, university faculty and scientists consider the publication of their research outputs in scientific journals and presenting these in scientific conferences as more important to protecting these through Intellectual Property Rights and transferring their research outputs for use by the private sector. Apparently, many faculty members are not aware yet of the processes for IP protection. Sometimes, their heavy workload, i.e., teaching, research, extension,



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and administrative works, deters them from going through the entire IP process. Hence, universities should provide assistance and mentor the faculty and students on how to apply for IPR, how to do business plans and market or sell their products to investors or enter into licensing agreements and do negotiations with companies. According to Nezu (2007), other than the UP, there are very few Philippine HEIs that have a dedicated office to IP management. Thus, it will be most appropriate and beneficial to the university researchers if a technology commercialization and transfer office will be established to help them commercialize their IP assets and build businesses or partner with other business people. Nezu (2007) further stated that:

While publishing continues to be important, not least for the career advancement of researchers, the experience of many countries is showing that patenting and publishing are not incompatible, particularly in universities that have a well-managed technology transfer office that can assist researchers in the process. A problem researchers or scientists often face is their lack of expertise in filing patent applications and negotiating agreements with industry (p. 17).

Push Factors:

- **Revenue generated for the university.** Universities can gain revenues through the licensing of IP assets or technologies generated in the form of royalties, etc. (Allan, 2001; Friedman & Silberman, 2003; Hsu and Bernstein, 1997).
- **Other benefits.** These include financial benefits for the faculty and students, generation of more research funds, broadening of research opportunities in the university, the establishment of a vibrant research culture and environment among faculty and students of the university, and development of an effective incentive mechanism, among others (Campbell, 1997; Rogers et al., 2000; Stephan, 2001).
- **Rich academic experience.** By investing into

university technology commercialization (UTC) process, “universities create a rich academic experience for their students, replete with educational and career opportunities” (Friedman and Silberman, 2003 as cited by Sharma et al., 2006, p. 116) needed to “create a stimulating, exciting and self-directed environment that feeds and supports creative and innovative research, a driver for successful technology commercialization” (Sharma et al., 2006, p. 116).

- **Economic and community development.** Among the economic gains of UTC would be the creation of job opportunities, (Kramer et al., 1997), development of local businesses (Chrisman et al., 1998), development of local communities (Parker and Zilberman, 1993), and start of new companies (Harmon et al., 1997; Di Gregorio and Shane, 2003; Vohora et al., 2003 as cited by Sharma et al., 2006).

Pull Factors:

- **TC management.** Academics have prominent disagreements on how UTC is handled in the traditional model of TTOs, especially in securing funds (Goldhor and Lund, 1983; Samsom and Gurdon, 1993; Shane and Stuart, 2002; Souder et al., 1990).
- **TC funding for commercialization and workforce development.** Some universities provide limited funds for technology commercialization activities (Etzkowitz, 1998; Lee, 1996; Matkin, 1990). There is also a gap in terms of services provided by the TTOs that point toward the need for universities to provide business development and human resource assistance to their researchers for successful technology commercialization (Markham, 2002).
- **Influence of university officials.** The university officials’ influence on the behavior of faculty researchers will depend on their commitment and leadership (Bostrom et al., 2019). It would be difficult then for administrators to enter the university in agreements or contracts involving activities



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that have to be undertaken by faculty who are experts in their fields of specialization. Consequently, this hinders the potential partnership between universities and external organizations.

Generally, university faculty undertake research without any written agreements on industry engagements. Thus, the researcher personally decides possible research collaboration and industry partnerships based on his depth of engagement with industry or external partners.

Policy Option 2: Outsource technology commercialization-related needs, which would imply a strategic partnership with identified Innovation and Technology Support Offices (ITSO) in the region.

The establishment of ITSOs in strategic areas and institutions in the country is one of the strategies of IPOPHL to increase patent activity, use of patent information and commercialization of innovation. An ITSO is a university or institutional partner of IPOPHL that has been equipped with an in-house patent library.

Many advanced Asian universities initiated the establishment of offices that will manage their university's IPRs and facilitate the transfer of technologies developed in their laboratories. They were patterned after US universities. In certain countries where there is not much technology transfer activities from universities, technology transfer is undertaken by the administration office. Nezu (2007) noted that "Asian universities are increasingly recognizing that the transfer of technology calls for a high level of expertise, a firm knowledge of technology and the way universities function, and also familiarity with the legal aspects of IPRs" (p. 22).

Push Factor:

- There are about one hundred 100 established ITSO's in the country (IPOPHIL, n.d.). In the Bicol Region, there is an ITSO located at Bicol University that can assist in the patent and commercialization activities of university researchers. IPOPHIL developed a network of

98 ITSOs composed of higher education and research development institutions. This program seeks to foster the protection of IP in the academe and research sectors, particularly in invention and utility models, to increase the innovative national output and to push the presence of Filipino inventions in the international patent system.

Pull Factors:

- The cost of outsourcing the patent activity is relatively high.
- Technology commercialization is a full-time job. The alternative approach is to outsource some functions to outside law firms and patent offices.
- While TTOs are being created in an increasing number of Asian universities, they need to deal with the problem of human resources and financing the cost of operation and staffing.

Policy Option 3: Maintain the Status Quo with enhanced functions of the Intellectual Property Management Office (IPMO).

Universities put considerable financial resources, facilities, and time into research without any thoughts on the return on its investment. In this option, the existing IPMO of the university needs to enhance its functions beyond merely patent management. Instead of waiting for university researchers and industry people to initiate the TC process, they should be more proactive in marketing the technology, finding potential partners, and securing funds.

Push Factors:

- The university already has an existing IPMO lodged under the Office of the Vice President for Research Extension Production and Entrepreneurial Development that it can mobilize for its technology commercialization efforts. This translates to lower cost on the



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part of the university.

- The existing IPMO may already have the tacit knowledge for initiating the TC processes.

Pull Factor:

- The IPMO needs to be proactive in marketing the university generated technology, finding potential partners, and securing funds; functions that require full-time work and will take a toll on faculty members assigned to the position.

Stakeholders' Analysis

The Stakeholders Map (Annex E) and the Stakeholders Grid (Annex F) show the people, groups, organizations that may influence, positively or negatively, the approval of the proposed policy. In this case, the BOR of CBSUA is the most powerful group that may approve or disapprove of the proposed policy. "The BOR is composed of the Commissioner of the CHED as Chair, the President of CBSUA as the Vice-Chair and the following members: Heads of the Department of Agriculture, National Economic Development Authority, Representative of the Senate Committee on Education, Representative of the Congress' Committee on Education, CBSUA Faculty Regent, the CBSUA Student Regent, and two Private Sector representatives" (CBSUA, 2017, p. 3). Before the policy proposal reaches the BOR, however, it has to be endorsed by the Administrative Council composed of university officials. Hence, the pressure from the faculty, who are the technology generators, will fall on the administrative council. The industry representatives who may be from the local Chamber of Commerce then has an important role in the approval of the policy. They are expected to nudge the rest of the BOR members into approving the policy since it will benefit them directly. The industry representatives are considered as the ultimate users and beneficiaries of the technologies that will be commercialized.

A framework on the innovation and entrepreneurship ecosystem and the inherent linkages between the stakeholders was developed by RTI International (RTI, 2014). The model builds on the following

interrelated blocks: human capital, research and knowledge creation, knowledge transfer, intellectual property (IP), and an infrastructure of collaboration. The development of the ecosystem requires the connections between the "knowledge economy (driven by research) and the commercial economy (driven by the marketplace), and it is in this intersection that the Philippines, like most countries, is facing difficult challenges" (United States Agency for International Development [USAID], 2014, p. 18).

It is clear that technology commercialization contributes to local economic development. This is brought about by revenues generated from licensing and employment. The income generated from royalties, licensing fees, etc. can be shared by the university and the inventors (University of California Office of the President- Knowledge Transfer Office [UCOP], n.d.).

Needs and Market Analyses

A needs and market analyses were undertaken to determine the relevance of the technologies developed by CBSUA. A sample technology, the Smoked Fish Dryer developed by Engr. Joel Sadol, a faculty member of the College of Engineering and Food Science of CBSUA, was used for the analyses.

Seven smoked fish processors from Pasacao, Camarines Sur, and Naga City (Annex G) were invited for an FGD. They provided information on the smoked fish business, particularly on the following: volume, value, buying patterns, competition, price, etc. Data collected were used to assess the market for smoked fish. Guide questions used in the FGD can be found in Annex H.

The Needs Analysis was done to determine the respondents' current method of fish drying, identify their problems with the existing practice, find out if they are satisfied with their current method, and determine their willingness to adopt the technology. Results showed that the smoked fish processors use the traditional method of smoking, which can be very tedious. The current practice usually takes them three days to process 500 kg of fish. Usual steps include brining or soaking the fish in salt, boiling it, then



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arranging it on fish trays called *nigo* before finally smoking the fish. Losses to shrinkage is about 40%. Because of the inefficiency in the current process, the processors signified their willingness to improve their smoked fish drying method. They were enthusiastic about using a piece of equipment, which will make fish drying more effective than their current method.

A market analysis of the smoked fish business was also done. Data on the volume, value, customer buying patterns, competition, and price of the smoked fish were collected to assess its market. Results show that most of the respondents' process about 4,000 kg of fish a month. This volume can be absorbed by the market in Naga City and neighboring towns. Other smoked fish suppliers in the immediate market include those from Mercedes, Daet, Camarines Norte. However, local processors indicated that competition is not tough since all their products are always sold. Furthermore, the Incremental Shrinkage Analysis on the traditional method of smoked fish drying and the Smoked Fish Dryer developed by CBSUA reveals that shrinkage is lower by 30% using the improved technology. A simple computation using the incremental shrinkage method shows an equipment payback period of about five months. With all the costs considered, however, the payback period may extend up to 10 months. Detailed computation may be seen in Annex I.

The processors were also interested in the equipment because of the other benefits that it brings, including the following:

- Time-saving. With the use of the smoked fish dryer, the processing time is shortened, and drying becomes easy and efficient.
- Even heat distribution. Heat is evenly distributed in the dryer, thus increasing the quality of smoked fish. Shrinkage is only about 15%.
- Less smoke. The dryer releases less smoke than conventional ones hence decreasing the risk of smoke inhalation, which is a health hazard.

- Space-saving. The dryer occupies less space.

Evaluation of Policy Options

Statement of Criteria

The policy options considered in this study were assessed based on six criteria, to wit: cost-effectiveness, ease of implementation, ease of modification/flexibility, efficiency, employee morale, and risk levels. This was the guide used by the researcher in choosing the best policy option that CBSUA may take in addressing the challenge.

Table 1.

Selection Criteria

CRITERIA	DEFINITION
A. Cost-effectiveness	A measure of something that is of good value, where the benefits and usage are worth at least what is paid for them.
B. Ease of implementation	A measure of the overall ease of implementing the preferred policy. The degree of difficulty and rate of success should be seriously considered by school administrators as they would not want to begin implementing an alternative that is extremely difficult to carry out. The best policy option should be one that can be relatively integrated into the business practices of the institution in achieving its main objectives.
C. Ease of modification/ flexibility	A measure of how well the policy option can be easily modified or changed with little or negligible use of resources
D. Efficiency	A measure of how well the policy option is implemented with minimal resource wastages in producing the desired result. This includes the benefit-cost analysis for the given policy option.
E. Employee morale	A measure of how well the policy option creates a balanced combination of various operational and organizational architecture which meets the needs of the employees' morale. It is more on the option's acceptability in terms of "emotions, attitude, satisfaction, and overall outlook of employees during their time in a workplace environment" (Business Dictionary, n.d., par. 1).
F. Risk levels	A measure of how well the policy option captures the probability and effect (to the University) of a potential threat event/threat event category.



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Selection of the Best Option using Multi-Criteria Analysis Objectives and Weighting Criteria

“Multi-criteria Analysis (MCA) is a sub-discipline of operations research that explicitly evaluates multiple conflicting criteria in decision making (both in daily life and in settings such as business, government, and medicine)” (Toolshero, n.d., para. 1). It is, likewise, a complementary approach to cost-benefit analysis (CBA). MCA has a two-stage decision procedure wherein the first stage identifies a set of goals or objectives and then seeks to identify the trade-offs between those objectives for different policies or for different ways of achieving a given policy. The second stage seeks to identify the “best” policy by attaching weights (scores) to the various objectives (Associated Program on Flood Management [APFM], 2018).

The MCA was used in the selection of policy options considered in this study. These options were identified by the Author through rigorous identification and screening of several options that may address the present concern or subject. The ‘Weighting Criteria’ method outlined in the Value Analysis Handbook (NEDA, 2009) was adopted in the selection of the best policy option from among the three shortlisted items.

The criteria used to determine the best policy option were selected based on their importance using a simple paired comparison. A ‘weighting matrix’ was then set by quantifying the level of importance as follows:

- 4= Very Major Preference;
- 3= Major Preference;
- 2= Minor Preference; and
- 1= Slight Preference.

Once a tie on both criteria occurs, each criterion is given one point. However, it is very seldom that “objectives” or “criteria” in the selection process will have equal importance. Some have stronger weights or is more important than the other relative to decision making. For a criterion to excel over the other by means of a paired wise comparison, a weight factor from a scale of one to 10 is assigned for each criterion. Thus, the highest weight or number is assigned to the most important criterion, while the lowest weight is assigned to the least important criterion.

The steps in the conduct of the multi-Criteria Analysis employing the ‘Weighing Criteria Method for the selection of best policy option are outlined in Annex J.

The MCA Matrix Grid (Annex K) shows that Option 1 garnered a score of 133, while Option 2 and Option 3 got scores of 110 and 83, respectively. Thus, the best policy option is Option 1 since it reaped the highest grade.

Evaluation Results and Analysis

Policy Option 1: Create a Technology Commercialization and Business Development Division (TCBDD) under the Office of the Vice President for External and International Linkages.

As a new office devoted to Technology Commercialization, this will be aligned with the *acadpreneurialization* thrust of the university. *Acadpreneurialization* is a central concept or scheme that institutionalizes the act of putting value to human and other resources driven towards answering the need to increase the financial resource base in order to support more development and technology-based undertakings. Here, the University shall have a unified and systematic service center where clients can access consultancy services, resource persons, information, education, communication materials, and the like for a fee. Moreover, the TCBDD shall focus on the commercialization programs of the university so that the technologies (equipment, agricultural machinery, food and crop production processes, etc.) and creative works (songs, dances, literary works, etc.) developed by the university can be brought to the market through technology licensing, business incubation or through investors who are willing to invest in the commercialization of a technology. *Acadpreneurialization*, on the other hand, shall primarily become an avenue for the university to encourage more proactive professionals/researchers to address the demands of the surrounding society (CBSUA, 2020). Thus, the TCBDD, staffed with legal and technical experts, shall be devoted to managing the technology commercialization activities of the university.



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The policy to create a TCBDD under the Office of the Vice President for External and International Linkages is:

Cost-Effective after Year 1 – Ranking last (6th) in terms of weighted importance among the six criteria for Policy Option 1, this particular aspect may be cost-ineffective considering the Php 34.78M budgetary requirement, but in the long run, the option can be cost-effective considering the maximization of resources and revenues derived from licensing and other fees.

Easy to implement - This criterion ranked 1st in this policy option. This means that the establishment of a new office solely dedicated to technology commercialization can be easily integrated into the current business practices of the university. A new office will make the university more focused on its goal of technology transfer and commercialization. The functions of the new office adapted from the Office of the Technology Commercialization of the University of Texas at Austin (n.d.) include the following:

- Evaluates, protects, markets, and licenses the university's inventions and software;
- Assists in the formation of start-ups;
- Provides outreach and informative forums to the university's faculty on the commercialization processes; and
- Promotes collaboration with industry, investors, and others within the technology commercialization ecosystem (par. 2).

Easily modified/ flexible – This criterion ranked 5th in terms of weighted importance in the MCA. This policy option is easy to modify since the new office is mainly devoted to technology transfer and commercialization. In the event of an unexpected failure, the person may well be dispersed to other university functions, and the remaining facility may be used by other offices or

institutions within the university.

Efficient – Efficiency criterion ranked 2nd in the MCA given this policy option. For the universities, major benefits in the form of revenues (direct industry support, royalties, licensing, etc.) can be generated by moving the technology into the marketplace (Allan, 2001; Friedman and Silberman, 2003, and Hsu and Bernstein, 1997). In addition, by investing into their UTC process, universities create a rich academic experience for their students, replete with educational and career opportunities (Friedman and Silberman, 2003; Stephan, 2001) needed to create a stimulating, exciting and self-directed environment that feeds and supports creative and innovative research, a driver for successful technology commercialization (Sharma et al., 2006).

Other advantages of technology commercialization include financial benefits for the faculty and students, diversity in the research portfolio of the university, more funds to support research, new challenges/opportunities for the university researchers, broadening and enrichment of the intellectual life in the university, potent marketing tool to attract eminent faculty, students and external research funding, positive effects on the curriculum, etc. (Campbell, 1997; Rogers et al., 2000; Stephan, 2001).

Leads to High Employee Morale – This criterion ranked 4th in the MCA. The creation of a new office in the university specifically devoted to technology commercialization creates a balanced combination of various operational and organizational architecture that meet the needs of the employees' morale. This is highly acceptable in terms of "emotions, attitude, satisfaction, and overall outlook of employees during their time in a workplace environment" (Business dictionary, n.d.). High employee morale directly influences high work productivity.



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Has High-Risk Levels - In the MCA, this criterion ranked 3rd. Looking at TC management, academics have prominent disagreements on how the UTC is handled in the traditional model of the TTOs. A number of researchers have discussed the importance of financial resources or assistance in securing access to sources of funding (Goldhor and Lund, 1983; Samsom and Gurdon, 1993; Shane and Stuart, 2002; Souder et al., 1990).

The university officials' influence on the behavior of faculty researchers will depend on their commitment and leadership (Bostrom et al., 2019). It would be difficult then for administrators to enter the university in agreements or contracts involving activities that have to be undertaken by faculty with specialist competence. Consequently, this hinders the potential partnership between universities and external organizations.

Generally, university faculty undertake research without any written agreements on industry engagements. Thus, the researcher personally decides on his depth of engagement with industry or external partners.

Policy Option 2: Outsource technology commercialization-related needs, which would imply a strategic partnership with identified Innovation and Technology Support Offices (ITSO) in the region.

The creation of ITSOs in strategic areas and institutions in the country is a strategy of the IPOPHL to increase patent activity, use of patent information, and commercialization of innovation. IPOPHL developed a network of about one hundred (100) ITSOs composed of higher education and research development institutions. This program seeks to foster the creation of intellectual property (IP) in the academe and research sectors, particularly in invention and utility models, to increase the innovative national output and to push the presence of Filipino inventions in the international patent system.

The policy to outsource technology commercialization-related needs which would imply a strategic partnership with identified ITSOs in the region is:

Cost-Effective - Of the six criteria used in Policy Option 2, this aspect ranked last (6th) in the MCA. The cost of outsourcing the patent activity will not be as high as Policy Option 1. In fact, there is an estimated difference of Php 24.28M between the expenses of Options 1 (Php 34.78M) and 2 (Php 10.5M).

Easy to implement - Similar to Policy Option 1, this criterion ranked 1st in the MCA. There are already established ITSO's in the country. In the Bicol Region, there is an ITSO located at the Bicol University that can assist in the patent activity of university researchers, usage of patent information, and of innovation.

Easily modified/ flexible – Ranking 3rd in the MCA, this policy option is easy to modify since the new office is mainly devoted to technology transfer and commercialization, in the event of an unexpected failure, the person may be dispersed to other university functions, and the remaining facility may be used by other offices or institutions within the university.

Inefficient - This aspect ranked 2nd among the six criteria. Technology commercialization is a full-time job. The alternative approach is to outsource some functions from outside law firms and patent offices. This would mean additional workload to faculty and is therefore counterproductive.

Leads to Low Employee Morale – This criterion ranked 4th in the MCA. While TTOs are being created in an increasing number of Asian universities, they need to deal with the problem of human resources and financing the cost of operation and staffing.

Has High-Risk Levels – Among the respondents, this criterion ranked third as



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well in the MCA. This policy option may become unsustainable in the long-run brought about by a lack of focus. Outsourcing technology commercialization through partnerships may not exist permanently after an MOU expires, the endeavor seems to die with the MOU as well.

Policy Option 3: Maintain the Status Quo with enhanced functions of the Intellectual Property Management Office (IPMO).

Universities invest substantially in facilities and allocate staff time for research without considering the return on investment. In this option, the existing IPMO of the university needs to enhance its functions beyond the writing and filing of application for IP protection. The office should also be active in the promotion and marketing of its IP assets and engage actively in collaborating with potential partners.

The policy to preserve the status quo with enhanced IP functions is:

Cost-Effective - This criterion ranked 6th or last in the MCA. Policy Option 3 will not change the current costs and or expenditures of the university.

Easy to implement – The criterion ranked 1st in the MCA. Since not much will change, the enhanced IP function would just entail the proactive approach and the approval of the Implementing Rules and Regulation of the Intellectual Property Code of CBSUA, which is currently pending.

Easily modified/ flexible – Ranking 3rd among the six criteria used in the MCA, the third policy option is easy to modify since it will only deal with enhanced IP functions as a new task, not much will change.

Inefficient - Ranking 2nd in the MCA, this policy option is considered inefficient. Technology commercialization is, as mentioned previously, a full-time job with high financial demands.

Leads to Low Employee Morale – This ranked 5th in the MCA. Being “proactive in marketing the university technology, finding potential partners, and securing funds may require full-time work and will take a toll on faculty members assigned to the position” (Nezu, 2007, p. 25).

Has High-Risk Levels – This particular criterion ranked 4th in the MCA. The third policy option may become unsustainable in the long-run if not prioritized and may lead to technology commercialization failure.

Cost-Benefit Analysis

The policy options were evaluated in terms of the costs that the university may incur if such policies were implemented.

The cost structure of Policy Option 1 is presented in Annex L. Year 1 would require an estimated total amount of Php 7.12M, with Php 2.0M allotted to capital outlay. To pursue this policy option in a span of five years, the new office would require a total of Php 34.78M.

Annex M shows the projected cost of Policy Option 2. This scenario entails outsourcing of technology commercialization related needs, which would imply a strategic partnership with identified ITSO's in the region. Compared to Policy Option 1, this would only require Php 10.5M for the five-year duration of the option.

Recommendations

Rationale for Recommendation

1. The need for more University-Industry partnership is anchored on the observed trend in global competition and the move towards a knowledge-based economy. However, such change should not interfere with the fundamental mission of universities, which is instruction. Hence, a new office devoted to Technology Commercialization will



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allow university professors to focus on their primary function and, at the same time, collaborate with the private sector.

- Universities in North America, Europe, and Asia have moved from its traditional role of teaching and research into becoming more innovative and entrepreneurial. They have taken on the challenge of transferring the technologies they have developed to the private sector. They have realized that the commercialization of their products will generate revenues for the researcher, the university and the development of the local economy.

Why Choose Policy Option No 1

- Prominent universities in the US and Europe and even Singapore's National University of Singapore (NUS), is known for their "synergistic public/private activities that promote the spirit of innovation and generating value from university resources through industry engagement and entrepreneurship" (Payumo et al., 2014, p. 23). For CBSUA, a new office focused solely on helping the university researchers commercialize the technologies they have generated will be of help to the industry and its different stakeholders. Specifically, the industry can have access to university generated technologies that can help boost their operational efficiency. A case in point is the Smoked Fish Dryer Technology of the university, which can help the micro-scale fish processors in the province by ensuring higher returns on their sales due to a decrease in shrinkage cost.
- The CBSUA researcher will no longer be burdened with the additional task of complying and preparing documents needed for commercialization since a separate office would now perform the function.
- There are a number of funding agencies that can be tapped for technology commercialization. However, each one of the funding agencies have different requirements, and the faculty researcher,

with their heavy workload, may have difficulty complying with the required paper works/proposal preparation. Hence, the separate office can perform and shoulder the costs of marketing the "technology, negotiation with companies, patent filing, and officemaintenance" (Nezu, 2007, p.28).

Intended and Unintended Consequences of the Chosen Policy

- Universities may be faced with the issue of "conflicting demands from their stakeholders in technology commercialization: academic scientists, university administrators, and the industry/firms/entrepreneurs" (Siegel et al., 2003 as cited by Markman et al., 2008, p. 1405).
- There would be a need to reorganize the existing organizational structure of CBSUA depending on variations in technology transfer performance and activities.

Practical Steps

The following are the recommended next steps towards the successful adoption of the chosen policy, which is to create **Technology Commercialization and Business Development Division** that will be supervised by the Office of the Vice President for External and International Linkages.

The **Technology Commercialization and Business Development Division** will cater to the technology business development and commercialization of the intellectual properties of the university as well as the *acadpreneurialization* initiatives of the university.

The **Technology Commercialization and Business Development Division** will be under the VP-EIL Office. The main goal of the office is to integrate programs, policies, and activities toward the protection, promotion, and successful disposition of the university's technologies through licensing and technology business incubation to both the private and public sectors.



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Market research and business plan development will be performed by the faculty members of the College of Economics and Management. Moreover, economics students can be engaged to undertake data gathering in the market research and business plan development. The engineering, science, and other students can be trained to engage in the protection and commercialization activities such as writing of applications of patents, copyrights, trademarks, and other intellectual properties of CBSUA. Drafting of engineering designs and writing of research-based technologies in technology formats, documentation, and promotion of technologies are some essential activities where CBSUA students can be engaged.

The CBSUA adopts gender mainstreaming as a strategy to achieve gender equality in its system, structures, policies, processes, and procedures based on the provisions of Republic Act No. 9710 (2009). It is also stipulated in the same Act that the CHED shall promote and provide funds for and disseminate research on gender issues and concerns. Thus, Gender and Development (GAD) has been integrated into the research agenda of the university. Researches on the value of the participation of women and youth in the agriculture value chain have been conducted. The university also puts emphasis on developing farm tools and equipment that can be used by women and the youth. Moreover, both male and female members of the faculty of the university are given equal opportunity in the whole research and extension system from research proposal development, research funding, research presentation, and trainings. The law provides that 5% of the research and extension budget of the university must be allocated for GAD research and extension activities.

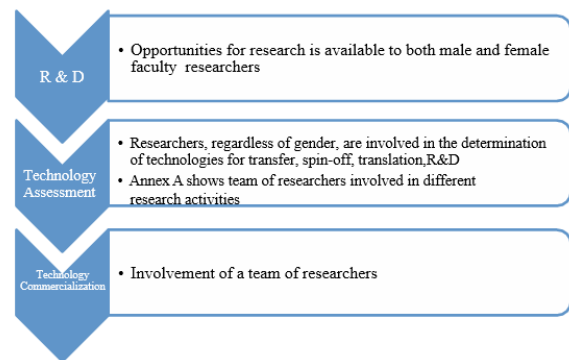
Similarly, in the conduct of the different technology commercialization activities at CBSUA, concerns of both genders will be considered, from the disclosure of the research to its commercialization. Annex A reveals that female faculty members of CBSUA actively participated in the filing for IP protection of their generated technologies. It further shows that eleven (11) out of sixteen (16) applications were filed by female faculty members of the university. The TCBD Office understands that responding to gender concerns is essential to ensure successful program outcomes.

The gender dimension of the whole process will consist of the participation of women from all sectors, i.e., academe, community, industry, and even the government. Further, throughout the technology commercialization activities, the Office will continuously work with and build alliances with its different stakeholders.

The diagram below shows that gender and development concerns are integrated with research and development up to technology commercialization.

Figure 5.

Process Flow from Research to Technology Commercialization



The **Technology Commercialization and Business Development Division** shall include the following technology commercialization related activities and services:

- A. Assessment of Researches/Technologies/Creative Works
 1. Technology Assessment
 2. Intellectual Property Audit/Patentability Assessment
 3. Technology Valuation
 4. Prior Art Search
 5. Freedom to Operate Assessment
 6. Fairness Opinion Assessment
- B. Business Development Services
 1. Feasibility Study
 2. Business Plan Preparation
 3. Market Study



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4. Technology Business Incubation Services
 5. Negotiation Services
 6. Technology Licensing
 7. Technical Assistance on Regulatory Requirements
- C. Knowledge Management Services
1. Capacity Building Services
 2. Information, Education, and Communication (IEC) Materials Development
 3. Promotion and Technology Dissemination
 4. Networking/Linkaging
 5. Access to Technology Information and Databases
- D. Governance/Legal Assistance
1. Maintenance of Legal Partners
 2. Crafting of Policies and Guidelines

Feasibility of Next Steps

Some guidelines on how to encourage more collaborative undertakings for TC, as suggested by Payumo et al. (2014) include the following:

1. Establishment of university ownership and assessing factors that will affect protection, commercialization, and benefit-sharing;
2. Provision of well-funded high-quality research system that encourages researchers to do more innovative research and generate technologies and products that can be used by industry;
3. Provision of adequate incentives and support to encourage faculty participation especially in disclosing, protecting, and commercializing a university invention; and
4. Proper IP management and technology transfer programs.

Conclusion

The current policies of CBSUA relative to the implementation of national laws associated with research and innovation are still wanting to lead and contribute to the development of an innovation ecosystem focusing on technology transfer and technology commercialization initiatives of CBSUA.

The reality that Philippine universities generally remain detached from the business world and often fail to appreciate the importance of commercialization is strongly observable. The inability of SUCs to respond timely to the commercialization intent of some businesses due to poor processes or lack of mechanisms or preparedness to deal with this needs to be acted upon now.

In closing the gap between market demand and technology development in CBSUA, three policy options have been identified. First, create a *Technology Commercialization and Business Development Division that will operate under the Office of the Vice President for External and International Linkages*. Second, *outsource some university technology commercialization-related needs*—lastly, maintain the *Status Quo with enhanced functions of the Intellectual Property Management Office (IPMO)*.

After a thorough analysis and evaluation of the options using the MCA Tool and Benefit-Cost Analysis, it was found out that there is a need to establish an office explicitly devoted to technology transfer and commercialization. The office will be called the Technology Commercialization and Business Development Division. This will be placed directly under the existing Office of the Vice-President for External and International Linkages. The TCBDD will focus solely on helping the university and its researchers manage their intellectual properties through intellectual asset protection, technology licensing, and technology business incubations. The division will promote and market its products to gain revenue for the university and its researchers. Similarly, the industry can have access to university generated technologies that can help improve their operational efficiency. Doing so will gradually lead to



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inclusive growth and local economic development, provided that there is the presence of a robust entrepreneurial ecosystem. Moreover, the faculty researchers will no longer have to do the additional tasks of complying and preparing documents needed for commercialization since a dedicated office would now perform such function.

The above-proposed solution will be submitted to the University President for his discussion of the need for the creation of a Technology Commercialization and Business Development Division under the Office of the Vice-President for External and International Linkages during the Administrative Council. Finally, this will be endorsed to the Board of Regents for approval and appropriation of funds for its eventual implementation. The President fully supports this policy since the Development Plan of the University for 2020 to 2024 includes *acadepreneurialization* as an essential thrust of his administration. This is a central concept or scheme where it shall institutionalize the act of putting value to human and other resources. Thus, the Technology Commercialization and Business Development Office can serve as a unified and systematic service center where clients can gain access to the intellectual properties of the university, consultancy services, resource persons, information, education, communication materials and the like for a fee, hence, generating additional income for the faculty and the university (CBSUA Development Plan, 2020).

Limitations

Governance and leadership are key factors that can affect the implementation of creating an office devoted to technology commercialization and business development. Another factor to look at is its acceptability from an organizational perspective. The proactive move may be seen as a new and additional workload on the part of the researchers. The creation of such an office also entails a substantial amount of funding and may have a significant impact on the university budget.

Further policy analysis may be conducted as a follow-through to:

1. Assess the gap between the industry and the academe;
2. Look into possible solutions to hasten the process of IP protection; and
3. Determine the acceptability of technologies generated by CBSUA researchers to close or narrow down the industry-academe gap.

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Technological Acceptance of Digital Banking of The Land Bank Of The Philippines

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This study investigated on the assessment of the technological acceptance of customers to the digital banking of LANDBANK in the light of the Technology Acceptance Model (TAM). The researcher was able to identify the profile of the respondents and assess the respondent's perception on their use of selected LANDBANK Digital banking products and services with the four aspects of TAM such as perceived usefulness, perceived ease of use, attitude towards use, and behavioral intention to use. The study also examined the common issues/problems usually encountered by the customers and the possible solutions, and tested the significant difference in the respondents' assessment on their use of LANDBANK E-banking products and services when grouped according to profile. The study conducted was in the form of a descriptive research and employed non-parametric tests were used to test the research hypothesis. Findings from 385 digital banking users in LBP EDSA Extension Branch showed that the willingness to adopt digital banking will increase if customers believe that perceived ease of use and perceived usefulness are correctly managed, and were revealed to be important factors that affect the overall attitude and behavior intention of the users. Single and younger individuals were shown to be the ones who would likely to embrace more digital banking. Digital banking developments and trends in recent years had great impact on banking sector worldwide; the disruptive innovative technology has accelerated changes in the way of banking business. This study suggests the bank to develop significant strategies to increase adoption of digital banking.

Keywords: Digital Banking, Perceive Usefulness, Perceived Ease of Use, Attitude towards Use, Behavior Intention, Technology Acceptance

Introduction

The drastic change on how people nowadays perform their tasks on a daily basis requires efficient technological advancement on different aspects - be it in communicating, transportation, retailing and many more. Banking, correspondingly, invests on its continuous digital transformation in order to meet and satisfy the needs of the people they serve. The effort of the industry was never ending - up to this time that digitization of almost everything is needed.

“Digital transformation is changing how and by whom financial services are provided, how payments are made within an economy and across borders, and how and where goods and services are produced in a

globalized economy” (H. Genberg, 2020). In order to stay on track in a market that is going through a complete change, banks need to work quickly on their digitization operations and implementation due to the wide variety of customer behaviors and the increased industry competitiveness.

Internet banking indeed helped banks in reducing transaction cost, contributed in making a better image in the market, and in developing more efficient bank's strategic actions towards the demands of the market. The main driver for a bank to offer internet banking service was clients' awareness and willingness to use it (Cheung, 2001 and Juwaheer et al., 2012).

A lot of studies about the behavior of the internet banking users have been developed and it was



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revealed that e-banking was “a means to minimize discomfort, reduce transaction cost and saves time.” “The ease in obtaining information and the many benefits provided had increased the utilization of information system”, (Rigopoulos & Askounis, 2007; Islam & Chick, 2011; Lech, 2012; Choi et al., 2011). It is possible for banks to minimize some operational and fixed costs by using information technology in lieu of employees’ function and physical facilities.

“Internet banking had fulfilled the requirements that should be met by a technology in order to be adopted: first, the services provided should be supportive; and second, the services could be accessed and offered relevant market, had supportive benefits and could be easily obtained” (Walker & Johnson, 2006). The adoption of information technology by banks (internet banking) and the benefits it entails are still the top interest in studies and researches.

However, the slow adoption of digital banking has attracted studies concerning the consumer’s intentions to use the digital banking services which have been conducted on the basis of Fred Davis’ Technology Acceptance Model (1989). The Technology Acceptance Model (TAM) was formulated to explain the adoption process and underlying influencing factors in technology acceptance. TAM has been utilized a lot in information system research, despite of it having a number of limitations in studying mobile based services. One of the limitations of TAM is that it was designed to be used in an organizational context rather than in everyday life context, thus, makes it unfavorable to study mobile based technology.

This study was patterned with the previous study carried out by Davis (1989), using the Technology Acceptance Model. His study revealed that “both perceived ease of use and perceived usefulness had influence on attitude toward using which would influence actual usage of internet banking.” The researcher's goal was to find and share examples of how attitudes toward utilizing and actual usage of online banking are influenced by perceived utility and simplicity of use.

User acceptance and confidence are vital for the further development of any new technology. Besides,

acceptance has been viewed as a function of a user involvement in systems development. “Liberalization in financial sectors and new revolution in technology has allowed new developments and various processing channels with innovative products and services in the banking industry. In today’s competitive world, banks are facing more competition with other banks and with non-banking financial institutions, too. The most strategic challenge that banks are facing in today’s market is the growing and rise of needs and consumer expectations with increased educational levels and increasing their wealth” (S. Anbumalar et al., 2020).

The invention of ATMs and credit cards paved the way for the digitization of the banks. The commercial evolution of the internet in the early 1990s completely overhauled the banking sector introducing the world to online banking services. This is when traditional street-side banks started considering ideas to deliver restricted online bank services to cut down the cost of operations” (N.Maha Lakshmi, 2020). “Before the global economic crisis of 2008-2009, the banking industry created shareholder value through financial leveraging” (K. Muluka, 2015). Because of the recent innovations and technological developments in banking, the utilization of e-banking has been increasingly widespread. Perceived ease of use affects attitudes towards e-banking and attitudes positively affect behavioral intentions to use e-banking and behavioral intentions further positively affect actual use of e-banking. The sequential mediation of attitude and intention has been confirmed between e-service quality and actual use of e-banking.

The Central Bank or Bangko Sentral ng Pilipinas (BSP) is reinforcing banks to embrace innovation and develop new strategies as the rapid evolution of digital technology continued to revolutionize financial product and banking service delivery. As a result, consumers now have fresh access to a variety of electronic platforms, enabling them to conduct banking operations whenever they want, anywhere.

Land Bank of the Philippines, a government-owned universal bank and the official depository of government funds, has been continuously exerting efforts to engage into digital transformation on its



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banking operations to provide its clients the best experience of effortless banking. The bank has developed various electronic banking platforms which they promise to be accessible and shall provide the best technology solutions to their clients - especially to the Small Farmers and Fishers (SFFs), Micro, Small and Medium Enterprises (MSMEs), Countryside Financial Institutions (CFIs), Local Government Units (LGUs) and government agencies (Land Bank of the Philippines, n.d.)

LANDBANK continued to introduce value-added services to its electronic banking facilities and developed new products to further improve customer service, save on operational costs and promote inclusivity. In 2019, e-banking transactions using LANDBANK's Internet banking, mobile banking app and electronic payment facilities almost doubled as a result of increased consumer awareness and changing customer preferences that drive the shift from traditional physical banking to digital banking channels. Also, with the increasing popularity of smartphones, the volume of mobile banking transactions surged, signaling its emergence as a primary transaction channels as well. (Land bank of the Philippines, 2019)

LANDBANK E-Banking Services

A. Individual:

- a. **LANDBANK iAccess** is an alternative banking channel designed for individual customers, which provides a convenient, reliable, and secure delivery of banking services via the Internet. It is available 24 hours a day, 7 days a week.
- b. **The LANDBANK Mobile Banking Application (MBA)** is a free application that provides users with convenient access to LANDBANK'S wide array of services through your smartphones anytime, anywhere - experience personal banking at your fingertips.
- c. **Electronic Salary Loan (eSL)** is a new electronic-based salary loan product of LANDBANK that offers eligible employees of government agencies

and private institutions with a facility to apply for salary loan, inquire loan details, inquire loan payment history and conduct loan payment through LANDBANK's electronic banking channels such as the Mobile Banking Application (MBA) and receive notifications through SMS or email.

B. Other E-Banking Services:

- a. **LANDBANK Link.BizPortal** is an e-Payment facility that allows clients to pay for products and services via the Internet from both the government and private institutions/sectors.

b. **Online Account Opening and Updating**

- Account opening and updating now made easier and faster through the improved LANDBANK Digital Onboarding System (DOBS). DOBS offers a convenient way to apply for a LANDBANK deposit account right at your fingertips, and with its improved features, you can now update your user information as well for an existing LANDBANK deposit account. (Land Bank of the Philippines, n.d)

Recognizing the needs and acceptance of individuals are the beginning stages of any business and this understanding would be helpful to find the way of future development, thus academicians are interested to realize the factors that drive user's acceptance of rejection of technologies (H. Taherdoost, 2017).

Customers have become even more dependent on online and mobile applications as quarantine and social distancing practices have been mandated during the COVID-19 strike, especially within the National Capital Region, wherein there had been multiple modifications on the quarantine guidelines due to the sudden increase of COVID-19 cases, which are driving increased digital engagements. It's only a matter of time before the demand for more advanced



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services will become a standard request for all financial services customers.

This thesis aimed to contribute to this area of the academic and professional debate by analyzing the technological acceptance of the customers of Land Bank of the Philippines of the bank’s selected digital banking products and services.

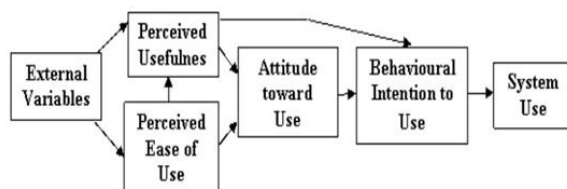
Theoretical Framework

Technology Acceptance Model (TAM) offered a strong and simple explanation of the acceptance of technology and the behavior of the technology users” (Davis, 1989). TAM was a model that was designed to predict acceptance of computers and factors relating to it. Davis (1993) defined Technology Acceptance Model (TAM) as “a model established to analyze and understand the factors that influence the acceptance of the utilization of computer technology”. TAM explains and estimates the factors that influenced the acceptance of users to a technology in an organization. It also expounds the cause-and-effect relationship between conviction and behavior, purpose or need and the actual usage by users of an information system.

The Figure 1 displays the Technology Acceptance Model (TAM) which illustrates how perceived usefulness and perceived ease of use influence the customers’ acceptance behavior.

Figure 1.

The Technology Acceptance Model



According to Davis (1985), there are two important determinants that may influence the system use. First is perceived usefulness - people tend to use or not use an application to the extent they believe it will help them perform their job.” Second, even if potential

users believe that a given application is useful; they may, at the same time believe that the systems is too hard to use and that the performance benefits of usage are outweighed by the effort of using the application. That is, in addition to usefulness, usage is theorized to be influenced by *perceived ease of use*.

Perceived usefulness is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance." This follows from the definition of the word useful: capable of being used advantageously. Perceived ease of use, in contrast, refers to "the degree to which a person believes that using a particular system would be free of effort" (F. Davis, 1985). This follows from the definition of "ease": “freedom from difficulty or great effort. Effort is a finite resource that a person may allocate to the various activities for which he or she is responsible. An application that is viewed as being simpler to use than another is more likely to be adopted by users, all other things being equal, as reported.

The attitude toward using TAM was defined as “attitude toward a system usage in the form of acceptance or refusal when a person uses a technology in his tasks” (Davis, 1993). Davis (1989) defines actual system usage as “a form of external psychomotor response which was measured by a person through real usage. The user would use a technology if he/she believed that the technology was beneficial and easy to use, and he or she would use the technology continuously. Perceived ease of use and perceived usefulness directly influenced actual usage without the interference of attitude toward using Technology attitude is the extent to which one person feels about using or learning technology” - (igi-global.com). According to Edison and Geissler (2003), a recent investigation of technology attitudes developed a suite of scales with which to measure the “technological readiness of individuals and firms. Included in the suite are four sets of scale items, including: ‘optimism’ (a positive view of technology); ‘innovativeness’ (tendency to be a technology pioneer); ‘discomfort’ (perceived lack of control over technology); and ‘insecurity’ (distrust of technology).



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Behavior intention is defined as “consumer readiness and likelihood to use a special piece of technology” (Journal of Internet Banking and Commerce, 2018). As smart phones become widely utilized nowadays, users’ lives have already been integrated with the wireless mobile service, whereas, they are willing or intend to have their e-banking transactions done through mobile phones. Prior studies identified many factors that might affect behavior intention such as perceive ease of use, social influence, or mobility (Journal of Internet Banking and Commerce, April 2018)

“The user’s intention expresses the discreet probability of the consumer to use something specific in a period of time” (F. Ramos, et. al., 2018) Based on models such as TAM, TRA and TPB, “many e-commerce surveys have demonstrated that use intentions involving online transactions are a significant predictor of effective consumer participation in the operations”.

The relationship between intention and behavior is based on the assumption that human beings make rational decisions based on the information they have. Thus, the behavioral intention of a person to perform behavior is the immediate determinant of the actual behavior of the person. (Fishbein; Ajzen, 1980). Customers’ preference for banks with digital banking options forced several small and large banks to go digital. Banks were surprised that online banking services at a faster pace, will be adopted by most of their clients, and hence, creating digital banking provisions at an accelerated rate in all financial institutions for clients became a necessity. Bankers have begun to take technological development into consideration since it has grown to be a problem that is just as significant as finance itself. Customers should receive efficient and effective customer solutions in order to expand markets in the face of fierce competition. Technology improvements are crucial for any bank's success in accomplishing its aims and objectives, and this study's researcher has focused on how consumers' attitudes toward the emergence of new technologies are equally significant.

Conceptual Framework

Figure 2.

Research Paradigm

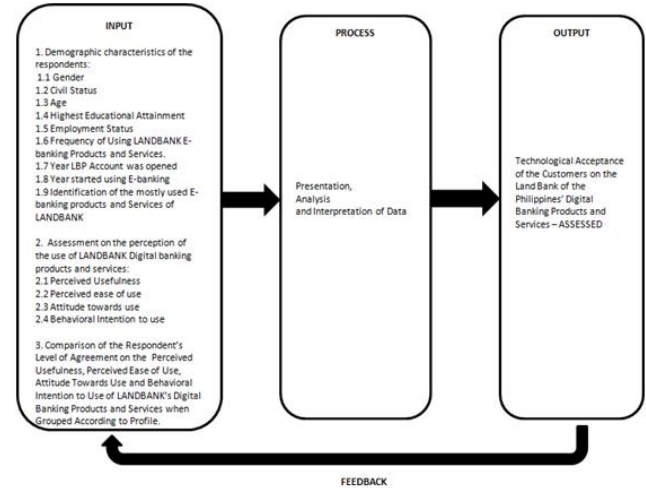


Figure 2 illustrates the flow of the study, showing the necessary inputs, processes involved and what is expected to be found in this study in the outputs.

The demographic characteristics of the respondents in terms of gender, civil status, age, highest educational attainment, employment status, the frequency of using LANDBANK E-banking products and services, year when the client’s LBP account was opened, year started using E-banking, and the identification of the mostly used LANDBANK E-banking products and services of the respondents.

Part of it also included the assessment of customers’ use of LANDBANK E-banking products and services, following the variables of the Technological Acceptance Model. Meanwhile, the process was composed of the presentation, analysis, and interpretation of data. Lastly, the output showed the finalized assessment of the technological acceptance of the customers on the Land Bank of the Philippines’ digital banking products and services.



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Statement of the Problem

Digital banking developments and trends in recent years had great impacts on banking sector worldwide. Therefore, the disruptive innovative technology has accelerated changes in the way of banking business. The primary objective of the study was to assess the technological acceptance of customers to the digital banking of LANDBANK in the light of the Technology Acceptance Model (TAM).

Specifically, this study developed answers to the following:

1. What is the profile of the respondents in terms of the following aspects:
 - 1.1. Gender;
 - 1.2. Civil status;
 - 1.3. Age;
 - 1.4. Highest educational attainment;
 - 1.5. Employment Status;
 - 1.6. Frequency of using LANDBANK E-banking products and services;
 - 1.7. Year LBP account was opened;
 - 1.8. Year started using the LANDBANK E-banking; and
 - 1.9. Mostly used LANDBANK E-banking products and services of the respondents?
2. How can we assess the respondent's perception on their use of selected LANDBANK Digital banking products and services with the following aspects of TAM:
 - 2.1. Perceived Usefulness;
 - 2.2. Perceived ease of use;
 - 2.3. Attitude towards use; and
 - 2.4. Behavioral Intention to use?
3. Is there a significant difference in the respondents' assessment on the perceived usefulness, perceived ease of use, attitude towards use, and behavior intention to use selected LANDBANK digital banking products and services when grouped according to profile?

Hypothesis

H1. There is no significant difference in the respondents' assessment on their perception on their use of LANDBANK E-banking products and services

when grouped according to profile.

Scope and Limitations of the Study

A lot of studies have been conducted when it comes to the technology acceptance and digital banking. However, this study focused on the assessment of the technological acceptance of customers of Land Bank of the Philippines, particularly customers from its EDSA Extension - Roxas Boulevard Branch in Pasay City.

Prior to conducting the study, the researcher secured approval from the Land Bank of the Philippines' management for the following aspects: (a.) to use the E-banking products and services of the bank to be involved on the study that is to be conducted and (b) to ask selected clients of the bank, specifically clients of LBP EDSA Extension Roxas Boulevard Branch only, to participate on the research survey.

The results of this study were only valid to the customers of the above- mentioned branch of LANDBANK. The researcher has considered the most accessible group of respondents due to the limited access to data because of the health protocols implemented during this time of pandemic.

Figure 3 shows the geographical location of the place under study, which indicates the locations of the offices and establishments where the respondents were from.

Figure 3.

Geographical Location of the Place under Study





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LANDBANK offers various digital banking products and services, both for their individual and institutional clients. However, the study only focused in assessing the customers' perception on the use of digital banking product and services for individual clients only, as the researcher's target respondents comprised individual digital banking users, institutional clients were not included.

Ethical considerations were considered as one of the most crucial parts of the research. This refers to "the moral standing that should be held and practiced during the research process". When conducting the research, it is expected that the banking environment is very competitive and therefore, some respondents may withhold some crucial information. The research participants are assured that they will not be subjected to harm in any ways and the respect for their dignity will be prioritized. Prior to the study, full consent of the participants was obtained and the anonymity of the individuals participating in the research was ensured. The protection of the privacy of the research participants and the adequate level of confidentiality of the research data were also ensured by the researcher.

Significance of the Study

The results of this study will be of great benefit to the following:

- **LANDBANK Executive and Policy Makers.** The study may help the LANDBANK executives and policy makers in determining how to best embrace digital banking, enhance customers' technological acceptance, and uncover the gaps that are needed to be addressed. LANDBANK continues to answer the call for accessible, reliable, and safe electronic banking in the new normal, driven by the varied needs of customers due in large part to the pandemic. The bank is committed to collaborating with more government partners to make financial services much more accessible, towards promoting "Ease of Doing Business" and advancing greater digital financial inclusion in the country. For that matter, the study gives a contribution in achieving the goals and objectives of the bank.

- **The Banking Sector.** The study may provide insights on how customers' technological acceptance is critical to the success of Banking sector in terms of increasing market share and increasing profitability in the face of stiff competition, and therefore remain financially stable. Comprehending the essentials of what determines user's Digital Banking acceptance can provide great management insight into developing effective strategies that will allow organizations to remain competitive enough and retain their current market. Therefore, the findings of this study will provide a good reference for industries developing a service evaluation framework to determine the feasibility of the adoption of newly developed mobile services.
- **The Bangko Sentral ng Pilipinas (BSP).** The inputs from this study may support the objectives of The Bangko Sentral ng Pilipinas (BSP) by providing important points to consider on how to best encourage more Filipinos to engage into digital banking. BSP has been pushing for the digitalization of payment transactions, among others, in a bid to include more people into the formal banking system. It also recently came out with a digital banking framework, recognizing digital banks as a separate entity from existing financial firms and eyes this as another channel that will promote market efficiencies and help increase Filipinos' access to various financial services.
- **Financial Institutions.** The study could be crucial to emerging financial institutions in terms of the challenges ahead of them, since profitably and customer satisfaction is paramount.
- **Individuals and clients.** From the government agencies and private sector — individuals and clients may use the study as their guide in choosing the best way to do their banking tasks and to benefit from the improvements the bank may do to give them a much better customer experience.
- **The Academe and Other Researchers.** The study may also give benefit the academe and



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other researchers by providing references to support further studies in the future about the acceptance of digital banking. Results from this study may be able to use as their reference to address the gap on their developing studies in the future.

- **Other Individuals and Institutions.** The study will also be beneficial for other individuals or institutions as the study provides significant insights into what is needed in order for users to accept this emerging technology and thus, allow for improvement in mobile service provider's strategies to attract users of Digital Banking services. Additionally, there is a pressing need to comprehend the elements that would persuade users to adopt digital banking given the intensifying company competitiveness and the widespread usage of the internet and mobile devices.

Definition of Terms

The following terms are hereby conceptually and operationally defined:

- **Attitude.** The degree to which a person views the conduct of interest favorably or unfavorably is described in this. It requires taking into account the results of engaging in the conduct.
- **Attitude towards use of technology.** A number of perspectives and beliefs, positive or negative, and favorable or unfavorable feelings which pinpoint the usefulness or avoidance of the Internet".
- **Bangko Sentral ng Pilipinas (BSP).** It provides policy directions in the areas of money, banking and credit. It supervises operations of banks and exercises regulatory powers over non-bank financial institutions with quasi-banking functions. The BSP functions as the banker, financial advisor and official depository of the Government, its political subdivisions and instrumentalities and GOCCs.
- **Behavioral Intention to Use.** This is about "the motivating elements that influence a certain action, where the stronger the intention to conduct the activity, the more likely the behavior will be performed; Individual intention to use a particular technology that directly influences actual utilization.
- **Customers.** They are individuals that purchase another company's goods or services. Customers are important because they drive revenues; without them, businesses cannot continue to exist.
- **Digital Banking.** The digitization (or moving online) of all the traditional banking activities and programs services that are historically and only available to customers when physically inside of a bank branch.
- **Digital Products.** The software enabled product that offers some form of utility to a human being. It refers to any goods that are sold, delivered and transferred in digital form.
- **Digital Services.** The services that are provided over the internet or another electronic network and whose nature makes them largely automated with little to no human involvement.
- **Perceived Ease of Use.** It refers to the degree to which a person believes that using a particular system would be free of effort.
- **Perceived Usefulness.** The degree to which a person believes that using a particular system would enhance his or her job performance.
- **Perception. This describes** to the way sensory information is organized, interpreted, and consciously experienced. Perception involves both bottom-up and top-down processing.
- **Technology Acceptance.** It is the adaptation process and a system that is claimed to be due to different variables by the user of new technology.
- **Technology Acceptance Model.** It deals specifically with the prediction of the acceptability of an information system. The purpose of this model is to predict the acceptability of a tool and to identify the modifications which must be brought to the system in order to make it acceptable to users. This model suggests that the



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acceptability of an information system is determined by two main factors: perceived usefulness and perceived ease of use”.

- **Traditional Banking.** A financial institution that is committed to managing the funds that its customers entrust to it in custody, but on the other hand, the bank uses those funds to make loans to people or businesses while also charging interest on those loans.

Review Of Literature and Studies

This chapter represents the synthesis of the available literature and studies regarding digital banking and the technological acceptance model and its various aspects. This contains different inputs from other studies that will help the researcher in developing the statement of the problem and will serve as a guide in the analysis and interpretation of the data that will be gathered.

About LANDBANK

The Land Bank of the Philippines is a government universal bank that provides balanced effort in fulfilling its social mandate of “promoting countryside development while remaining financially viable.

This dual function makes LANDBANK exceptional from other universal banks in the Philippines. The profits gained from its various ways of doing commercial banking operations are used to support the Bank's developmental programs and initiatives. “Over the years, LANDBANK has successfully managed this tough balancing act as evidenced by the continued expansion of its loan portfolio in favor of its priority sectors: the small farmers and fishers, a good part of which are agrarian reform beneficiaries; micro and SMEs; agri- and aqua-projects of local government units and government-owned and controlled corporations; communications, transportation, housing, education, health care, environment-related projects, tourism, and utilities” (Land Bank of the Philippines, n.d.)

LANDBANK remains to be the largest formal credit institution in the provinces of the Philippines and other rural areas. It also ranks among the top five

commercial banks in the country in terms of deposits, assets and loans (LANDBANK Annual Report 2019, November 2020)

As their effort to be the bridge in reaching out to the countryside, LANDBANK branches and extension offices are present in all of the country's 81 provinces. As of year-end 2019, the Bank's branches network has reached 409 (406 Branches and 3 Extension Offices) from 396 as of year-end 2018. According to LANDBANK's 2018 Sustainability Report, “the 13 new branches in 2019 were established in El Salvador (Misamis Oriental), Tupi (South Cotabato), Naga (Cebu), Jagna (Bohol), Aglayan (Bukidnon), Bantayan (Cebu), Maigo (Lanao Del Norte), Manolo Fortich (Bukidnon), Mangatarem (Pangasinan), Masinloc (Zambales), Umingan (Pangasinan), Tubigon (Bohol) and Tangub (Misamis Occidental) (LANDBANK Sustainability Report 2018, November 2020)

“LANDBANK embraces diversity as it addresses various marginalized sectors. Women outnumber the men two to one in the Bank. Its employee demographic breakdown show a robust pool of both young and senior talents that will sustain the institution, providing the necessary mechanisms that manages and evaluates the Bank in the long-term. As per the LANDBANK 2018 Sustainability Report, the bank has a total of 8,599 regular employees, which is composed of 5,797 female employees and 2,802 male employees both from their head office and field units. As a policy bank, LANDBANK largely contributes to advancing the socio-economic development agenda of the National Government. At the core of its operations is its role as a catalyst of sustainable development, responding to the financing requirements not only of small farmers and fishers, but also of local government units, micro, small and medium enterprises, private corporations in strategically important industries, GOCCs, financial institutions, and other sectors that create employment and propel robust economic growth. Through its financing interventions, LANDBANK provides



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communities with infrastructure and social services that improve people's quality of life.

Assisted projects include the construction of farm-to-market roads, hospitals, schools, and housing projects; communication; transportation; provision and connection of households to potable water; and electrification. LANDBANK has also been consistent in incorporating environmental and social commitments toward sustainability.

The Bank is also aggressive in accelerating financial inclusion, bringing the previously unbanked into the formal banking system, thereby promoting a more equitable participation of Filipinos in the growth of the nation. Alongside its roles as financial intermediary of the National Government for the Comprehensive Agrarian Reform Program, and as its depository bank, LANDBANK also serves as the distribution arm of the government's various Social Protection Programs. Because of its significant role in the economy, LANDBANK strives to strengthen its financial viability and operational agility, while maintaining its competitive advantage. It is the leading government financial institution and is consistently ranked among the top universal banks in the Philippines in terms of assets, deposits, loans and capital.

LANDBANK continued to introduce value-added services to its electronic banking facilities and developed new products to further improve customer service, save on operational costs and promote inclusivity. In 2019, e-banking transactions using LANDBANK's Internet banking, mobile banking app and electronic payment facilities almost doubled as a result of increased consumer awareness and changing customer preferences that drive the shift from traditional physical banking to digital banking channels. Also, with the increasing popularity of smart phones, the volume of

mobile banking transactions surged, signaling its emergence as a primary transaction channel as well". (Land Bank of the Philippines, n.d.)

Due to its continuous efforts in promoting inclusive banking, the bank recently reported strong first quarter performance - gaining higher net income, and double-digit growth in loans, assets and deposits. These achievements of the bank reflect its efforts in continuously investing on technology to pursue its inclusive growth thrust and to provide greater convenience to clients.

"In 2020 the utilization of LANDBANK electronic channels has multiplied, with 21% growth in the number of transactions, and 36% in amount. The LANDBANK Mobile Banking App recorded the highest volume of transactions facilitated at 71.93 million amounting to P85.12 billion.

All other e-channels registered an upward movement, a testament that LANDBANK is responding to the growing demand for safe, accessible and convenient digital banking solutions under the new normal.

A total of 1.9 M accounts were opened under the DOBS, of which 694,885 were opened last year. As part of helping customers transfer much-needed funds to their beneficiaries, LANDBANK continued to waive the fees for fund transfer transactions via InstaPay and PesoNet. Waived fees last year totaled 223 Million, considered as foregone income but added service to their customers.

Despite the restrictions and delays due to safety protocols, LANDBANK still established its presence to more unbanked and underserved communities. It closed the year with 7 new branches, bringing our network of branches to 411 plus 64 Branch Lites. LANDBANK also added 9 new lending centers, for a total of 55; and opened five Agri-Hubs. A total of 350 ATMs and 10 CDMs were installed, bringing the total to 2,320 and



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167 respectively.” (LANDBANK Sustainability Report 2018, 2019)

LANDBANK also continues to adopt alternative work arrangements (i.e., compressed work week, skeletal workforce, staggered working hours, work-from-home) to ensure the health and safety of its employees and customers, while delivering continued financial services to the general public during the general community quarantine.

Recently, government-approved merger of Land Bank of the Philippines (LANDBANK) and United Coconut Planters Bank (UCPB) was already completed, which will result in combined assets totaling close to ₱3 trillion by the end of the year. LANDBANK, as the surviving entity in this merger, will further solidify its place as the second-largest bank in the country in terms of assets, representing a unified, stronger and more resilient institution for promoting inclusive and sustainable rural development.

According to the LANDBANK President and CEO Cecilia Borrromeo, “the merged assets will significantly grow LANDBANK’s loan portfolio directed at servicing the whole agriculture sector, especially coconut farmers, alongside key development industries. The synergy created by the merger will provide a much better position for us to respond to the evolving needs of our diverse clientele, especially the underserved and unbanked”.

Meanwhile, clients of both LANDBANK and UCPB are being assured that banking services will continue to be unhampered throughout the ongoing merger process, with deposits to remain intact and secured in their current servicing branches. At the same time, both banks assure its employees that all concerns pertaining to personnel matters will be addressed accordingly, and that all actions on human resources will comply with relevant labor rules and regulations. (Land Bank of the Philippines, n.d.)

Digital Banking

The term "digital banking" refers to the development of financial services and the delivery of goods via electronic channels, such as Automated Teller

Machines (ATMs), the telephone, the internet, and mobile phones. The "distribution of banking products and services to customers through electronic channels" is an additional definition. Digital banking, which comprises a variety of online banking operations, is sometimes referred to as electronic banking, cyber banking, home banking, or virtual banking (Rajan and G. Saranya, 2016).

Since the late 1990s, it has been developed as different generations of electronic transactions occurred. “ATMs were the first well-known machines to provide electronic access to customers where as in phone banking, users call their bank’s computer system on their ordinary phone and use the phone keypad to perform banking transactions. PC banking superseded phone banking and allowed users to interact with their bank by means of a computer with a dial-up modem connection to the phone network. Phone and PC banking entailed maintenance costs associated with keeping up to date with diverse modems and with avoiding prohibitively complex installation procedures. Mia et al., 2007).

To Cuesta (2015), the changing preferences and needs of the customers have pushed the banking industry to provide facilities that can address those needs and give them satisfaction. In order to achieve strategic positioning in the digital environment, a bank must go through three distinct stages of digitalization: "the first, where new channels and products are developed; the second, featuring adaptation of the technological infrastructure; and the last, involving far-reaching changes in the organization.

Further, Schich (2020) claims that the financial services sector has experienced marked structural changes over periods of time. The pace of change tends to ebb and flow in response to shifts in competition and innovation, in deregulation versus re-regulation, and rising protectionist moves versus initiatives to open the marketplace to outside competitors. These factors explain the pattern in recent years, with rapid and significant improvements in information technology playing a central role. Developments have also been supported by an easing or removal of regulatory and other barriers to entry in some market segments and aided by changes in



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customer needs and risk preferences.

Building and maintaining long-term relationships with customers has become the focus of financial institutions wherein they use as a strategic move to cope-up with today's competitive financial markets. "It is important that the banking industry must develop profitable, long-term relationships with its customers in order to survive in the competitive retail banking environment. Several studies reveal that a bank's profitability is closely associated with customer loyalty and retention which is based on customer relationship" (N. Lakshmi, 2020). The continuous efforts, therefore, of the banking industry in engaging into digital transformations are intended for achieving customer satisfaction and loyalty that can eventually lead them to success.

Acceptance of Digital Banking

To help in providing better services to customers, banking industry has been also one of the influenced industries adopting technologies. As the deal with technological innovations, quality service of banks was also enhanced.

Online banking service allows customers to manage their accounts from any place at any time for minimum cost; it gives abundant compensation to the client in terms of price and ease. In general, acceptance is defined as "an antagonism to the term refusal and means the positive decision to use an innovation. Decision makers need to know the issues that influence on users' decision to use a particular system so they would be able to take them into account during the development phase (Taherdoost, 2018).

A study by Boateng, Adam, Okoe and Anning-Dorson (2016) showed trust was a big factor that may affect to the adoption of Internet banking amongst customers — definitely it plays a crucial role in the adoption process. Another factor was identified by Soilenet. al (2013) — age differences, wherein they discussed that younger individuals are more open in terms of taking risk than the older individuals. The older ones were found to be more careful than usual due to how new and unfamiliar the service is.

It was concluded by M. Vuković. al (2019) in their study that the perceived ease of use and perceived usefulness positively affect the acceptance of Internet banking. These results were also confirmed in previous research, since the motivation to start or continue to use it is greatly affected by how much a person agrees that Internet banking is useful and easy to use.

The Technology Acceptance Model (TAM) was proposed by Davis (1995) in his doctoral thesis. The approach suggested that user motivation, which is directly influenced by an external stimulus made up of the real system's characteristics and capabilities, can be used to explain system use. Due to its emphasis on information systems and usage of components from psychological theory to establish the motivation for utilizing an information system, this model is frequently employed.

It was explained on the previous research of Davis, indicating that there were two determinants for how well a user accepts information technology; perceived usefulness (PU) and perceived ease of use (PEOU). He defines perceived usefulness as "the degree to which a person believes that using a particular system would enhance his or her job performance. This determinant shows how people use or not use an application due to which extent they find it helpful for a better performance. This, however, is not enough to determine whether or not a user will accept the technology.

Meanwhile, Taderhoost (2018) describes that sometimes, other factors known as external variables (user training, system characteristics, user participation in design and the implementation process nature) are considered in TAM. TAM is probably one of the most widely cited models in the field of technology acceptance. During the past decades, it received substantial empirical support. Since TAM ignored the social influence on adoption of technology so it has limitations in being applied beyond the workplace. Besides, some variables as external variables need to be added to TAM to provide more consistent prediction of system use. Since the intrinsic motivations are not addressed in TAM so the ability of TAM to apply in a customer context where



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the acceptance and use of information technologies is not only to achieve tasks but also to fulfill the emotional needs may be limited” As stated on a study developed by Shrestha et. al. (2019), a consumer attitude is a complex term that is a conjunction of two words i.e., consumer and other attitude.

Consumers are those who consume the goods or services that are offered to them. In context of consumer learning, attitude refers to consumer’s feeling of like or dislike about a product or service offering and the marketing mix. Attitudes are composed of three components: (a) a knowledge or cognitive, (b) a feeling and affect and (c) a behavioral and cognitive. Customer attitude leads to perceived risk reduction which builds confidence and creates a striking influence on user willingness to engage in online exchanges of money and personal sensitive information thus leading to internet banking adoption. Moreover, the self-assisted channels where users can access banking service via the public wireless Internet empowers user in terms of time and accessibility.

Furthermore, Randiwela et. al., (2018) extrapolates that attitude act as an individual’s positive and negative feelings about performing the target behavior. This theory also shows that the person has a positive attitude towards a given product or service, the more likely that the person is to purchase or use that product or service. To develop attitudes through a learning process, it will be affected by reference groups, past experience and personality”. “The intention to use is someone’s desire (interest) to use a specific behavior. M. Mufarihet. al., (2020). A person’s interest in behaving is predicted by his attitude towards his behavior and how he thinks others will judge him if he performs the behavior” (Davis et al., 1989). Interest is also the mind’s constant tendency to pay attention and remember some activities or activities. Someone who is interested in something and pays attention to it must be motivated by pleasure; if pleasure is experienced, they will continue to use it. Interest directly relates to thoughts and feelings when performing its duties. Humans choose and decide before passing judgment and making decisions. Interest is the tendency of a big heart towards something that arises because of a need,

which is felt or not felt or the desire of a thing. Factors that generate interest can be classified as follows: 1) internal needs factors. These needs can be in the form of physical and psychological needs; 2) social motive factors, the emergence of interest in a person, can be driven by social motives, namely, the need to get recognition, appreciation from the environment where he is; and 3) emotional factors. They measure someone’s intensity in paying attention to a particular activity or object.

With the ever-increasing development of technology and its integration into users’ private and professional life, a decision regarding its acceptance or rejection still remains an open question. A respectable amount of work dealing with the technology acceptance model (TAM), from its first appearance more than a quarter of a century ago, clearly indicates a popularity of the model in the field of technology acceptance. Originated in the psychological theory of reasoned action and theory of planned behavior, TAM has evolved to become a key model in understanding predictors of human behavior toward potential acceptance or rejection of the technology” (Marangunić & A. Granić, 2015) Even if it helps the user perform better, it does not ensure an easy user experience, which is why perceived ease of use is important. This is defined as "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989, p. 320). It is important to find a balance between the two determinants to avoid the possibility that the difficulty of usage outweighs the benefits of usage. This indicates that the usefulness is influenced by the ease of use.

Wu et. al (2010) disclosed in a study that as consumers perceive the relative advantages of online banking, they will become more informed about the benefits it offers. Trust was also found to exert a positive effect on perceived usefulness of the online banking system”. Results from previous studies echoed this finding. Trust was studied to affect perceived usefulness, especially in an online environment, because part of the usefulness guarantee that consumers obtain from the web interface depends on their confidence with people responsible on the website.



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Among studies on digital banking services, research on customers' acceptance of using online banking has been paid more attention. Casaló, Flavián, and Guinalíu (2007) examined the role of five factors (safety, security, usability, trust, and commitment) to the development of online banking in Spain. The study was based on data collected from 142 surveys conducted online for Spanish-speaking customers. Research showed that the lack of security is one of the leading causes of reduced trust in the Internet, thereby reducing the development of ecommerce. The results confirmed the positive and important effect of being aware of the safety of handling personal data on consumer confidence on an online banking site. In addition, trust and commitment of using online banking services were also exposed to be substantial in maintaining long-term relationships with customers. (Asian Economic and Social Society).

Yiu, Grant, and Edgar (2007) analyzed the retail customers' behavior of adopting Internet banking in Hong Kong, employing the Technology Acceptance Model (TAM) adding two constructs (i.e. personal innovativeness and perceived risk). The study was based on three different views: the current Internet banking adoption rate; the impacts of perceived usefulness, perceived ease of use, perceived risk and personal innovativeness in information technology; and the potential impacts on the strategic activity of banking organizations operating in Hong Kong. The results from t-test and Pearson's correlation confirmed the positive influences of chosen factors on the adoption intention.

As society moves into the era of new technologies and as e-services become more widely accepted, it will be important that banks meet the needs of consumers. In order to cultivate consumer internet-banking demands, banks must make key improvements that address consumer concerns.

Davis proposed the TAM to elucidate the factors affecting the use of information technology based on two theories — the Theory of Reasoned Action by Martin Fishbein and Icek Ajzen (1975) and the Theory of Planned Behavior also by Icek Ajzen in 1980. With these theories, TAM was extended and developed, and consisted of the two beliefs: perceived usefulness and

perceived ease of use.

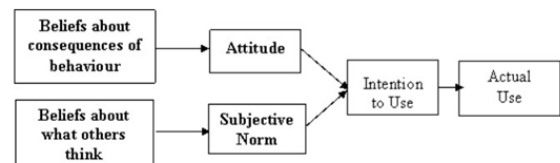
Theory of Reasoned Action

The Theory of Reasoned Action was developed by Fishbein and Ajzen as an improvement over Information Integration theory (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). "There are two important changes. First, Reasoned Action adds another element in the process of persuasion, behavioral intention. Rather than attempt to predict attitudes, as does Information Integration theory (and several others), Reasoned Action is explicitly concerned with behavior. However, this theory also recognizes that there are situations (or factors) that limit the influence of attitude on behavior. Reasoned Action predicts behavioral intention, a compromise between stopping at attitude predictions and actually predicting behavior. Because it separates behavioral intention from behavior, Reasoned Action also discusses the factors that limit the influence of attitudes (or behavioral intention) on behavior.

The second change from Information Integration theory is that Reasoned Action uses two elements, attitudes and norms (or the expectations of other people), to predict behavioral intent. That is, whenever our attitudes lead us to do one thing but the relevant norms suggest we should do something else, both factors influence our behavioral intent".

Figure 4.

Theory of Reasoned Action



Theory of Planned Behavior

"The Theory of Planned Behavior (TPB) started as the Theory of Reasoned Action in 1980 to predict an individual's intention to engage in a behavior at a specific time and place. The theory was intended to explain all behaviors over which people have the



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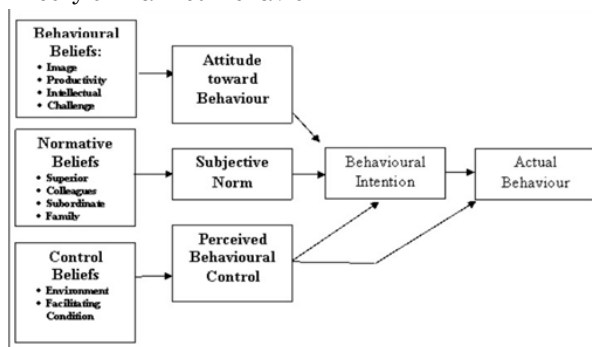
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ability to exert self-control. The key component to this model is behavioral intent; behavioral intentions are influenced by the attitude about the likelihood that the behavior will have the expected outcome and the subjective evaluation of the risks and benefits of that outcome” (W. LaMorte, 2019).

Figure 5.

Theory of Planned Behavior



In this model, the perceived behavioral control (PBC) as a new variable is added to extend TRA model. Basically, PBC is determined by the availability of resources, opportunities and skills, as well as the perceived significance of those resources, opportunities and skills to achieve outcomes. Although both TPB and TRA assumed person’s behavioral intention (BI) is affecting individual’s behavior, TPB is using the PBC for individual’s actions which are not under volitional control. By adding PBC, not only realistic limitations are composed but also, a self-efficacy type factor is achieved. Moreover, PBC has the direct influence on actual behavior as well as the indirect affect through the behavioral intentions. As a result, the perceived behavioral control, the subjective norm, and the behavioral attitude are the three key components in the TPB model that have an impact on BI. The TPB model does have two major flaws, though.

First off, if a computer system is not accessible, one's attitudes toward information technology won't be very important. Second, the revised TPB may be seen as the more appropriate theoretical framework that is influenced by how freely individuals choose to use information technology in the workplace or not

(LaMorte, 2019). Empirical investigations were conducted by Zandhessami and Geramayeh (2014) to determine the factors that influence users' adoption of Internet banking. The paper employed DEMATEL technique (Decision - Making Trial and Evaluation Laboratory) to measure the determinants of Internet banking using data of Iranian firms. The findings revealed trust as the most important factor.

On a study developed by Nasri and Charfeddine (2012) it was stated that “customer adoption of Internet banking under the Tunisian context was examined, focusing on safety, confidentiality, effectiveness, government support, usefulness, ease of use customer behavior, social norms, and behavior control. Based on 284 respondents, the paper confirmed the validity of TAM and TPB models in analyzing customer acceptance for Internet banking, henceforward developed appropriate strategies to boost up the adoption of this service. The paper revealed significant factors influencing the usage intention of Internet banking in Tunisia, which were security and privacy to protect consumers' personal and financial information, government support, legal framework and infrastructure.

Under the circumstance of rapid growth of banking and finance industries, Hanafizadeh, Keating, and Khedmatgozar (2014) conducted a systematic review of previous studies on the acceptance of adopting Internet banking during the period 1999- 2012. The highlight of this paper was to summarize as well as categorize the system of 165 studies on Internet banking adoption according to three different purposes: to describe the phenomenon (descriptive); to understand the interplay between the factors that drive adoption (relational); or to draw higher level conclusions through a comparison across populations, channels or methods (comparative). The paper comprehensively systemized the sources, the national journals, and the countries being investigated, and the combination of these issues... in order to identify gaps in the rationale for accepting Internet banking and to discuss the main trends for the future research.

Sharif and Raza (2017) emphasized that “hedonic motivation, trust, self-efficacy and habit were significant to predict behavioral intention whereas



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habit and behavioral intention could be used to explain adoption intention of internet banking in Pakistan”. Based on the findings, the authors raised up the importance of enhancing customers’ skills of using internet banking as well as the necessity of changing internet banking screens and adding extra innovative interface to attract more customers. TAM has been widely used model to help understand and explain user behavior in an information system. There has been number of researches which have been used to test the model and results have been reliable (thejournalofbusiness.org).

A study by H. Amin (2009) about the analysis of online banking usage intentions clearly revealed that “perceived credibility and social norm are powerful drivers in explaining why Malaysian should use online banking. On the perceived credibility’s side, banks or practitioners should value it as important. Subsequently, guiding customers by providing information, advice and demonstration is a few actions that can be taken to boost up the interest of people use the system”.

On the social norm’s side, banks can apply the model (the proposed model used in this study) in practice. For that purpose, banks can utilize viral marketing. By definition, viral marketing is a marketing phenomenon that facilitates and encourages people to pass along a marketing message voluntarily” (Kotler, 2003). Viral promotions may take the form of video clips and SMS, to name a few. Video clips can be played in the waiting space of banking building showing online banking. It includes a show about the registration of online banking, benefits, issue of security and privacy and so forth. While waiting, customers are able to watch and think of using online banking in the future. In terms of SMS, banks can promote the use of online banking by sending messages, advertisements and information about online banking. By taking these measures, banks are able to expand their customer base gradually for online banking.

M. Ghani et. al., (2017) also conducted a study that has examined two components of TAM — perceived usefulness and perceived ease of use. The results of this study revealed that “the adoption of internet

banking in Pakistan could be motivated by perceived usefulness, perceived ease of use, customer service and customer satisfaction. Furthermore, customer satisfaction played a significant mediating role among proposed variables. The Importance Performance Matrix (IPMA) analysis revealed that in fostering of internet banking adoption, customer service is the most important factor. Finally, managerial implications, limitations and future research directions have been discussed”.

The findings on a study by M. Pivac and D. Kundid (2019) revealed” the existence of the influence of perceived ease of use, perceived usefulness, and demographic and economic characteristics on Internet banking adoption in Split. The aim was to determine if the motivation for the use of Internet banking in the city of Split, Croatia can be explained by perceived ease of use and perceived usefulness, as the main elements of the technology acceptance model. In particular, it was discovered that younger respondents who had better levels of education, more experience using the Internet, higher incomes, and higher levels of agreement with claims about how simple and effective Internet banking is, are more inclined to use it. These results are consistent with other studies that included demographic data and other traits as predictors of Internet banking adoption in their models, in addition to perceived usefulness and ease of use. With the exception of Chong et al. (2010), who discovered that perceived ease of use does not affect the use of Internet banking, the majority of study has discovered a favorable influence of those characteristics on the adoption of Internet banking.

In 2013, Chitungo and Munongore revealed in their study that perceived usefulness has indeed a positive relationship in influencing the respondents’ intention to adopt mobile banking in rural Zimbabwe. The findings were consistent with studies from Chung and Kwon (2009), Lee et al. (2008) and Luarn and Lin (2005). This result implied that, users are more likely to adopt mobile banking services if mobile banking is providing and satisfies their needs as users.

AlSoufi and Ali (2014) extrapolated and selected the kingdom of Bahrain to explore users’ perception of mobile banking adoption. To find out the influencing



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role of factors the following constructs quality of service, customer services, and self-efficacy, efficient transaction, alternatives, compatibility, perceived cost, perceived risk, perceived ease of use, perceived usefulness and intention to use incorporated in the research framework. The data compiled through the survey of 372 customers and SPSS package utilized for analysis. Some factors did not demonstrate any impact on consumer's behavioral intention these factors include perceived risk and perceived cost. However, PU and PEOU remain among influencing factors to affect the user's intention".

Cudjoe, Anim and Nyanyofio (2015) examined the mobile banking adoption determinants in the context of Ghana banking industry. The main research framework variables were PU, PEOU, awareness, social influence, compatibility perceived credibility perceived financial cost and perceived self-efficacy. They analyzed TAM theoretical framework to investigate research results and unveiled that Ghanaians users have negative behavior pattern to utilized mobile banking service. The survey from 150 sampled customers collected and SPSS version 20 used for evaluation. However, perceived financial cost, perceived credibility, security, and privacy are the biggest barriers and have the sound impact on user acceptance to use mobile banking technology other than PU and PEOU.

Mortimer et al. (2015) explored mobile banking motivation factors that influence a user's intention to adopt technologies in Asian economies. The data collected from two countries Thailand and Australia. The data collected using a web-based survey from 348 respondents. The results of data examined using path and invariance analyses, exploratory and confirmatory factor analyses techniques. The findings of the research reveal that PU, PEOU and perceived risk influence the consumer's intention in Australia. In addition, in Thailand social influence play's important role in determining users' behavior along with PU, PEOU and risk factors. The actual variance dependent variables to impact independent variables of research model remain 59.3% in Australia and 23.8% in Thailand. This research examined cross-cultural influencing factors of mobile banking adoption.

Koksal (2016) "found out the fundamental factors that highlight the user's high intention to accept mobile banking in the Lebanese context. The constructs investigated in this research are perceived usefulness, perceived ease of use, trust, perceived credibility, perceived self-efficacy, normative pressure, perceived financial cost, and compatibility. The structured questionnaire delivered to 776 users in Beirut for data collection and SPSS 21.0 utilized for evaluation of the data. The finding of the study reveals that perceived compatibility affects significantly consumer's intention to adopt mobile banking. However, trialability, PU, PEOU found the direct association with adoption. Privacy and security remain the consumer's concern that they expect bank not to disclose any information without their consent. The financial cost and normative pressure found no relation with adoption. Young consumers are more inclined to adopt mobile banking as compared with older ones in socio-demographic characteristics.

Alalwan et al., (2016) examined "consumer' intention effects for clients to adopt mobile banking. The key determinants of the model are PU, PEOU, self-efficacy and perceived risk used to analyzed the parsimonious model. The field survey of 343 Jordanian customers conducted and SEM model used for analysis of primary data. The statistical results indicate the value of R² is 58% it means that all the dependent variables showed 58% variance on behavioral intention. Thus, all variables entirely have an influence on consumer intention to adopt mobile banking in Jordan".

Another research conducted by Kumar, Lall and Mane (2017) in India "considering TAM model fundamental variables PEOU and PU along with trust and social influence to analyze user's intention and found the positive significant influence of these variables with respect to mobile banking services. Arif et al. (2016) analyzed consumer's perception and intention to accept and adopt mobile banking in Pakistan. Modified TAM used with risk factors, for instance, security, privacy, time, and financial risk. The research result showed that PEOU and PU have a strong, positive influence on the user's attitude towards mobile banking. Furthermore, privacy and financial risks established the negative impact on



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attitude using the mobile banking service.

Chawla and Joshi (2018) “empirically investigated the adoption of mobile banking and tested moderating effect of demographic variables using TAM and the Diffusion of Innovation (DOI) Theory to observe the influence of these variables on consumer attitude on mobile banking in India. The moderator factors include age, gender, qualification, occupation, income, experience, and marital status. The data collected from the survey of 367 graduate-post graduate students and group discussion with eight public sector senior managers. Fisher Z transformation and multiple linear regression model was used to analyze the effects of moderating variables. The results of the research show that educational background has not found any moderating effect on user attitude. However, all other variables remain significant.

Beyond this cultural reluctance by customers to interface business electronically in the banking industry, banks need to focus on the customer demography trends in order to make the best out of these culturally reluctant customers. While some researchers considered demographic variables to be important factors that influence the adoption of internet banking, other researchers differ on this assertion. Contrary to the assertion by E. Izogo and O. Nnaemeka (2012) that demographic factors such as gender, religion and income do not have significant effect on customers’ adoption and usage of e-banking, R. Safeena, H. Date, and A. Kammani (2011) posited that research on consumer attitude and adoption of internet banking showed there are several factors predetermining the consumer’s attitude towards online banking such as person’s demography.

Apparently, M. T. and Mattila H. Karjaluoto According to Pento (2013), mature customers who are older than 65 are slow to use internet banking services. Mature consumers who are married are more likely to use internet banking than those who are single or widowed. The chance of using internet banking rises with education level. The use of internet banking by older clients is strongly correlated with customer profession. This was supported by M. Mutengezanwa and N. Mauchi (2013) indicating “an existence of a relationship between internet banking

adoption and educational level, occupation, age and income”. In contrast to these assertions, some researchers argued that there are no significant differences in internet usage based on age or educational level.

While most researches suggested that younger individuals are more inclined to accept innovative information technology, other research findings do not support these suppositions. H. Li and MM Lai (2011) found that age does not really matter in the acceptance and use of internet banking”. Contrary to the assertion by some researchers that higher level of education increases internet banking adoption, JP Couto et. al., (2013) found that “customers with higher education are less likely to adopt internet banking as a cautious behavior towards internet banking. Males are more likely to use electronic banking products and services than females. According to N. Hennigs et al. (2010), women are more accustomed to the convenience of online banking. Contrary to these claims, gender was not correlated with the use of internet banking, indicating that both men and women had identical perceptions of its benefits.

Riquelme and Rios, (2010) revealed in their study that usefulness, social norms and social risk, in this order, are the factors that influence the intention to adopt mobile banking services the most. Ease of use has a stronger influence on female respondents than male, whereas relative advantage has a stronger effect on perception of usefulness on male respondents. Social norms (or the importance of others in the decision), also influence adoption more strongly among female respondents than male.

Hyde-Clarke et. al. (2014) found in their study that fewer youth use mobile phone banking than was expected, and that notably, on a continent with a traditional gender divide, there is very little difference in responses between male and female participants. Only one element of mobile phone banking was perceived differently: issues of personal and online security. Overall, the study suggests that while there is little gender difference in usage of mobile phone banking, young females prefer to use these services as they feel able to better control their financial well-being in what they perceive to be a more secure



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environment.

The study developed by D. Chawla and H. Joshi (2017) revealed that gender, age, income, experience, occupation, qualification and marital status are the salient demographic variables which moderate the impact of independent factors (ease of use, trust, lifestyle, convenience and efficiency) on user attitude towards mobile banking. As their findings, conclusions and implications, they wrote:

“Gender does not moderate the relationship using regression analysis whereas in case of Fisher’s Z transformation, it is found to moderate the relationship between ease of use and attitude and the effect is more in case of females than males. Our study corroborates the findings of earlier studies (Amin et al., 2006, Riquelme and Rios, 2010). Ease of use has a stronger influence on female respondent than males (Riquelme and Rios, 2010; Wang et al., 2016). This suggests that perception of ease of use is more salient for females than males (Wang et al., 2016). However, the direction of the moderating effect is found to be opposite in comparison to findings by Amin et al.’s (2006) who found that male, undergraduate students were slightly more inclined to see mobile phones as a practical device for banking purposes. Age moderates the relationship between trust and attitude in the same direction by both the methods. It is seen that the impact of trust on attitude is more for elder respondents than for younger respondents. Further, the regression results show that age moderates the relationship between convenience and attitude where the younger respondent finds it more convenient than the older ones. The finding is consistent with Porter and Donthu (2006), Demirci and Ersoy (2008) and Lee et al. (2010) Qualification does not moderate the relationship using Fisher’s Z test whereas, it impacts the relationship of three independent variables namely lifestyle, trust and ease of use on attitude towards mobile banking. Educational background

does not act a moderator in both the tests. Experience moderates the relationship between trust and attitude in both the methods whereas; it acts as a moderator for ease of use to attitude using Fisher’s Z test and convenience to attitude in regression analysis. Occupation does not act as a moderator as per Fisher’s Z transformation; however, it moderates the relationship between perceived convenience and attitude towards mobile banking. Income moderates the impact of perceived convenience and efficiency on attitude towards mobile banking and in the same direction. The marital status does not moderate the relationship using Fisher’s Z test whereas, it influences the relationship between trust and convenience on attitude”

“After an extensive review of the information systems literature, Davis (1989) developed the Technology Acceptance Model (TAM). TAM as it is commonly known was adapted from the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). TAM has been the most influential theoretical tool for explaining the user acceptance of technology in terms of numbers of the citations it has received” (Venkatesh, Davis & Morris, 2007). “In fact, TAM has been claimed to have become so influential. TAM’s pre-eminence has led scholars to discuss whether it has reached a paradigmatic position” (Benbasat & Barki, 2007). At the same time, “TAM led to other important aspects of technology adoption behavior being neglected or unnoticed. TAM views perceived usefulness and perceived ease of use as the most salient beliefs influence an individual’s decision to adopt new technology” (A. Al-Ajam and K. Nor, 2013). These studies have found that “TAM consistently explains a significant amount of the variance in usage intentions and behavior. The use of an information system has been understood in many studies as the user acceptance of the information system in question” (Davis et al., 1989; Davis, 1993; Al-Gahtani, 2001). In other word the use of information system acts as an indicator for information system’s acceptance.



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Digital Banking Adoption

Lin et al., (2016) conducted a study, stating that “the rapid development of internet and popularization of mobile phones has stimulated the banking and financial sectors towards encouraging customers to use mobile banking”. The paper examined empirically the factors that affect the adoption of mobile banking in the Philippines. Data were collected from 421 Filipino using online questionnaires. The study used factor analysis and multiple regressions to analyze the factors that affect the behavioral intention to adopt Mobile Banking in the Philippines. The results revealed that “perceived attitude and perceived behavioral control were key dimensions that affect the behavioral intention to adopt Mobile Banking. In particular, relative advantage, compatibility, observability, and trialability, were found to affect attitude factor. In addition, self-efficacy, technology support and government support were similarly ascertained to affect perceived behavioral control factor.

To ensure a successful rollout of digital banking, a key consideration is whether the country’s population is ready to adopt the service. The Philippines, for instance, presents the perfect environment for digital banking services to flourish, as it has the largest generation of young people, who are also some of the most digitally adept in the region. However, financial institutions must also consider the need to create sophisticated online services that are easy to use, without compromising security. Often in their rush to make technology systems more secure, some organizations overlook convenience and ease of use for consumers, succumbing to adding extra steps (i.e., more friction) to the process. While more than half of consumers would likely bank more on a mobile app if it had stronger data security, 2 out of 3 will also abandon digital banking applications if the process is too time-consuming, onerous or clunky (Salazar, 2021).

It is therefore important for financial institutions and market players to strike a delicate balance by choosing solutions that are easy to use, without adding unnecessary friction points for consumers. Doing so gives them the ability to provide consumers

with a secure banking experience, where they can safely access their financial data and make transactions with ease (Salazar, 2021).

Salazar (2021) added that “to increase growth and adoption, it is crucial to implement technologies that enable a fully digitized operational process and customer-centric infrastructure that maintains a simple, frictionless process for consumers, while still assuring customers of regulatory compliance and protection against sophisticated online fraud. This is especially important for the Philippines, having experienced a surge in financial fraud last year. Online identity verification and authentication are crucial steps to ensure that the right people are transacting behind the screen. However, while these technologies are a boon for productivity, it can be a double-edged sword. If not implemented correctly to achieve a seamless and reliable user experience, it risks damaging the company’s brand and turning prospects away from their services altogether. These examples are easily found when looking at reviews of digital banking or fintech apps — users are not shy to make their frustrations known publicly when they are not able to navigate or effectively open and maintain an account.

According to Laycock and Binsted (2020), while digital-only banking is not yet the norm, it’s becoming increasingly popular. Around 15% of Filipino adults — an estimated 10.2 million — say they have a digital-only bank account and that number is set to grow as per their latest Google Survey of 2,014 Filipino adults. Over 2021, a further 9% of respondents say they plan to open a digital-only or 100% online bank account and an additional 7% say they plan to open one over the next 5 years. That means within 5 years more than 21 million Filipino adults are expected to hold online-only bank accounts. They also revealed that “men are currently slightly more likely than women to have a digital-only or neo bank account — 16% of men have a digital-only bank account compared to 13% of women. And when you take into account those planning to open an account, the gap widens. By 2025, 32% of men say they plan to have an online-only bank account compared to 28% of women. Another is that younger Filipinos may not be as digitally savvy as the people think. Just 13%



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of those aged 18-24 say they have an online-only bank account. However, that number is set to jump to over a quarter (30%) by 2025. A large proportion of those in the 55-64 age bracket are also set to jump on the bandwagon with an increase of 13 percentage points, from 12% to 25%.

Pearlpay.com (2021) showed that the current state of digitalization in the Philippines shows that nearly 60% of Filipino households are unable to access digital solutions. The digital adoption challenges such as the lack of digital infrastructure, high cost and uneven quality of internet service, underdeveloped payment infrastructure, and low account ownership limit digitalization in the country. Even though there have been advancements in digitalization in the last decade, these issues show that Philippines is still behind the world average on digital adoption. Currently, Philippines ranks 57th out of 63 nations in the 2020 IMD World Digital Competitiveness Ranking. Majority of Filipinos still find it difficult to access digital solutions and have no choice but to stick to traditional means.

It was also revealed that “most areas in the Philippines have limited or no access at all to digital solutions. With the uneven access, the available solutions are fragmented. Institutions like rural banks and microfinance institutions (MFIs) have no choice but to use various digital systems from different providers. To address this, there are Fintech companies that provide an ecosystem of solutions that addresses all their digitalization pain points to help them reach and serve more people in their communities. Another challenge is that physical barriers such as slow internet are not the only reasons for transformation. Compared to other countries, digitalization is still something new in our country so there are some misconceptions about it. Financial institutions have the misconception that digital solutions are hard to use. They think that it’s too complicated and might take a long time to get used to the new system. The study recommended that Fintech providers must offer solutions that have intuitive experience since it’s designed like the social media apps that we use to make it easier for users. Additionally, providers should also give transformation support. Fintech companies provide

constant guidance and assistance during onboarding and after their go live to ensure that rural banks and MFIs can use the solutions more efficiently (Pearlpay, 2021).

They also discussed that “Filipinos still use cash for their transactions even though there are already online and digital payments available. The reason why they still rely on cash is that they don’t know how it works. They worry that their accounts or information might be hacked if they use digital banking or digital payments. However, there are policies and regulations in place to protect their information. One example is the Republic Act 10173 or the Data Privacy Act of 2012 that ensures personal information in information and communications systems in the government and the private sector are secured and protected”.

Soon & Salas (2016) claims that the “Know-Your-Client (KYC) processes and controls, customer experience, cybersecurity, regulations, FinTech, internal organizational resistance, and emerging vendor risks are the top concerns of the digital banking in the Philippines. Resolving some of these challenges would go some way towards enabling digital banking, which presently, the Philippines has one of the lowest digital banking adoption rates in the ASEAN countries”.

Most Philippine banks are still not prepared to deal with FinTechs in terms of organizational mindset and policies, which makes it difficult to incorporate them into their existing systems and structures. Most banks also do not have a clear set of evaluation criteria to help them assess the suitability of a FinTech vendor that comes into the picture. From a regulatory standpoint, the responsibility to do appropriate due diligence checks on prospective vendors lies with the banks.

R. P. Atienza revealed on his study that “among the five barriers to the adoption of the internet and mobile banking (usage, value, risk, tradition, and image), risk barrier shows to be the strongest while usage barrier is the weakest. This signifies that customers do not resist internet and mobile banking because they are not capable of using the platform but because they are



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afraid of any financial risks they might encounter when they are online. News in the Philippines concerning fraud on banking, whether using branch-based or mobile and internet banking appeared every now and then. This makes customers to be more risk-averse in every transaction they conduct, especially in the matters of money.

To overcome the problem of resistance, banks must exert effort in communicating with their customers on the security of their platform. It is also important to take into consideration the socio-demographic profile of the customers in determining their target audiences. For example, the age is relevant in value barrier and monthly income on image barrier. There is also gender difference when it comes to image barrier, where banks may intensify awareness among men the image of mobile and internet banking.

According to the study conducted by C. J. Raonet. al., (2021) the respondents' problems while using e-payment systems mainly due to delays in processing and user-friendliness, but most found it not significant. Some of the respondents cannot recall if they encountered such situations and others have not yet encountered any problems. This refers to those respondents probably not considering delays and user-friendliness as their top factors in adopting an e-payment system. This also shows that it would be a challenge to determine the problems they encountered since many respondents cannot recall their issues while using the platforms. Respondents asked to rank the factors according to the most important and ease of use only came in third after security and trust.

A.A. Papa (2021) mentioned in his article that the adoption of a digital banking business in the Philippines must be supported by: sound digital governance; a robust, secure and resilient technology infrastructure; and effective data management strategy and practices. He also added that digital banks can offer various financial products and services such as granting loans, accepting deposits (local or foreign), acting as correspondent for other financial institutions, issuing e-money products, among other products subject to current regulations.

Synthesis of the Reviewed Literature and Studies

Studies of technology acceptance or adoption revealed various conclusions on the different aspects of Technology Acceptance Model by Fred Davis (1989). Several scholars have pointed out that perceived ease of use and perceived usefulness are considered to be important in determining a person's acceptance and use of information technology. These variables are fundamental beliefs that make up the Technology Acceptance Model.

Various researchers have examined the information system and replicate that both perceived usefulness and ease of use are valid in predicting acceptance of a person in a variety of information technology. However, depending on the context-specific technologies may be needed additional explanatory variables in addition to perceived usefulness and perceived ease of use. Davis himself stated "upcoming research of the acceptance of technology need to explain how other variables affect the usefulness, ease of use, convenience and user acceptance.

Factors that contribute to the acceptance of new information technologies will tend to vary depending on the technology, user, and context. Currently, digital banking is seen as an emerging information technology with the potential to change the method of access to information about a person and force the banks to change the particular organization of their business strategy.

Studies discussed that the common reason for the bank clients to refuse using of digital banking is the fear of compromising the security of their accounts. For both incumbent banks and entrants, the key to taking advantage of the digital opportunity will be to overcome customer concerns about security and complexity

Methodology

This chapter presents how the researcher systematically designs this study to ensure valid and reliable results that address the research aims and objectives. It will be discussed here the following themes: the method of research, population, sample



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size and sampling techniques, description of respondents, research instruments, data gathering procedure, statistical treatment of data and ethical consideration to be considered during the study.

Method of Research

Gathering of data needed in this research was done in the way of descriptive research. The said method was utilized in getting necessary information on the assessment on the customers' technological acceptance of the LANDBANK's Digital Banking products and services.

Descriptive research seeks to describe the current status of an identified variable. These research projects are designed to provide systematic information about a phenomenon. The researcher does not usually begin with a hypothesis, but is likely to develop one after collecting data. The analysis and synthesis of the data provide the test of the hypothesis. Systematic collection of information requires careful selection of the units studied and careful measurement of each variable (Rutgers University Libraries, n.d).

Essentially, there are three distinctive methods to conduct descriptive research. They are Observational method, Case study method, and Survey research. In the case of this study, survey research method was used wherein the researcher gathered useful data from the respondents from their answers on a developed survey questionnaire.

Population, Sample Size and Sampling Techniques

The population of this study, with a total of 3,485 individuals (based on the data provided by the Electronic Banking Support Unit of LANDBANK) were the entire users of digital banking of LANDBANK in its EDSA Extension Roxas Boulevard Branch in Pasay City. The researcher randomly selected respondents among the users; most of them are government employees from different government agencies wherein the bank handles their payroll and other accounts and other clients that are not connected with any government agencies. The researcher deployed the questionnaires using the

web-based app - Google forms and the gathering the answers from the respondents was done electronically.

According to Muluka (2015), a sample is a group of persons or items selected from the population that will be subjected to the study and is usually a representative of the entire population. From a total of 3,485 LANDBANK's E-banking Product and Services users from the EDSA Extension Roxas Boulevard Branch, the sample was selected to proportionately represent 62% of which are government employees, 32% are from the private sector and 6% are students.

The number of respondents was determined following Cochran's Formula. "The Cochran formula allows you to calculate an ideal sample size given a desired level of precision, desired confidence level, and the estimated proportion of the attribute present in the population. Cochran's formula is considered especially appropriate in situations with large populations. A sample of any given size provides more information about a smaller population than a larger one, so there's a 'correction' through which the number given by Cochran's formula can be reduced if the whole population is relatively small. Z. A. Al-Hemyari, 2018)

It conservatively recommends a minimum total of 385 respondents for very large populations to measure up with the desired precision of 5% margin of error and 95% level of confidence. However, the population of study was modified for sample size calculation in smaller populations using the following formula:

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where:

- e is the desired level of precision (i.e., the margin of error),
- p is the (estimated) proportion of the population which has the attribute in question,
- q is 1 - p.

The researcher did not have much information about



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the users of digital banking of LANDBANK so it is assumed that half of the account holders in the LBP EDSA Extension Roxas Boulevard branch uses digital banking; this gives a maximum variability. So, $p = 0.5$. The researcher wants a 95% confidence, and at least 5 percent—plus or minus precision. A 95 % confidence level gives Z values of 1.96, per the normal tables, so below is the computation of the sample size:

$$= \frac{((1.96)^2(0.5)(0.5))}{(0.05)^2}$$

$$= \frac{0.9604}{0.0025}$$

$$= 385 \text{ users}$$

A random sample of 385 users in the target population should be enough to give the confidence levels the study needs.

We note here that the margin of error tells how much the results will differ from the real population measures and the confidence level indicates the chance the results will be within the specified margin of error. Thus, a 5% margin of error and 95% confidence level means the results will be within 5% of real population measures 95% of the time. Subsequently, these were divided to significantly match the stipulated distribution among the population of the branch’s E-banking users as shown on the following table:

Sample Size Distribution of LANDBANK E-Banking Products and Services(95% level of confidence)

Stratum	Proportion of Population (%)	Minimum Numbers of Respondents Required	Actual Number of Respondents Surveyed
Government Employees	62	215	229
Private Sector	32	111	123
Students	6	21	33
Total	100	347	385

In order to get the sample size for the study, the researcher used the Convenience Sampling Method to obtain a sample population that best represents the entire population being studied. Convenience sampling was defined by questionpro.com as “a method adopted by researchers where they collect market research data from a conveniently available pool of respondents”. The researcher opted to use the

said sampling technique because testing the entire community is practically impossible because they are not easy to reach because of the implemented health protocols due to the COVID-19 pandemic the whole world is experiencing right now.

Convenience sampling leaves a lot to the researcher’s discretion, which leads to several biases. The best way of reducing bias in convenience sampling is to use it along with probability sampling. Since it is usually biased, probability sampling gets the measurement parameter with it to keep this sampling bias under check”, (questionpro.com). The researcher then distributed to a total of 548 respondents the online questionnaire, and then randomly selected the required number of samples for the study, which are 385 responses.

Description of Respondents

The researcher selected LANDBANK digital banking users of LBP EDSA Extension Roxas Blvd. Branch on their availability. The respondents were composed mostly of government employees from different government agencies who are the large number of the total users of digital banking of the bank. The researcher also gathered respondents from the private sector, self-employed and student groups.

Research Instrument

The researcher has designed the questionnaire that was used for this study. Some ideas were adopted from a previously developed scale items in measuring the perception of users with regards to the usefulness and ease of use of information technology by Fred Davis in 1989. At the same time, the researcher composed statements that were used to measure the respondents’ level of agreement based on the definition of the four variables of Technology Acceptance Model.

To examine thoroughly the research instrument, the researcher requested for the assistance of a statistical expert from the University’s Institute for Data and Statistical Analysis (IDSA). Clarity of instructions, tasks and questions were evaluated by the assigned statistician to make sure that the contents are not



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misleading or confusing to the respondents. Some parts of the prepared instrument of the researcher were modified by the statistician to effectively help in gathering reliable data for the study. After some revisions, questionnaires were then forwarded to the first 25 respondents for pilot testing.

After securing the quality and reliability of the questionnaire, the researcher then proceeded to the survey proper. The first part of the survey questionnaire included the profile of the respondents in terms of gender, civil status, age, highest educational attainment, employment status, year that their account with LANDBANK was opened; year started using LANDBANK E-Banking products and services and how often they use them, and the identification of their mostly used LANDBANK E-Banking products and services. They are allowed to select all the answers that apply to their utility of the said products and services.

Meanwhile, the second part was about the assessment on the customers' technological acceptance of the LANDBANK's Digital Banking products and services using the Likert scale as follows:

Likert Scale	Verbal Interpretation
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

Using the shown scale above, the level of agreement of the respondents on each statement about the perception on their use of LANDBANK's digital banking platforms with regards to the four variables of TAM were measured. The highest score that they may give is 5 which is verbally interpreted as "Strongly Agree" and 1 to be the lowest.

Data Gathering Procedure

The survey questionnaires were then distributed to all the selected respondents, 385 individuals in total, through Google Forms only - an online tool that can be used to collect survey data. After sending the

questionnaires to random LANDBANK Digital banking users, the researcher together with the help of the statistician, collated, tabulated, analyzed and interpreted the data gathered. An introductory letter accompanied the survey questionnaire before it was administered upon approval by the management of the bank. This was to help the respondents familiarize with the exercise. The questionnaire was divided into two sections as mentioned earlier.

All the distributed survey forms via Google Forms, with a total of 385 forms, were all completely answered (100%) by the targeted respondents. No questionnaire was un-retrieved or unanswered.

Statistical Treatment of Data

Since the researcher used Likert scale in the prepared instrument, the data that were gathered were then classified as Ordinal data. In statistics, ordinal data are the type of data in which the values follow a natural order. One of the most notable features of ordinal data is that the differences between the data values cannot be determined or are meaningless. Generally, the data categories lack the width representing the equal increments of the underlying attribute (<https://corporatefinanceinstitute.com>).

Unlike interval or ratio data, ordinal data cannot be manipulated using mathematical operators. Due to this reason, the only available measure of central tendency for datasets that contain ordinal data is the median. Ordinal data can also be analyzed using advanced statistical analysis tools such as hypothesis testing. The hypothesis testing of the data can be carried out only using nonparametric tests. The discussions about the tools used by the researcher in the statistical analysis are as follows:

1. **The Median.** According to the Corporate Finance Institute, median is a statistical measure that determines the middle value of a dataset listed in ascending order (i.e., from smallest to largest value). The measure divides the lower half from the higher half of the dataset. Along with mean and mode, median is a measure of central tendency. The method for locating the median varies slightly depending on whether your



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dataset has an even or odd number of values. The researcher, together with the help of the statistician, also presented the highest percentage of respondents with strong agreement per item in each variable of TAM on the data gathered to assess the level at which an indicator is strongly agreed upon. This is going to be the basis of the researcher in developing the recommendations at the end of the study.

- 2. Non-Parametric Data and Test.** Non-parametric test is a set of statistical tools used to test for statistically significant results when dealing with ordinal data. Corporate Finance Institute stated that non-parametric tests are methods of statistical analysis that do not require a distribution to meet the required assumptions to be analyzed (especially if the data is not normally distributed). Due to this reason, they are sometimes referred to as distribution-free tests. Non-parametric tests serve as an alternative to parametric tests such as T-test or ANOVA that can be employed only if the underlying data satisfies certain criteria and assumptions on-parametric tests have distinct advantages. With outcomes such as those described above, non-parametric tests may be the only way to analyze these data. Outcomes that are ordinal, ranked, subject to outliers or measured imprecisely are difficult to analyze with parametric methods without making major assumptions about their distributions as well as decisions about coding some values (e.g., "not detected"). As described here, non-parametric tests can also be relatively simple to conduct", (L.Sullivan, n.d). Non-parametric tests include numerous methods and models, but only the following of the most common tests will be used for this study:
- 3. Mann - Whitney U Test.** The Mann-Whitney U test is the nonparametric equivalent of the two-sample t-test. While the t-test makes an assumption about the distribution of a population (i.e. that the sample came from a t-distributed population), the Mann Whitney U Test makes no such assumption. The result of performing a Mann Whitney U Test is a U Statistic. For small samples, use the direct method (see below) to find

the U statistic; for larger samples, a formula is necessary", (www.statisticshowto.com)

$$U_1 = R_1 - \frac{n_1(n_1 + 1)}{2}$$

or

$$U_2 = R_2 - \frac{n_2(n_2 + 1)}{2}$$

Either of these two formulas is valid for the Mann Whitney U Test. R is the sum of ranks in the sample, and n is the number of items in the sample.

- 4. Kruskal – Wallis Test.** The Kruskal Wallis test is an on-parametric alternative to the One-Way ANOVA Parametric means that the test does not assume your data comes from a particular distribution. The H test is used when the assumptions for ANOVA aren't met (like the assumption of normality). It is sometimes called the one-way ANOVA on ranks, as the ranks of the data values are used in the test rather than the actual data points.

The test determines whether the medians of two or more groups are different. Like most statistical tests, you calculate a test statistic and compare it to a distribution cut-off point. The test statistic used in this test is called the H statistic", (www.statisticshowto.com). The hypotheses for the test are:

- H0: population medians are equal.
- H1: population medians are not equal.

Results and Discussion

This chapter contains the analysis and interpretation of the data gathered through the questionnaire. These data were shown in tabular form and followed the sequence of the problem posed in the first chapter.

Problem 1. Profile of Respondents According to Gender, Civil status, Age, Highest educational attainment, Employment Status, Frequency of using LANDBANK E- banking products and services, Year of Account Opening and Year started using the LANDBANK E-banking

To begin the presentation of the results and discussion on the profile of the respondents, the table below will



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show the frequency and percentage distribution of the respondents in terms of gender.

Table 1

Frequency and Percentage Distribution of the Respondents in terms of Gender

Gender	Frequency	Percentage (%)
Male	151	39.2
Female	234	60.8
Total	385	100.0

As shown in Table 1, of the 385 respondents of the study, 151 or 39.20% are male and 234 or 60.80% are female. This may imply that females prefer using digital banking more than men. This affirms the study of N. Hyde-Clarke et. al., (2014) wrote that an emphasis was placed on how gender may affect that experience. The study shows that fewer youth use mobile phone banking than was expected, and that notably, on a continent with a traditional gender divide, there is very little difference in responses between male and female participants. Only one element of mobile phone banking was perceived differently: issues of personal and online security. Overall, the study suggests that while there is little gender difference in usage of mobile phone banking, young females prefer to use these services as they feel able to better control their financial well-being in what they perceive to be a more secure environment.

While it was stated that males are more inclined to use electronic banking products and services, Hennigset. al., (2010) found that females were more familiar with online banking in terms of convenience. In contrast to these assertions, gender did not correlate with internet banking adoption, meaning males and females perceived characteristics of internet banking in a similar way.

Moving forward, the next table to be presented is about the frequency and percentage distribution of the respondents in terms of civil status, as follows:

Table 2

Frequency and Percentage Distribution of the Respondents in terms of Civil Status

Age Group	Frequency	Percentage (%)
Married	134	34.8
Single	251	65.2
Total	385	100.0

Based on Table 2, of the 385 respondents of the study, 134 or 34.80% are married and 251 or 65.20% are single. This may imply that married individuals were less likely to adopt internet banking than the single respondents. This, however, contrasts with the findings of M. Mattila H. Karjaluoto, and T. Pento (2003) wherein they stated that “mature customers with age more than 65 years are late adopters of internet banking services. The researchers further observed that married mature customers are more likely to use internet banking than unmarried or widowed ones”.

The next table will present the frequency and distribution of the respondents in terms of age.

Table3

Frequency and Percentage Distribution of the Respondents in terms of Age

Age Group	Frequency	Percentage (%)
Below 25 years old	92	23.8
25-40 years old	257	66.8
Above 40 years old	36	9.4
Total	385	100

As shown in Table 3, of the 385 respondents of the study, 92 or 23.80% belongs to the below 25 years age group, 257 or 66.80% belongs to the 25-40 years age group and 36 or 9.40% belongs to the Above 40 years age group. The results revealed that those who are in the group of ages 25 — 40 years old or what they call “Millennial” are the ones who use online banking the most, next are those who belong to the group aging below 25 years old or what they call Gen Z.



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Respondents aging above 40 years old or those who belong to Gen X group are shown less likely to use online banking. This affirms the study of S. Ahmed & S. Sur, (2021) where it said that “in this fast-moving era, convenience is becoming the prime aspect of choosing a product or service, especially of the Generation Y or Millennial population. Effortlessly managing lives on the move and getting an efficient result is the need of the hour”.

“With reference to the youngest participants, it emerged that this segment uses Internet Banking (IB) mainly for simple transactions such as procuring account statements or transferring funds. In case of those aged between 35 and 49, bank interviewees stated that this generation accounts for the bulk of internet-banking usage which spans across all services, in line with prior studies such as Jones and Fox (2009). In the questionnaire and the focus group, it emerged that this generation uses IB comparatively more to access services such as bill payments. The other age segment considered in this paper was the older generation (Baby Boomers) which in our sample comprises the highest proportion of non-users. Bank interviewees stated that those aged over 55 are the least conversant with IB and they are more likely to be skeptic about security. The questionnaire and focus group responses suggest that non-users within this age group are the least likely to adopt IB in the near future. The only IB subscriber in the focus group was not actually confident in using it. It was shown that it is relatively difficult to attract the older generation to use IB” (“The Relevance of Age Categories in explaining Internet Banking Adoption Rates and Customers’ Attitudes towards the Service”, 2017)

This also affirms the study identified by Soilenet. al (2013) — age differences effects. They discussed that younger segments are more willing to take risk than the older segments. The older ones were found to be more careful than usual due to how new and unfamiliar the service is. The frequency and

percentage distribution of the respondents in terms of educational attainment will be presented on the next table.

Table 4

Frequency and Percentage Distribution of the Respondents in terms of Educational Attainment

Age Group	Frequency	Percentage (%)
College Undergraduate	18	4.7
Bachelor's Degree Holder/College Graduate	328	85.2
With Master's/Doctorate Degree	39	10.1
Total	385	100

As shown in Table 4, of the 385 respondents of the study, 18 or 4.70% are college undergraduate, 328 or 85.20% are bachelor’s degree holder or college graduate, and 39 or 10.10% are with masters/doctorate degree. This infers that educated people are more interested to use internet banking and that too with a good educational background.

Given the fact that Land Bank of the Philippines serves mostly government employees, it is reasonable that most of the respondents are college graduates and some pursued graduate studies. To further support, Mann et. al., (2016) wrote that it was emphasized the importance of the equity goals related to educational attainment because individuals with lower levels of education are less likely to take advantage of the benefits of technology and thus are left on the wrong side of the Digital Divide and knowledge gap. Therefore, educational attainment, ironically, acts as both a stratifying agent and an essential remedy. It is a stratifying agent because it expands access to innovation for those with higher levels of education, but it is an essential remedy because it changes the way people think and behave in an information society. The Internet has similar potential, as it provides greater access to knowledge that those who are less educated may need, but it is the higher educated who are likely to first use it. These findings take on greater implications with the global expansion of formal education, as the spread of



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education could mitigate potential long-term negative effects of the knowledge gap. Contrary to the assertion by some researchers that higher level of education increases internet banking adoption, JP Couto et. al., (2013) found that “customers with higher education are less likely to adopt internet banking as a cautious behavior towards internet banking.

The next table displays the frequency and percentage distribution of the respondents according to the year of account opening.

Table 5

Frequency and Percentage Distribution of the Respondents according to the Year of Account Opening

Year	Frequency	Percentage (%)
Before 2015	118	30.7
2015-2017	161	41.8
2018-2020	96	24.9
2021	10	2.6
Total	385	100

It can be seen at Table 5, of the 385 respondents of the study, 118 or 30.70% has opened an account with LANDBANK before 2015, 161 or 41.80 has opened within the years 2015-2017, 96 or 24.90 has opened with 2018-2020, and 10 or 2.60% has opened their account in 2021. These results show that the respondents are mostly account holders of LANDBANK since years 2015 to 2017.

The table below displays the frequency and percentage distribution of the respondents according to when they started using LANDBANK E-banking platforms.

Table 6

Frequency and Percentage Distribution of the Respondents according to When They Started Using LANDBANK E-banking Products and Services

Year	Frequency	Percentage (%)
Before 2019	263	68.3

2019	64	16.6
2020	42	10.9
2021	16	4.2
Total	385	100.0

As shown in Table 6, of the 385 respondents of the study, 263 or 68.30% started using LANDBANK E-Banking products and service before year 2019, 64 or 16.60% started in 2019, 42 or 10.90% started in 2020, and 16 or 4.20 started in 2021.

Table 7

Frequency and Percentage Distribution of the Respondents according to their Frequency of Using LANDBANK E-banking Products and Services

Year	Frequency	Percentage (%)
Almost always (at least 4 days in a week)	43	11.2
Often (2-3 days in a week)	118	30.7
Seldom (Once a week)	159	41.3
Rarely (once or twice in a month)	65	16.8
Total	385	100

As shown in Table 7, of the 385 respondents of the study, 43 or 11.20% use LANDBANK E-banking Products and Services almost always or at least 4 days in a week, 118 of them or 30.70% use it often or 2-3 days in a week, 159 or 41.30% use it seldom or once a week, and 65 or 16.80% rarely use it — once or twice in a month. It was revealed from the results that most of the users seldom (once a week) utilize the bank’s digital banking platforms, and only a few of them use the said services almost always. This may imply that the bank must persuade their clients more to use digital banking more often; especially it was mentioned in the article by Soon & Salas (2016) that



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Philippines has one of the lowest digital banking adoption rates in the ASEAN countries

Lastly, from the 385 respondents, the study also revealed the ranking of the five LANDBANK Digital Banking Products and Services for individuals in terms of being mostly used by the clients.

Figure 6

Mostly Used LANDBANK Digital Banking Products and Services for individuals

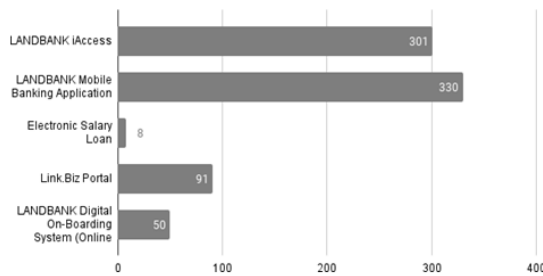


Figure 5 shows that the LANDBANK Mobile Banking Application got the greatest number of users, implying that it is the mostly used platform having a total number of 330 user clients, next is the LANDBANK iAccess that has 301 user clients, 91 users for Link.Biz Portal, 50 users for the LANDBANK Digital On-Boarding System, and lastly, the Electronic Salary Loan that has a total of 8 users.

Problem 2. Assessment on the Respondent’s Perception on their Use of LANDBANK Digital Banking Products and Services in terms following aspects of TAM such as Perceived Usefulness, Perceived Ease of Use, Attitude Towards Use and Behavioral Intention to Use

The first table to be shown and discussed presents the results from the survey conducted by the researcher, interpreting the perceptions of the respondents with regards to the perceived usefulness of selected LANDBANK’s digital banking platforms.

It can be seen in Table 8 that the statements “Using” digital banking saves me time” (Median = 5; 65.71% Strong Agreement) and “I can accomplish my banking

tasks more quickly using Digital Banking” (Median = 5; 61.40% Strong Agreement) got the highest ratings, both verbally interpreted as “Strong Agreement”.

The results revealed that the bank’s Digital Banking platforms are absolutely useful for the users in getting their banking tasks done. This may imply that Digital Banking can be considered as an essential tool in order for the users perform their day-to-day activities. Clients, especially in this time of pandemic, prefer the most convenient and safest ways to accomplish their tasks without compromising the quality of the results and/or outputs. Thus, that need of convenience and safety were addressed with the help of LANDBANK’s various digital banking products and services.

Table 8

Respondents’ Perceived Usefulness of LANDBANK’s Digital Banking Products and Services



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Perceived Usefulness	Median	Interpretation	Percentage of Respondents with Strong Agreement (%)
(PU1) I can accomplish my banking tasks more quickly using Digital Banking	5	Strong Agreement	61.4
(PU2) Digital Banking enhances my effectiveness in utilizing banking services	5	Strong Agreement	58.18
(PU3) Digital Banking enhances my efficiency in utilizing banking services	5	Strong Agreement	58.7
(PU4) Digital Banking enables me to make better decisions in utilizing banking services	5	Strong Agreement	50.91
(PU5) Digital Banking addresses my job-related needs.	5	Strong Agreement	50.13
(PU6) Digital Banking gives me greater control over my work	4	Little to Moderate Agreement	49.87
(PU7) Using digital banking saves me time	5	Strong Agreement	65.71
(PU8) Overall, I find Digital Banking useful	5	Strong Agreement	62.34

my job-related needs” (Median = 5; 50.13% Strong Agreement) verbally interpreted as “Strong Agreement” got the least rating among all the factors of usefulness. The bank may exert extra effort in innovating more ways for their digital banking platforms to be utilized in achieving “ease of doing business”, and the users, as a result, may achieve greater control over their respective duties and activities. These results affirm the study conducted in 2013 by Chitungo and Munongo, wherein they revealed that perceived usefulness has indeed a positive relationship in influencing the respondents’ intention to adopt mobile banking.

Next to be presented is the table showing the interpretation of the perception of the respondents on their use of selected LANDBANK’s digital banking products and services when it comes to perceived ease of use, as follows:

As shown in Table 9, the statements “Learning to use Digital Banking is easy for me” (Median=5; 63.38% Strong Agreement) and “It is easy to use in accomplishing my banking tasks” (Median=5; 62.34% Strong Agreement) got the highest ratings, both verbally interpreted as “Strong Agreement”.

As customers continue to look for convenient options, digital banking remains a steadfastly popular choice. While banks look to digital to provide security and cost efficiency, the true value of digitalization is what it can offer consumers. This only serves to raise competition amongst banks if they want to stay relevant in the digital landscape, though according to Raconteur, traditional banks have an advantage in the range and complexity of products they offer, as well as an existing clientele. Regardless of which financial institutions will pull ahead in the race for business, it is clear that the time for digitizing is now” (“The Future of Banking: Why Digital is Important”, 2020).

However, the statements “Digital Banking gives me greater control over my work” (Median = 4; 49.87% Strong Agreement) verbally interpreted as “Little to Moderate Agreement” and “Digital Banking addresses

Table 9

Respondents’ Perceived Ease of Use of LANDBANK’s Digital Banking Products and Services



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Perceived Ease of Use	Median	Interpretation	Percentage of Respondents with Strong Agreement (%)
(PEOU1) Learning to use Digital Banking is easy for me	5	Strong Agreement	63.38
(PEOU2) It is easy to use in accomplishing my banking tasks	5	Strong Agreement	62.34
(PEOU3) Information provided on the bank's website are easily accessible to help in doing my banking tasks.	5	Strong Agreement	59.22
(PEOU4) My interaction with the digital banking system is easy for me to understand	5	Strong Agreement	61.56
(PEOU5) It is easy for me to remember how to perform tasks using digital banking	5	Strong Agreement	61.04
(PEOU6) I rarely get confused when I use digital banking	5	Strong Agreement	58.7
(PEOU7) Overall, I believe Digital Banking is easy to use	5	Strong Agreement	62.08

The results imply that the bank's Digital Banking platforms are generally easy to use and suggest that this factor would greatly encourage account holders of the bank to engage into Digital Banking. T. Bow, et.al, (2016) wrote that "ease of use is another influential factor for the practice of online banking. There is a positive relationship between ease of use and service delivery via online banking, where various services needed by the customers can be set up online by the bank.

It was recognized that the technologies innovation "must be easy to use" in order for customer accept and adopt online banking. The level of online banking adoption had direct impact on customers' satisfaction

level. In other words, customers would accept or continue to adopt online banking if the services are easy to use.

The finding is consistent with the statement of M. Salazar (2020) saying that "financial institutions (in the Philippines) must also consider the need to create sophisticated online services that are easy to use, without compromising security". This also affirms the study of Mortimer et al., 2015; Koksai, (2016) where they mentioned that "simple and use of user-friendly technology in mobile banking increases the acceptance for its use".

However, the statements "Information provided on the bank's website are easily accessible to help in doing my banking tasks" (Median=5; 59.22% Strong Agreement) and "I rarely get confused when I use digital banking" (Median=5; 58.70% Strong Agreement) got the lowest ratings, but still both verbally interpreted as "Strong Agreement" This affirms the study of Mortimer et al., (2015) and Koksai (2016) where they stated that "simple and use of user-friendly technology in mobile banking increases the acceptance for its use". These are the things that the bank should take care of and give immediate actions and strategies.

The next table will display the interpretation on the perception of the respondents on their use of the LANDBANK's selected digital banking products and services in terms of attitude towards use

Table 10

Respondents' Attitude towards the Use of LANDBANK's Digital Banking Products and Services



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Attitude towards Use	Median	Interpretation	Percentage of Respondents with Strong Agreement (%)
(ATT1) I think it is good for me to use Digital Banking	5	Strong Agreement	61.82
(ATT2) I am comfortable in using digital banking	5	Strong Agreement	60.52
(ATT3) I use digital banking without hesitation in doing banking tasks	5	Strong Agreement	59.74
(ATT4) I will surely prefer using digital banking over the traditional way	5	Strong Agreement	57.92
(ATT5) I have confidence in using digital banking; I believe it would be the best way using it for my banking tasks.	5	Strong Agreement	59.48
(ATT6) Overall, my attitude towards Digital Banking is favorable	5	Strong Agreement	60.78

As shown below in Table 10, the statements “I think it is good for me to use Digital Banking” (Median=5; 61.82% Strong Agreement) and “I am comfortable in using digital banking” (Median=5; 60.52% Strong Agreement) got the highest ratings, both verbally interpreted as “Strong Agreement”. These results imply that the attitude of the users towards their use of the bank’s Digital Banking platforms is highly positive. This may suggest that the users trust these digital banking platforms and that what greatly affects their intention to use the products and services.

The results affirm the study by Arunkumar, et. al., (2018) wherein it was stated that “in predicting customers’ attitude towards Internet banking, perceived usefulness, perceived ease of use and trust were found to contribute substantially to variance in attitude towards Internet banking, with trust being the most significant factor influencing that attitude. Attitude towards Internet banking is influenced by

multiple factors. Of the many factors, trust exerts the greatest influence.

However, the statements “I will surely prefer using digital banking over the traditional way” (Median=5; 57.92% Strong Agreement) and “I have confidence in using digital banking; I believe it would be the best way using it for my banking tasks” (Median=5; 59.48% Strong Agreement) got the least rating but still verbally interpreted as “Strong Agreement”.

Since trust seems to be the main variable influencing customers' willingness to use digital banking, the bank must be vigilant about the extensive security measures to be put in place and carried out. By conducting a cyber-security audit, you can identify any vulnerabilities in online systems and take action to fix them. By deploying the right detection tools and setting up quick recovery and reaction processes, the bank can retain a high degree of security. This would equip websites and online banking platforms with the necessary resources to address any problems swiftly and avoid service interruptions in the event of unplanned interruptions (Global Banking and Finance, n.d).

The fourth table to be presented below will show the interpretation on the perception of the respondents on their use of selected LANDBANK’s digital banking platforms when it comes to the behavioral intention to use.

Table 11

Respondents’ Behavioral Intention to Use LANDBANK’s Digital Banking Products and Services



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Behavioral Intention to Use	Median	Interpretation	Percentage of Respondents with Strong Agreement (%)
(BI1) I intend to use Digital Banking in accomplishing my banking needs	5	Strong Agreement	60.78
(BI2) I enjoy every feature of the digital banking platforms	5	Strong Agreement	58.18
(BI3) I will frequently use Digital Banking	5	Strong Agreement	58.96
(BI4) I consider digital banking as an essential tool in accomplishing my banking tasks.	5	Strong Agreement	61.04
(BI5) I will help promote the use of digital banking to my family, friends and colleagues	5	Strong Agreement	61.04
(BI6) I will strongly recommend others to use LANDBANK's Digital Banking products and services for individual users	5	Strong Agreement	61.04

As shown in Table 11, the statements “I consider digital banking as an essential tool in accomplishing my banking tasks” (Median=5; 61.04% Strong Agreement) and “I will help promote the use of digital banking to my family, friends and colleagues” (Median=5; 61.04% Strong Agreement) got the highest ratings, both verbally interpreted as “Strong Agreement”

It suggests that satisfied users in terms of the usefulness and ease of use of digital banking greatly affects the positive attitude of the users in using the products and services and their intention to use them. This affirms the study of Sharif and Raza (2017) where they disclosed that “hedonic motivation, trust, self-efficacy and habit were significant to predict behavioral intention whereas habit and behavioral intention could be used to explain adoption intention of internet banking.

However, the statements “I enjoy every feature of the digital banking platforms” (Median=5; 58.18% Strong Agreement”) and “I will frequently use Digital Banking” (Median=5; 58.96% Strong Agreement) got the least ratings, but still verbally interpreted as “Strong Agreement”

“Service qualities offered by the bank presented an essential effect for the acceptance of digital banking. If the platforms maintain a high-quality standard functionality, customers may realize this and prefer a convenient and easy-to-use application than the traditional way of banking. The present technology plays an essential role in human life. The banking industry should enhance customer experiences to become familiar with advanced technology. Furthermore, financial providers must support the improvement of features in digital banking platforms so that the applications are easy to use. Therefore, it is essential for the bank to provide the most reliable and consumer-friendly applications with a wide variety of services. Also, this will enable them to keep existing users and attract more new clients”, Naruetharadhol, et. al, 2021).

Problem 3. Significant Difference in the Respondent’s Level of Agreement on the Perceived Usefulness, Perceived Ease of Use, Attitude Towards Use and Behavioral Intention to Use of LANDBANK’s Digital Banking Products and Services when Grouped According to Profile.

The tables to be presented in this section displays the comparison on the respondents’ perception on their use of LANDBANK’s Digital Banking products and services when they are grouped according to the different aspects of profile. The results will be used as the basis whether the hypothesis will be accepted or rejected.

First table is about the comparison on the respondent’s perceived usefulness, perceived ease of use, attitude towards use and behavioral intention to use of LANDBANK’s selected digital banking products and services when grouped according to gender

Table 12

Mann Whitney U-Test: Comparison on the Respondent’s Perceived Usefulness, Perceived Ease of Use, Attitude towards Use and Behavioral Intention to Use of LANDBANK’s Digital Banking Products and Services When Grouped According to Gender



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Indicators	Test Statistic	p-value	Decision	Remarks
Perceived Usefulness	19056.5	0.122	Fail to Reject Ho	Not Significant
Perceived Ease of Use	19083	0.117	Fail to Reject Ho	Not Significant
Attitude Towards Use	19164.5	0.099	Fail to Reject Ho	Not Significant
Behavior Intention to Use	19271.5	0.077	Fail to Reject Ho	Not Significant

Note: *If p-value is less than or equal to the level of significance (0.05) reject Ho, otherwise failed to reject Ho.*

Table 12 shows that the level of satisfaction in all aspects of TAM namely Behavior Intention to Use (t=19271.5 with p=0.077), Attitude Towards use (t=19164.5 with p=0.099), Perceived Ease of Use (t=19083.0 with p=0.117), and Perceived Usefulness (t=19056.5 with p=0.122) were statistically the same. Since the p-values are greater than 0.05, the assumed level of significance, the null hypotheses were accepted. This means that, when the respondents are grouped according to gender, their level of agreement on all aspects of TAM were statistically not significant.

Results revealed that a respondent will most likely strongly agree to the four aspects of TAM regardless of gender. This suggests that there is no relationship between gender and digital banking adoption rate. It is therefore by chance that more females adopt internet banking services earlier than males. This affirms to the study of E. Izogo and O. Nnaemeka (2012) that gender did not correlate with digital banking adoption.

Second table is about the comparison on the respondent's perceived usefulness, perceived ease of use, attitude towards use and behavioral intention to use of LANDBANK's selected digital banking products and services when grouped according to civil status

Table 13

Mann Whitney U-Test: Comparison on the Respondent's Perceived Usefulness, Perceived Ease of Use, Attitude towards Use and Behavioral Intention to Use of LANDBANK's Digital Banking Products and Services When Grouped According to Civil Status

Indicators	Test Statistic	p-value	Decision	Remarks
Perceived Usefulness	14721	0.017	Reject Ho	Significant
Perceived Ease of Use	14870	0.027	Reject Ho	Significant
Attitude Towards Use	14863.5	0.027	Reject Ho	Significant
Behavior Intention to Use	14728	0.018	Reject Ho	Significant

Note: *If p-value is less than or equal to the level of significance (0.05) reject Ho, otherwise failed to reject Ho.*

As shown in Table 13, the level of satisfaction in all aspects of TAM namely Perceived Ease of Use (t=14870.0 with p=0.027), Attitude Towards Use (t=14863.5 with p=0.027), Behavior Intention to Use (t=14728.0 with p=0.018), and Perceived Usefulness (t=14721.0 with p=0.017) have p-values less than 0.05, the assumed level of significance, the null hypothesis was rejected. This means that when the respondents are grouped according to their civil status, their levels of agreement on all the aspects of TAM are statistically significant. Results revealed that a respondent who is single will more likely strongly agree than a married respondent. This finding affirms the implications of the study of D. Chawla and H. Joshi 2017, that marital status influences the trust and attitude of the users towards digital banking. However, it contrasts with research studies have shown that married consumers prefer electronic banking transactions" (Katz and Aspden, 1997; Stavins, 2000). Another study by Gan et al. (2006) "revealed that marital status has no impact on the adoption of electronic banking.

Third table is about the comparison on the respondent's perceived usefulness, perceived ease of use, attitude towards use and behavioral intention to use of LANDBANK's selected digital banking products and services when grouped according to age group.

Table 14

Kruskal-Wallis Test: Comparison on the Respondent's Perceived Usefulness, Perceived Ease of Use, Attitude Towards Use and Behavioral Intention to Use of LANDBANK's Digital Banking Products and Services when Grouped According to Age Group



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Indicators	Test Statistic	p-value	Decision	Remarks
Perceived Usefulness	11.88	0.003	Reject Ho	Significant
Perceived Ease of Use	15.41	0.001	Reject Ho	Significant
Attitude Towards Use	11.52	0.003	Reject Ho	Significant
Behavior Intention to Use	12.76	0.002	Reject Ho	Significant

Note: "If p-value is less than or equal to the level of significance (0.05) reject Ho, otherwise failed to reject Ho."

As shown in Table 14, the level of satisfaction in all aspects of TAM such as Perceived Ease of Use (t=15.41 with p=0.001), Behavior Intention to Use (t=12.76 with p=0.002), Perceived Usefulness (t=11.88 with p=0.003), and Attitude Towards Use (t=11.52 with p=0.003) have p-values less than 0.05, the assumed level of significance, the null hypothesis was rejected. This means that when the respondents are grouped according to their age, their levels of agreement on all the aspects of TAM are statistically significant.

Results revealed that younger users (40 years and below) are more likely to agree on the perceived usefulness of E-banking products and services. This clearly shows a link between age group and a choice for banking channels; younger consumers gravitate towards digital banking, while older ones prefer traditional branch banking. The findings affirm previous study of Koksai (2016) that was indicated in chapter two stating that younger individuals are more likely to adopt digital banking given the fact that they are more inclined to technology than the older ones.

The digital world has created new behavioral patterns, interaction principles influencing the values of the younger generation. The bank needs to put the customer in the center of the goals and double their efforts in ensuring the highest quality design, a lot more secured, and a reliable, personalized, and cheerful user experience. Traditional business survival depends on overcoming generational conflict and on its adaptation to the demands of the digital world. It is vital to see the difference between the demands of the future customer and the previous generations to create an effective business strategy.

Fourth table is about the comparison on the respondent's perceived usefulness, perceived ease of

use, attitude towards use and behavioral intention to use of LANDBANK's selected digital banking products and services when grouped according to employment type.

Table 15

Kruskal-Wallis Test: Comparison on the Respondent's Perceived Usefulness, Perceived Ease of Use, Attitude Towards Use and Behavioral Intention to Use of LANDBANK's Digital Banking Products and Services when Grouped According to Employment Type

Indicators	Test Statistic	p-value	Decision	Remarks
Perceived Usefulness	8.88	0.012	Reject Ho	Significant
Perceived Ease of Use	10.47	0.005	Reject Ho	Significant
Attitude Towards Use	6.41	0.041	Reject Ho	Significant
Behavior Intention to Use	4.12	0.128	Failed to Reject Ho	Not Significant

Note: "If p-value is less than or equal to the level of significance (0.05) reject Ho, otherwise failed to reject Ho."

As shown in Table 15, the aspect Behavior Intention to Use has a t-value of 4.12 and p-value of 0.128. Since the p-value is greater than 0.05, the assumed level of significance, the null hypotheses were accepted. This means that when the respondents are grouped according to their employment type, their levels of agreement on aspect of Behavior Intention to use are statistically the same. However, their levels of agreement on Perceived Ease of Use (t=10.47 with p=0.005), Perceived Usefulness (t=8.88 with p=0.012), and Attitude towards Use (t=6.41 with p=0.041) have p-values less than 0.05, the assumed level of significance, the null hypotheses were rejected. This means that when the respondents are grouped according to their employment type, their levels of agreement on aspects of TAM in terms of the perceived ease of use, perceived usefulness and attitude towards use, are statistically different. Results revealed that government employees and those from the private sector are more likely to strongly agree on the perceived usefulness, ease of use and attitude towards use than student users.

The findings affirm the study of Ameme BK (2015)



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wherein it was found that “customers’ employment status is significantly related to internet banking adoption and usage. This suggests that banks need to focus more on full time employees in their marketing strategies. This may also be as a result of the fact that this category of customers may not have the time to visit the physical bank branches”. These results can be supported by the fact that the working individuals, whether a government employee or from the private sector, have their consistent source of income because of their salaries or honoraria than the students. With that, they are the ones that may appreciate more the help and advantages of using digital banking when it comes to managing their financial activities.

The fifth table is about the comparison on the respondent’s perceived usefulness, perceived ease of use, attitude towards use and behavioral intention to use of LANDBANK’s selected digital banking products and services when grouped according to year of account opening.

Table 16

Kruskal-Wallis Test: Comparison on the Respondent’s Perceived Usefulness, Perceived Ease of Use, Attitude Towards Use and Behavioral Intention to Use of LANDBANK’s Digital Banking Products and Services when Grouped According to Year of Account Opening

Indicators	Test Statistic	p-value	Decision	Remarks
Perceived Usefulness	2.83	0.419	Failed to Reject Ho	Not Significant
Perceived Ease of Use	1.1	0.778	Failed to Reject Ho	Not Significant
Attitude Towards Use	0.8	0.848	Failed to Reject Ho	Not Significant
Behavior Intention to Use	1.85	0.604	Failed to Reject Ho	Not Significant

Note: “If p-value is less than or equal to the level of significance (0.05) reject Ho, otherwise failed to reject Ho.”

Table 16 shows that the level of satisfaction in all aspects of TAM namely Perceived Usefulness (t=2.83 with p=0.419), Behavior Intention to Use (t=1.85 with p=0.604), Perceived Ease of Use (t=1.10 with p=0.778), and Attitude towards Use (t=0.80 with p=0.848) were statistically the same. Since the p-values are greater than 0.05, the assumed level of significance, the null hypotheses were accepted. This means that, when the respondents are grouped according to year of account

opening, their level of agreement on all aspects of TAM were statistically not significant.

The sixth table is about the comparison on the respondent’s perceived usefulness, perceived ease of use, attitude towards use and behavioral intention to use of LANDBANK’s selected digital banking products and services when grouped according to start of use of E-banking.

Table 17

Kruskal-Wallis Test: Comparison on the Respondent’s Perceived Usefulness, Perceived Ease of Use, Attitude Towards Use and Behavioral Intention to Use of LANDBANK’s Digital Banking Products and Services when Grouped According to Start of Use of E-banking

Indicators	Test Statistics	p-value	Decision	Remarks
Perceived Usefulness	1.59	0.663	Failed to Reject Ho	Not Significant
Perceived Ease of Use	4.31	0.23	Failed to Reject Ho	Not Significant
Attitude Towards Use	2.1	0.553	Failed to Reject Ho	Not Significant
Behavior Intention to Use	3.22	0.358	Failed to Reject Ho	Not Significant

Note: “If p-value is less than or equal to the level of significance (0.05) reject Ho, otherwise failed to reject Ho.”

Table 17 shows that the level of satisfaction in all aspects of TAM namely Perceived Ease of Use (t=4.31 with p=0.230), Behavior Intention to Use (t=3.22 with p=0.358), Attitude Towards Use (t=2.10 with p=0.553), and Perceived Usefulness (t=1.59 with p=0.663) were statistically the same. Since the p-values are greater than 0.05, the assumed level of significance, the null hypotheses were accepted. This means that, when the respondents are grouped according to start of use of E-Banking, their level of agreement on all aspects of TAM were statistically not significant.

Results revealed that a respondent will most likely strongly agree regardless of when the account was opened and when they started using the E-banking products and services.

The seventh table is about the comparison on the respondent’s perceived usefulness, perceived ease of



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use, attitude towards use and behavioral intention to use of LANDBANK’s selected digital banking products and services when grouped according to frequency of use of E-banking.

Table 18

Kruskal-Wallis Test: Comparison on the Respondent’s Perceived Usefulness, Perceived Ease of Use, Attitude Towards Use and Behavioral Intention to Use of LANDBANK’s Digital Banking Products and Services when Grouped According to Frequency of Use

Indicators	Test Statistic	p-value	Decision	Remarks
Perceived Usefulness	22.46	0.001	Reject Ho	Significant
Perceived Ease of Use	25.61	0.001	Reject Ho	Significant
Attitude Towards Use	34.6	0.001	Reject Ho	Significant
Behavior Intention to Use	27.57	0.001	Reject Ho	Significant

Note: “If p-value is less than or equal to the level of significance (0.05) reject Ho, otherwise failed to reject Ho.”

As shown in Table 18, the level of satisfaction in all aspects of TAM such as Attitude Towards Use (t=34.60 with p=0.001), Behavior Intention to Use (t=27.57 with p=0.001), Perceived Ease of Use (t=25.61 with p=0.001), and Perceived Usefulness (t=22.46 with p=0.001) have p-values less than 0.05, the assumed level of significance, the null hypothesis was rejected. The results mean that when the respondents are grouped according to their frequency of use, their levels of agreement on all the aspects of TAM are statistically significant. Results revealed that a respondent who rarely use the E- banking products and services are less likely to agree compared to those who use these at least once a week. This may imply that those clients who rarely use the bank’s digital banking platforms have experienced some issues or problems that made them use it less often. Another is that the unfamiliarity with the platforms may cause them not to have a positive perception about them, since they do not usually use them.

Summary Of Findings, Conclusions, And Recommendations

After doing the process of conducting the research

survey and the analysis of the data gathered using the prepared instrument, the researcher will now discuss in this chapter the summary of findings that was used to address the three problems stated in the first chapter of the study.

Summary of Findings

Results and findings obtained from the conducted study will now be presented for each problem stated in chapter 1, respectively:

Profile of the Respondents

The biggest portion of their clients was composed of government employees. It was also shown in the presentation of data that a bigger percentage of the respondents are female, with a total number of 234 respondents. Most of the respondents are single with a total of 251 out of 385 respondents. Most of the respondents belong to the age group of 25 — 40 years old or what they call the “Millennial”. A large number of respondents are college degree holder while some have master’s or doctorate degrees. Most of the respondents opened their account with LANDBANK from 2015 to 2017 and has started using LANDBANK’s selected digital banking products and services since then. Most of the respondents seldom use LANDBANK E-banking products and services (Once a week). Lastly, LANDBANK Mobile Banking Application was found to be the mostly used among the given digital banking platforms followed by LANDBANK iAccess.

Respondents’ perception on their use of selected LANDBANK Digital banking products and services with the aspects of TAM namely Perceived Usefulness, Perceived ease of use, Attitude towards use, and Behavioral Intention to Use

The assessment of the respondents on their use of selected LANDBANK digital banking products and services when it comes to perceived usefulness showed that the statements “Using” digital banking saves me time” (Median = 5; 65.71% Strong Agreement) and “I can accomplish my baking tasks more quickly using



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Digital Banking” (Median = 5; 61.40% Strong Agreement) got the highest ratings, both verbally interpreted as “Strong Agreement”. On the other hand, the statements “Digital Banking gives me greater control over my work” (Median = 4; 49.87% Strong Agreement) verbally interpreted as “Little to Moderate Agreement” and “Digital Banking addresses my job-related needs” (Median = 5; 50.13% Strong Agreement) verbally interpreted as “Strong Agreement” got the least rating among all the factors of usefulness. Overall, it has a grand median of 5.00, verbally interpreted as “Strong Agreement” - 62.34% Strong Agreement.

Second, the assessment on the respondents on their use of selected LANDBANK digital banking products and services when it comes to perceived ease of use revealed that the statements “Learning to use Digital Banking is easy for me” (Median=5; 63.38% Strong Agreement) and “It is easy to use in accomplishing my banking tasks” (Median=5; 62.34% Strong Agreement) got the highest ratings, both verbally interpreted as “Strong Agreement”. On the other hand, the statements “Information provided on the bank’s website are easily accessible to help in doing my banking tasks” (Median=5; 59.22% Strong Agreement) and “I rarely get confused when I use digital banking” (Median=5; 58.70% Strong Agreement) got the lowest ratings, but still both verbally interpreted as “Strong Agreement”. Overall, it has a grand median of 5.00, verbally interpreted as “Strong Agreement” - 62.08% Strong Agreement.

Third, the assessment of the respondents on their use of selected LANDBANK digital banking products and services when it comes to attitude towards use, the statements “I think it is good for me to use Digital Banking” (Median=5; 61.82% Strong Agreement) and “I am comfortable in using digital banking” (Median=5; 60.52% Strong Agreement) got the highest ratings, both verbally interpreted as “Strong Agreement”. On the other hand, the statements “I will surely prefer using digital banking over the traditional way” (Median=5; 57.92% Strong Agreement) and “I have confidence in using digital banking; I believe it would be the best way using it for my banking tasks” (Median=5; 59.48% Strong Agreement) got the least rating but still verbally

interpreted as “Strong Agreement”. Overall, it has a grand median of 5.00, verbally interpreted as “Strong Agreement” - 60.78% Strong Agreement.

Lastly, the assessment of the respondents on their use of selected LANDBANK digital banking products and services when it comes to behavioral intention to use, the statements “I consider digital banking as an essential tool in accomplishing my banking tasks” (Median=5; 61.04% Strong Agreement) and “I will help promote the use of digital banking to my family, friends and colleagues” (Median=5; 61.04% Strong Agreement) got the highest ratings, both verbally interpreted as “Strong Agreement”. On the other hand, the statements “I enjoy every feature of the digital banking platforms” (Median=5; 58.18% Strong Agreement) and “I will frequently use Digital Banking” (Median=5; 58.96% Strong Agreement) got the least ratings, but still verbally interpreted as “Strong Agreement”. Overall, it has a grand median of 5.00, verbally interpreted as “Strong Agreement” - 61.04% Strong Agreement.

Significant difference in the respondents’ assessment on the perceived usefulness, perceived ease of use, attitude towards use, and behavior intention to use selected LANDBANK digital banking products and services when grouped according to profile

The survey found that, in terms of usefulness, ease of use, attitude toward usage, and behavioral intention to use, respondents, regardless of gender, strongly agreed with LANDBANK’s chosen digital banking products and services. More single respondents than married respondents strongly agreed with the statement. Another user who is younger (40 years and under) shared the same opinion about how valuable e-banking goods and services are. On the perceived utility, simplicity of use, and attitude toward use compared to student users, government employees and those from the commercial sector were in complete agreement. Regardless of when the account was opened or when they first started using the E-banking services and products, respondents overwhelmingly agreed. Lastly, a respondent who rarely used the E-banking products and services less likely agreed compared to those who use these at least once a week.



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Conclusions

The primary goal of this study is to assess the technological acceptance of the customers of Land Bank of the Philippines of the bank's selected digital banking products and services in order to contribute to the further improvement of the quality customer service of the bank through digitization. After analyzing the findings attained by conducting the study, the following conclusions were formulated:

1. Majority of the users were female and single individuals. It was also proved that younger generations used digital banking services more than the older ones. Meanwhile, people who have higher educational attainment were revealed to use more of the digital banking products and services. Majority of the users have opened their accounts with LANBANK in the years 2015-2017 and used the online banking services of LANBANK since then. Users were also revealed that they use digital banking products and services, seldom or once a week and among the all the digital banking products and services of LANBANK, it is their Mobile Banking Application that is usually used by their clients.
2. The users had a positive perception on their use of the LANBANK's Selected Digital Banking products and service when it comes to the aspects of Technology Acceptance Model such as perceived usefulness, perceived ease of use, attitude towards use and behavioral intention to use as all them strongly agreed.
3. When the respondents were divided into groups based on gender, the year that the account was opened, and the date that E-Banking use began, their levels of agreement with regard to all aspects of TAM were statistically not significant. In contrast, their levels of agreement with regard to civil status, age, employment, and the frequency of E-Banking use are statistically significant.

Recommendations

This section shows the recommendations derived from the results of the assessment of the respondent's perception on their use of selected LANDBANK Digital banking products and services with the aspects of TAM namely Perceived Usefulness, Perceived ease of use, Attitude towards use, and Behavioral Intention to use.

Perceived Usefulness

- **Electronic Products Department of LANDBANK.** There is a need in enhancing product features to make them more user-friendly (quick access to bill payment, fund transfer, and balance enquiry facilities); simpler methods for unlocking user ID and password changes. Customers are more inclined to use the service if they believe it fits with their lifestyle and aids in their work-related activities.
- **Electronic Products Department of LANDBANK.** Develop a wider range of dates that are accessible to users and real-time posting of transaction history for the reason that users are keen observers of their transactions. If every transaction they make through mobile banking is immediately reflected on their transaction record, it will be tremendously beneficial for them. A greater range of dates available would also be beneficial, particularly if the client needs to go back and find some information regarding his or her transaction history. When customers check their transaction history, the bank can add an additional layer of identification verification to ensure that their security and privacy are not jeopardized.

Perceived Ease of Use

- **Electronic Products Department of LANDBANK.** Enhance the bank's website content and design, make sure that guidelines or manuals in using the different digital banking platforms are available and can be accessed easily by the users. Chat box directly to the customer care department of the bank must be in the home page of the



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website in case the users have urgent concerns and questions.

Attitude towards Use

- **Electronic Products Department of LANDBANK.** They may provide further customer verification for security purposes - include two-factor authentication when accessing the E-banking platforms (password/security codes; photo recognition; biometrics, etc.) One thing that may become a reason for users to not use digital banking platforms frequently is security. LANDBANK must ensure that they are doing another level of effort to protect the account holder's most important belongings such as their money, accounts, and personal information. In a world full of people with the ability to hack anything in a snap, the bank can never be too safe with customer's personal information or their hard-earned money.

Behavioral Intention to Use

- **Electronic Products Department of LANDBANK.** They might guarantee that mobile apps remain current. LANDBANK needs to make sure that all users are provided with the most pleasant experience possible by regularly updating their applications. Making sure you fix any app bugs and that each function works as intended to provide customers with a quality experience.
- **Electronic Products Department of LANDBANK.** The bank may develop a voice-over feature. For people who have disability on their vision that make it hard or impossible to read small screens (especially using mobile devices), having the option of having the content on the page read to them can make a great relief and add to the accessibility of mobile banking. Providing customers with that option makes the bank services more accessible to them and encourages the clients to use digital banking instead of going physically to the branches. They may also make a feature which provides

voice-over services for any security codes that must be entered to access the client's account information can help people access their accounts easily and readily.

This section shows the recommendations derived from the results of getting the significant difference in the respondents' assessment on the perceived usefulness, perceived ease of use, attitude towards use, and behavioral intention to use selected LANDBANK digital banking products and services when grouped according to profile.

When the respondents are grouped according to their civil status, their levels of agreement on all the aspects of TAM are statistically significant.

- **Electronic Products Department of LANDBANK.** The bank may include additional Merchant Partners in the list of bills payment services of IAccess and Mobile Banking Application (Internet providers, other bank credit cards, schools, health services and other important service providers). Married individuals are the ones who usually deal with paying bills while doing household chores or being at work. Being able to pay various bills for different service providers by just accessing LANDBANK's digital banking platforms will give them so much convenience.

When the respondents are grouped according to their age, their levels of agreement on all the aspects of TAM are statistically significant.

- **Electronic Products Department of LANDBANK.** Modify the layout of the digital platforms; make some adjustments in the interface to be more effective in addressing the needs of the older individuals associated with aging, such as impaired vision. "This means that the bank needs to take details such as font size and text style into consideration when designing an interface with as much concern as they might enhance the color and design in order to attract younger users. In the same vein and as a general rule, where possible, LANDBANK should avoid making drastic changes to their



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websites and mobile application designs that might confuse or frustrate users, especially those less familiar or engaged with the services to begin with.

- **Electronic Products Department of LANDBANK.** The bank may embed easy-to-use communication features, such as click-to-call buttons, in their website and mobile banking applications. As more users' transition into mobile banking services instead of physically visiting a branch, the banks need to provide familiar and comfortable ways for them to communicate with customer service when they need it. Click-to-call services, for example, are an easy-to-use communication feature that is also more senior-friendly than some other options — a choice that could help those users feel more connected to their digital banking services”.

When the respondents are grouped according to their employment type, their levels of agreement on aspects of TAM in terms of the perceived ease of use, perceived usefulness and attitude towards use, are statistically different.

- **Organizational Development Department and Branch Banking Sector of LANDBANK.** Leverage the bank's staff to encourage enrollment for the bank customers. To prepare staff, both branch and customer care staff will need proper training on how the digital banking service works, how to enroll new users, and how and when to promote it. Having each employee sign up for the service is a guaranteed way to reinforce training. Furthermore, the employee will be able to share personal experiences in discussion, which generates trust between the staff and the accountholder.

When the respondents are grouped according to their frequency of use, their levels of agreement on all the aspects of TAM are statistically significant

- **Electronic Products Department of LANDBANK.** Make the OTP generator and biometric authentication readily available for

each user — These features are can actually be used by every user, but the client should still manually activate them to be used. The researcher suggests that those features must be automatically enabled for faster and more secured transactions for every user.

- **Electronic Products Department of LANDBANK.** Consider lowering or nixing fees for digital banking services. Since the beginning of the pandemic that the whole world is experiencing right now, banks have considered lowering and even waiving charges on transactions such as fund transfers and bills payment. Although up to this time, LANDBANK have not yet lifted their waiving of the charges, if the bank will do so, they may consider at least lowering these fees to compete with other financial institutions that have already done so.

This section shows the recommendations for future researchers on their further studies in order to address the gaps revealed after getting the results and findings of this study.

Since the findings contradict previous studies, one claimed that females preferred to use digital banking services because they felt more in control of their financial well-being in what they perceived to be a more secure environment (Hyde-Clarke et al., 2014), and another claimed that males are more inclined to use electrified banking because they perceive it to be more secure (Hennigs et. al., 2010). Future scholars may carry out additional study to close this gap.

1. Future researchers may also do additional research to fill the gap in the study's understanding of how users' perceptions of the LANDBANK's chosen digital banking platforms are influenced by their civil status. According to this report, single people are the ones that utilize digital banking the most frequently. That contradicts a prior study's finding that married consumers are more likely to utilize internet banking than single ones (Mattila H. Karjaluoto, and Pento, 2013).
2. Future research may fill another research void caused by the study's finding that



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younger people are more likely to use digital banking than older people. This is in contrast to earlier work that said younger Filipinos might not be as tech-savvy as people believe when it comes to managing their finances (R. Laycock & S. Binsted, 2020), whereas H. Li and MM Lai (2011) discovered that when it comes to adoption and use of internet banking, age is not really a factor.

3. Future researchers may also carry out the same study on how well LANDBANK's chosen digital banking services are received by consumers in other LANDBANK branches or NCR cities.
4. Future researchers may carry out a similar study on how customers perceive technology when using LANDBANK's digital banking services, including the bank's E-banking offerings to corporate and institutional clients.

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Business Technology Adaptation and Entrepreneurial Mindset among Bachelor of Science in Entrepreneurship Students of Laguna University

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Abstract

Purpose – The study determined the significant relationship between business technology adoption and entrepreneurial mindset among Laguna University Bachelor of Science in Entrepreneurship students.

Design/methodology/approach – The descriptive-correlational research was used in this study. The information was acquired through a survey questionnaire that was used as a staging post to make conclusions on business technology adaptation and entrepreneurial mindset among Laguna University Bachelor of Science in Entrepreneurship students. To quantify the correlation between the variables, the retrieved data were handled with Mean and Pearson Product Moment Correlation Coefficient.



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Findings – The findings indicated that business technology adoption was a significant factor influencing the students' entrepreneurial mindset. Since there was a significant relationship, the program and the University might seize the opportunity to increase business technology adoption, as it was the strongest predictor of entrepreneurial mindset among Laguna University's Bachelor of Science in Entrepreneurship students. Based on the findings, a four-phase technology-based entrepreneurial education program was expected to enhance the business technology adaptation and optimize the entrepreneurial mindset of students, resulting in the utilization of ICT and innovation and increased entrepreneurial efficacy, and entrepreneurial competence among Laguna University Bachelor of Science in Entrepreneurship students.

Research limitations/implications – The entrepreneurial attitude of students may be influenced by additional characteristics of entrepreneurial ecosystems, such as cultural and economic issues, which future researchers may look into. Additional guiding concepts that directly affect the entrepreneurial mindset may be taken into account, which could result in more comprehensive and strategic programs for entrepreneurial education and learning.

Practical and social implications – This work would be beneficial to young entrepreneurs, faculty members, school administrators, industry partners, other stakeholders, and future researchers. Not only does it cover the issue in entrepreneurial learning, it also tackles the possible future growth and opportunities available for young entrepreneurs in the field of entrepreneurship.

Originality/value – This study primarily addresses the welfare of the students and their access to more developed business simulation infrastructure for their entrepreneurial engagement and practice sustainable business development through utilization of information and communication technology.

Key Words: business technology adaptation, entrepreneurial mindset, ICT diffusion, entrepreneurial self-efficacy, entrepreneurial competence, innovation

Relevant SDGs: SDG 4 Quality Education, SDG 17 Partnership for the Goals

Introduction

In recent years, entrepreneurship education is driving a surge in demand. Entrepreneurs have become a major driver of market development around the world. If an entrepreneurial student wants to start a successful business, he/she must start with entrepreneurial thinking and other skills required for a successful start-up. (Wathanakom, Khlaisang, & Songkram, 2020).

As it is, globalization requires young people to enter the workforce with transferable entrepreneurial skills and behaviors that will help them excel in almost any profession or business. Entrepreneurial

innovation has become the norm for many institutions involved in the education of future youth. To become career-ready, students may learn these and other qualities that are part of the entrepreneurial mindset. (Gold & Rodriguez, 2018).

In the United States, entrepreneurship (start-up) has been declining in recent decades (Edelman Intelligence, 2017). The slowdown in entrepreneurship is worrying not only because of its possible adverse impact on new job creation but also because of cultural connotations. Lack of entrepreneurship is a loss of distinctive American character (Gold et al., 2018).



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Despite the slowdown in real startup activity, the skills needed to succeed in the 21st century economy are becoming increasingly important (Bacigalupo, Kampylis, Punie, & Brande, 2016). Companies are actively looking for people with creative skills, such as innovation, strategic thinking, and dynamic problem solving.

Understudies ought to acquire crucial pioneering abilities. There has been a little investigation to drive endeavors to dependable tests that have sent off an innovative attitude up to this point. Innovation organizations, for example, Cisco, Microsoft, Google, Facebook, Intel, IBM, Hewlett Packard, and Apple are furnishing potential open doors to youngsters with cutting-edge Information and Communication Technology (ICT) abilities. Projects, for example, Microsoft's YouthSpark which gives preparation in ICTs just as a business venture opens doors to youngsters in agricultural nations, and permits them to secure abilities that will set them up to contend in the innovation field and the 21st century work environment (United Nations Conference on Trade and Development [UNCTAD], 2015).

Charge J. Bonnstetter, Chairman of Target Training International, directed exploration on more than 17,000 working grown-ups, including "sequential" business visionaries. He contended that the qualities of business people, including objective direction and relational abilities "are not innate," rather, they can be learned and grown. It is on this ground that pioneering mentality of youthful business visionary can be impacted with factors inside their current circumstance and ICT can be one of those. (Network for Teaching Entrepreneurship, 2018).

Laguna University's Bachelor of Science in Entrepreneurship students are being asked to construct programs that will help them in their start-up, development, and digital readiness. The objective is to investigate the variables that influence undergraduate students' business

technology adaptation, and entrepreneurial mindset.

The researcher proposed an innovation-based enterprising schooling program to assist understudies with bridling their imaginativeness through innovation and set out monetary open doors which clarified the connection between business technology adaptation and the entrepreneurial mindset. The researcher also proposed a Bachelor of Science in Entrepreneurship in Entrepreneurial Studies at Laguna University. The study was conducted to assess the level of business technology adaptation and manifestation of entrepreneurial mindset among Bachelor of Science in Entrepreneurship students.

Literature Review

Business Technology Adaptation

UNCTAD (2015), explained that Information and Communication Technologies (ICTs) were quickly expanding because of progressing mechanical headways and advancement, opening up previously unheard-of business open doors for young people. Remarkably, for understudies to completely profit from these developments, they should approach open and adequate innovation in schools (programming and equipment, protected and reasonable web), just as preparation and offices. Besides, innovation and innovativeness would assist with diminishing separation, advance social mix, and open up new markets as the network was made simpler. Nonetheless, a developing advanced hole could be followed back to youthful business visionaries' limited admittance to ICTs. Specifically, Radoll and Hunter (2017), pointed out that in regard to the powerlessness to reinvest despite deterioration, specialized or social change, or only enhancements in individuals' preferences for various kinds of innovation both had an impact on the components that add to the absence of innovation or admittance to innovation. Truth be told, ICT was at the core of a great deal of business



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development, and not gaining admittance to it has direct financial and social outcomes.

Likewise, one more usually involved word in the writing was 'diffusion,' which was explained by Radoll et al. (2017), as 'the instrument through which an advancement was sent among members of a social construction over the long run through specific organizations'. Besides, he connected with the dispersion of advancements reasoning in a more efficient sense, the ICT dissemination writing, just as the writing on data frameworks by and large, would in general focus on the innovation acknowledgment process. This was fitting given that they were attempting to dissect and explain the innovation acknowledgment that was new by definition.

Then again, Gonzales (2018), expressed that after advancements were carried out, they need to proceed with interest to stay valuable; this term was known as innovation upkeep. "As the impeded increase introduces in-home and free to the framework, the computerized hole would keep on zeroing in on differences in the ability to support that entrance," as indicated by innovation upkeep. Consequently, it was fair that an adequate number of that understudies had that entrance and the framework was accessible for them to prepare their ICT abilities.

Indeed, as mentioned by Lechman (2018), ICTs, for example, Internet networks, would disseminate data straightforwardly and rapidly in an environment remembering their certain positive effect on the development of information in the board frameworks. Subsequently, the understudies would have a huge chance to upgrade and foster their ICT abilities.

As indicated by KVA (2018), specifically, data and correspondence advances (ICTs) had taken significant steps on the planet economy and public wellbeing as of late. Paul M. Romer and William D. Nordhaus fostered a theoretical design for long haul innovation and environment related enhancements.

Understanding the viewpoint of long-haul financial flourishing and human prosperity might be basic for the present everyday environments and turning into a predominant driver of government assistance esteemed by people in the future.

According to Urbancikova, Manakova, and Ganna (2017), digital literacy was an important component of general education and one of the driving reasons behind the digital age's expansion. Developed countries had introduced digital literacy into general education to encourage excellent education, allowing the great majority of their citizens to engage in the digital economy.

Furthermore, building a sense of responsibility and digital literacy among young people was crucial in the Fourth Industrial Revolution. According to Spante, Hashemi, Lundin, and Algers (2018), in 2008, UNESCO published the strategy document ICT competence standard for educators, which focused on teacher education and computerized competency but did not define the words.

Similarly, Yan, Meng, Lu, and Li (2017), expressed that created nations had proposed various assembling-based invigorating measures to empower the union of ICT ventures and related arising innovation to animate financial turn of events and jump all over more chances for this technological transition.

Correspondingly, Ahmed, Chandran, Klobas, Linan, and Kokkalis (2020), emphasized that the three advantages of entrepreneurial education were learning, motivation, and incubation resources. Learning advantages referred to students' joy in learning how to direct pioneering tasks and gaining the confidence to do so.

Alternately, Máté, Erdei, Zeynvand, Popp, and Oláh (2020), asserted that throughout the most recent century, the development and execution of ICTs had expanded significantly. The dispersion was essential because of the expanded power of unfamiliar trade and direct speculation, which filled in as the two



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transporters of globalization and significant overflow networks for the scattering of novel advances. Therefore, expanded Internet networks in schools might hurry the spread of groundbreaking thoughts and data, and the accessible information might uplift intensity among market providers and drive financial turn of events. Besides, approaching innovation and spreading it advanced the presentation of arising advancements and invigorates the financial turn of events.

Specifically, Yushau and Nannim (2020), explained that not just that the understudies had profited from this, but ICT was additionally utilized in many fields of training to work on the consistency of educating and learning. Establishments of higher learning in the twenty-first century use data and correspondence innovation (ICT) to run their regular exercises, and that involves ICT for instructing and learning the presentation of various ICT administrations has brought about critical upgrades in the instructive climate all over the planet. Because of this development, a lot of cash has been put into various sorts of ICT offices for instruction and consideration.

Additionally, Yushau et al. (2020), also asserted that the presence of these offices in advanced education had been displayed to further develop instructing and learning, permit self-guided learning, and wipe out reality obstructions to learning. As per their investigations, incorporating ICT into instruction gives different sorts of Multimedia stages that incorporate a scope of strategies and abilities. The utilization of ICT in the homeroom has additionally been demonstrated to be advantageous in the space of giving self-learning guidance, basic evaluation of understudy achievement, and enablement of excellent relational abilities.

Lastly, as indicated by the investigation of Werber (2015), in various associations around the world, business ventures and their relationship to innovation and advancement were firmly considered. In associations where ties to firm

achievement had been created, studies had suggested joining entrepreneurship and technology.

Entrepreneurial Mindset

Jorio et al. (2018), expressed that building an outlook was one of the main parts of a business venture. For instance, certain individuals accepted that they were or had the intrinsic soul of a business venture; yet, when they were confronted with genuine difficulties, they found that they had the determination to confront or even adapt to the dangers of potential weaknesses that undermine their business. For example, a business person should have the option to feel his cravings and adjust them to the climate; he was a visionary, however, a commonsense visionary who could see every one of the issues early and connect with what he has inside his grip; an effective business person should have those attributes that recognize him from others.

Altogether, Gold et al. (2018), said in their review that the issues of testing pioneering mentality and other non-mental capacities were additionally being handled by scientists. Since these capacities don't mirror an immediate progress of data, they were hard to assess. Dissimilar to regular learning fields like math or perusing, evaluating pioneering attitude involves a comprehension of what an educational program meant for an understudy's "examples of reasoning, feelings, and activities," rather than just data instructed in class. Imaginative assessment advancements were applied.

Guevarra and Noreña-Chavez (2020), then again, explained that Bandura's social cognitive theory, which explained human conduct as a mind-boggling communication of individual, conduct, and ecological factors, was upheld by this exploration. Following that, he found that self-efficacy influenced human activity through an assortment of systems. In any case, it affected the undertakings that individuals sought after when individuals were bound to get done with jobs that they believed they could



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effectively finish. Second, it affected how much responsibility an individual could place on a test just as their persistence. At last, self-efficacy drives individuals' effective perspectives to move toward assignments, which decide how well the errand was performed.

Furthermore, Wang, Tseng, Wang, and Chu (2020), identified 16 aspects of digital enterprising self-viability in the three sectors of initiative, innovation usage, and Internet advertising and web-based company. Wang et al. (2020), discovered that the specialized aspect (i.e. innovation adoption) was only relevant to Internet enterprising self-efficacy, not self-efficacy in a disconnected business situation.

Specifically, the emphasis on self-efficacy in business research comes from Bandura's social cognitive trials, which explored how individuals judged their own "ability and ability to beat ominous conditions and difficulties, just as the assumption that potential endeavors would be great." These convictions impact "what obstructions to take on, how much work to place into the undertaking, and how long to endure despite difficulty."

Additionally, as referred to by Guevarra et al. (2020), as per crafted by Bandura, the social mental standard of self-efficacy, individuals were bound to perform and achieve their objectives on the off chance that they believe they could accomplish them by their conduct. This was on the grounds that self-efficacy affects motivation, exertion, and tirelessness despite affliction, social wellbeing, and feelings of anxiety. They additionally added that undeniable degrees of self-adequacy support an individual's inspiration, making them truly do well in their quest for accomplishment.

Furthermore, according to Pepple and Enough (2020), company visionaries must possess essential competence, comprising attitudinal, scholastic, social, and board abilities, to be change-makers in the economy and to have the choice to develop business esteem in the current market. Furthermore, according to the OECD (2018) report,

one of the goals of developing innovative capabilities was to reduce the fear of disappointment through a combination of strategies aimed at bringing issues to light and providing data and skills that empower people to show strength and perseverance even in the face of adversity.

Moreover, Schumpeter (1943, as cited in Lydiah, Bitange, and Kennedy, 2020), emphasized the importance of progress in the pioneering system. Furthermore, Schumpeter regarded mechanical progress and transformation as a distinguishing tool for businesspeople, illustrating how they employ it to bridle change as an opportunity for a variety of organizations or administrations. The importance of business visionaries was emphasized, as was the need for them to seek sources of innovation, changes, signs of potential for successful development, and a desire to learn and apply new ideas effectively.

All in all, ESE was an illustration of occupation-explicit self-viability. ESE was portrayed as an individual's trust in their capacities to perform undertakings and jobs that were intended for accomplishing business destinations. They additionally referred to that ESE has been displayed to help business visionaries in becoming strong and quickly recuperating from dissatisfaction, setting aggressive targets, and showing assurance, the two of which lead to further developed market achievement and long-haul tasks progress. The Philippines' Commission for Higher Education (CHED) has ordered that colleges and institutions expand their instructional and municipal administrations to the general public. State colleges and universities had a civic responsibility to educate citizens and enhance lives through counseling, meetings, speeches, and expert advice (Dugyon, 2016).

Along these lines, how individuals view themselves and their general surroundings, impacts their capacity to dream and accomplish. In an investigation of NFTE (2018) in the present advancement economy, where necessities and potentially open doors were developing quicker and



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more smoothly than any time in recent memory, the young required an outlook that prepared them to perceive an open door, step up to the plate, and improve despite difficulties.

Synthesis

The series of studies and literature written in this paper discusses the concepts and narrative detail of relevant and related information of the study. The information gathered are vital in determining the level of business technology adaptation and the level of manifestation of entrepreneurial mindset among Bachelor of Science in Entrepreneurship students of Laguna University.

The research and works of different writers and authors like UNCTAD (2015), Radoll et al. (2017) showed the importance of ICT skills training among the young generations and its gap must be filled with its diffusion. Similar to this the work of Gonzales (2018), Lechman (2018), KVA (2018), Yan et al. (2017), Máté et al. (2020) explained that social and economic results and impacts of ICT which served as both carriers of globalization and important spillover networks for the dissemination of novel technologies. Moreover, Yushau and Nannim (2020), Urbancikova et al. (2017), Spante et al. (2018), Ahmed et al. (2020), and Werber (2015) pointed out that teaching and integrating ICT in the learning process were both beneficial for the institution and the students, they also added that facilities should be present to fully utilize the integration of entrepreneurship and innovation.

On the other hand, the study of Jorio et al. (2018) and Gold et al. (2018) focused more on the importance of entrepreneurial mindset. Furthermore, Noreña-Chavez, and Guevarra (2020), Wang et al. (2020), Peple and Enough (2020), OECD (2018), Lydiah et al. (2020), Dugyon (2016), and Guevarra et al. (2020), emphasized that work of Bandura regarding the entrepreneurial self-efficacy which attained an impact on the tasks that people pursue and on how much commitment an individual was able to put into a challenge as well as their

perseverance, and prompted people's efficient attitudes to approach tasks. They also added that self-efficacy affected inspiration, effort, and perseverance in the face of adversity, social health, and stress levels. NFTE (2018) concluded that youth needs a mindset that equipped them to recognize opportunity, take initiative, and innovate in the face of challenges.

Taking into account the investigations present, variation to innovation, for example, ICT dissemination had an effect advantageous for the understudies to foster their ICT abilities. While training businesses to have their attitude adjusted, devices and stages were essential to adapt for difficulties as well as to help them develop and be carefully ready. It was on this thought that this study was led to survey the areas of ICT abilities preparation and where the enterprising mentality of the understudies was coordinated to.

Gaps Bridged by the Study

Some of the gaps identified in this study were: the facilitation of strong partnerships and collaboration to both public and private institutions by utilizing the available structures and platforms to foster ICT and Innovation; establishing entrepreneurship centers and business incubators; and sustaining a technology-centric venture, which could help navigate students from a traditional enterprising ecosystem to a technology aligned avenue for entrepreneurship. Furthermore, by partnering with and collaborating with other institutions and organizations, Laguna University and the BS in Entrepreneurship program itself could create an opportunity to establish entrepreneurial centers and incubators in which students could have a better experiential learning, collaborative learning, and long-term experience for both the students and their mentors. To bridge this gap and address the demand for more equipped entrepreneurs, this study formulated and proposed a program centered on the use of technology, developing an entrepreneurial mindset through inspiration, engagement, exploitation, and sustainment. Eventually, this



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approach might assist students in developing more feasible startup concepts and becoming resilient entrepreneurs. Similarly, as mentioned in the study's theoretical framework Diffusion of Innovation by Everret M. Rogers, NFTE'S Theory of Change by NFTE, and Theory of planned behavior (TPB) by Icek Ajzen, elements such as adaptability to technology, trends and innovation, experiential learning, and strong entrepreneurial education were all prerequisites to producing entrepreneurs who were immensely trained and equipped, driven, and had a solid entrepreneurial mindset.

Research Philosophy, Framework, Design, and Methodology

The study was anchored on the following theories: Diffusion of Innovation by Everret M. Rogers, NFTE'S Theory of Change, and Theory of planned behavior (TPB) by Icek Ajzen.

As referred to by Yushau and Nannim (2020), the diffusion of innovation theory portrayed how present-day innovative and different progressions advance across populaces, and the diffusion of innovation theory of advancements hypothesis endeavors to see how and why innovations and techniques are executed after some time, with times hypothetically crossing many years. It portrayed the section of thought through times of acknowledgment by different actors through incorporating earlier humanistic theories of conduct change.

Moreover, as indicated by Gold et al. (2018), NFTE's Theory of Change gained proficiency with the essentials of business startup and business through homeroom guidance, with a solid spotlight on experiential exercises. This incorporated games, short ventures, and examples that gave understudies active encounters and showed them ideas like perceiving an amazing business opportunity, producing a benefit, and advertising.

The understudies likewise gained genuine experience by working intimately with volunteers and coaches who were regularly business pioneers

from the local area. These corporations assisted the understudies with taking the theoretical ideas they were learning in the homeroom and perceiving how they work in reality. These program exercises were relied upon to assist understudies with fostering their pioneering attitude and start thinking like a business person. This became more grounded close to the furthest limit of the program as they completed their strategy and presented it to their group and, for some understudies, to outside juries at local and public strategy rivalries, when understudies fostered the enterprising outlook, it prompted different changes in perspectives and conduct, including advancing a surer demeanor toward business startup and business venture (NFTE, 2018). Their past examinations likewise showed the association between business schooling and expectations to begin a business, and changes in understudies' perspectives and practices are relied upon to help their capacity to begin a business or in any case exhibit vocation achievement.

As per Jorio, Kasmi, and Machrafi (2018), business was firmly connected to how individuals went about as people, a self-assessment appraisal, mentality checking, and onlooker positioning were given. Building up a mindset was a significant part of showing this discipline; this was impossible without first dissecting the future organization maker's character, convictions, practices, and interactive abilities. Since it offered the most insight into the origination system of pioneering reason at both an individual and social level, the Theory of Planned Behavior (TPB) was the most appropriate hypothetical establishment for a business' mentality-building process.

Moreover, since entrepreneurship was an arranged conduct, they added that another endeavor seldom began without earlier planning, and hence pioneering is the most grounded marker. An efficient audit will be fabricated in view of the TPB and the elaboration of business instruction into different parts. Business flourishes when society has a sufficient stockpile of individuals with the imperative mental qualities, for example, a longing



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for high achievement, a desire, a danger-taking attitude, a dream, and the ability to defeat deterrents.

As per Ajzen (2002) as referred to by Bhat and Singh (2018), TPB conduct considered both the social and human qualities of business people. This proposed that convictions, qualities, and social settings affected a conduct's motivation.

Figure 1

Research Paradigm

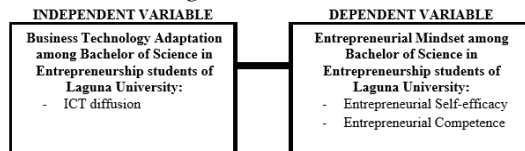


Figure 1 shows the major concept of the study. The main focus of the study shows that business technology adaptation has a significant relationship to the entrepreneurial mindset of students of Bachelor of Science in Entrepreneurship of Laguna University and to propose an entrepreneurial education program that is based on technology that may be useful for honing digital literacy of the students. Meanwhile, the line depicts the relationship between business technology adaptation in terms of ICT Diffusion and entrepreneurial mindset in terms of Entrepreneurial Self- Efficacy and Entrepreneurial Competence among the Bachelor of Science in Entrepreneurship students of Laguna University.

Methodology

This study aimed to determine the level of business technology adaptation and the manifestation of entrepreneurial mindset among the Bachelor of Science in Entrepreneurship students of Laguna University. The study utilized the descriptive-correlational research design, it describes the variables and the relationships that occur naturally between them.

There are six hundred and 622 students enrolled in the program Bachelor of Science in Entrepreneurship. Using the Raosoft Sample Size Calculator, 240 respondents were drawn out from this population. The sample was computed using a 5% margin of error and 95% confidence level.

The researcher used a survey to assess the level of business technology adaptation in terms of ICT diffusion. A numerical score was associated with each response according to the following: (3.25-4.00) Strongly Agree which was verbally interpreted as Highly Adapted; (2.50-3.24) Agree, verbally interpreted as Adapted; (1.75-2.49) Disagree, verbally interpreted as Slightly Adapted; and (1.00-1.74) Strongly Disagree, verbally interpreted as Not Adapted. And to assess the level of entrepreneurial mindset in terms of Self-Efficacy and Entrepreneurial Competence. A numerical score was associated with each response according to the following: (3.25-4.00) Highly Manifested; (2.50-3.24) Manifested; (1.75-2.49) Slightly Manifested; (1.00-1.74) Not Manifested. Both of students' business technology adaptation and entrepreneurial mindset were assessed using the 4-Point Likert Scale.

For the statistical treatment of data in this study, the process involved categorizing the collected data into groups and sub-groups, which were guided by the rules to meet specific research problems and objectives within the conceptual framework. To know the level of business technology adaptation and level of manifestation of entrepreneurial mindset among Bachelor of Science in Entrepreneurship Students of Laguna University, and the percentage, the four-point Likert Scale and the weighted mean were used. Pearson Product Moment Correlation or Pearson R was utilized to determine the relationships between the levels of adaptation and entrepreneurial mindset.

Data Results and Analysis

Table 1



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Level of Business Technology Adaptation on Bachelor of Science in Entrepreneurship Students Laguna University in terms of ICT Diffusion

Indicators in terms of ICT diffusion	X	VI
1. The institution is promoting a training for ICT skills such as appropriate use of ICTs, which embeds knowledge and skills related to entrepreneurship for BS Entrepreneurship students to enhance their entrepreneurial skills.	3.18	A
2. The institution's computer laboratory primarily contributes to the development of my ICT skills especially in learning critical concepts and ideas.	3.16	A
3. The institution use computer as one of the instructional tools and has available ICT technologies and programs for BS Entrepreneurship students.	3.14	A
4. The institution is adapting to the diffusion of ICT to enhance entrepreneurial skills such as access to Internet which is sufficient to ensure access to a wealth of online resources and software	3.15	A
5. The institution is fostering a youth-led businesses' skills development and market access through ICT business linkages	3.17	A
6. The institution is supporting a youth-led business through mentorship of ICT business firms.	3.08	A
7. The institution is facilitating start-ups commercialize innovation	3.14	A
8. The school promotes mixed public/private structures to diffuse ICT and innovation	3.04	A
9. ICT integration can lead the students to picture out the real world of entrepreneurship	3.18	A
10. Competence in using ICT and digital literacy are being recognized as skill that students need to acquire if they are to flourish in the digital age.	3.20	A
GENERAL ASSESSMENT	3.14	A

Legend: 3.25 – 4.00 Highly Adapted (HA) 1.75 – 2.49 Slightly Adapted (SA)
2.50 – 3.24 Adapted (A) 1.00 – 1.74 Not Adapted (NA)

Table 1 shows the level of business technology adaptation for Bachelor of Science in Entrepreneurship Students at Laguna University in terms of ICT diffusion. It had a general assessment of 3.14 which was verbally interpreted as Adapted. The indicator "Competence in using ICT and digital literacy are being recognized as skills that students need to acquire if they are to flourish in the digital age" attained the highest computed mean of 3.20.

Students in the Entrepreneurship program at the Laguna University have acknowledged the importance of ICT and digital literacy as one of their abilities for thriving in the digital world. To prosper in the twenty-first century, students may benefit from learning skills, knowledge, media literacy, and life skills. It also denotes that the institution plays a critical role in developing digital literacy competency and skills training.

The indicator indicating "The school encourages mixed public/private frameworks to diffuse ICT and innovation" received the lowest rating from respondents. It clearly shows that there is a vacuum in terms of establishing links between public and private entities in order to transmit ICT, innovation and entrepreneurship.

Generally, students in the BS in Entrepreneurship program were engaged and making use of available resources in terms of digital preparation in the field of ICT and innovation. However, there are areas and opportunities for development, notably in the use of

more modern and innovative structures to provide adequate services to students.

A study conducted by Urbancikova, Manakova, & Ganna, (2017), suggested that digital literacy is a vital pillar of general education. Developed countries have incorporated digital literacy into general education, allowing the vast majority of their inhabitants to participate in the digital economy.

Furthermore, in the Fourth Industrial Revolution, cultivating a feeling of responsibility and digital literacy among young people is critical. Computerized capability for all understudies in the instructive framework, equivalent access, and use, and exploration and appraisal of digitalization possibilities are three especially significant regions. Experts should be able to choose and apply appropriate computerized assets/structures in the homeroom.

Table 2.1

Level of Manifestation of Entrepreneurial Mindset among Bachelor of Science in Entrepreneurship Students of Laguna University in terms of Entrepreneurial Self-Efficacy

Indicators in terms of Entrepreneurial Self-Efficacy	X	VI
1. Pursue activities that are outside of my comfort zone.	3.03	M
2. Easy to balance different ideas within a team, and to solve problems within a team in an easy way	2.98	M
3. When presented with an opportunity and believe that is good, I take it.	3.25	HM
4. Apply new ideas and new ways of doing, including a fresh approach to problem-solving	3.16	M
5. Know a product concept based on a technology and have a rough idea of its practical	2.95	M
6. Understand the language of new venture creation and what it takes to start my own business	3.05	M
7. Ability to bounce back quickly from disappointment, and to remain persistent in the face of setbacks	2.99	M
8. Willingness take risks and learn from mistakes to make improvements for at least once, take chance and see an opportunity to start own company	3.23	M
9. Technical know-how to generate multiple and novel ideas, and to find multiple approaches for achieving goals revolutionary to the field of entrepreneurship	3.05	M
10. End goal of becoming an entrepreneur	3.28	HM
GENERAL ASSESSMENT	3.10	M

Legend: 3.25 – 4.00 Highly Manifested (HM) 1.75 – 2.49 Slightly Manifested (SM)
2.50 – 3.24 Manifested (M) 1.00 – 1.74 Not Manifested (NM)

Table 2.1 shows the level of manifestation of entrepreneurial mindset among Bachelor of Science in Entrepreneurship Students of Laguna University in terms of Entrepreneurial Self-Efficacy. It attained a general assessment of 3.10 which was verbally interpreted as Manifested. The indicator "I know a product concept based on a technology and have a rough idea of its practicality" obtained the lowest computed mean of 2.95.



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The findings suggest that Laguna University students enrolled in the Bachelor of Science in Entrepreneurship program have a clear mentality and believe that they can be entrepreneurs. The indicator stating "I know a product concept based on a technology and have a rough idea of its practicality" received the lowest rating from respondents. This indicates a lack of technological proficiency and few links between youth-led businesses and growth-oriented entrepreneurs and investors.

In general, the findings demonstrate that students have entrepreneurial self-efficacy. It also implies that students are self-assured enough to be entrepreneurs and capable of dealing with any scenario. Nonetheless, there are possibilities for them to improve their technical knowledge and apply their expertise and talents in the field of entrepreneurship.

Corresponding to this, three advantages of entrepreneurial education are learning, motivation, and incubation resources as per Ahmed, Chandran, Klobas, Liñan, and Kokkalis (2020). Learning benefits allude to understudies' delight in figuring out how to direct pioneering exercises and acquiring the certainty to do so. Understudies have the chance to speak with educators and colleagues, just as partake in business challenges and entry-level positions.

Moreover, a study by Wang, Tseng, Wang, and Chu (2020) tracked down 16 parts of digital enterprising self-viability. Wang et al. found that the specialized element (i.e., innovation adaptation) was exclusively pertinent to Internet enterprising self-efficacy.

Table 2.2
Level of Manifestation of Entrepreneurial Mindset among Bachelor of Science in Entrepreneurship Students of Laguna University in terms of Entrepreneurial Competence

Indicators in terms of Entrepreneurial Competence	\bar{X}	VI
1. Active in finding openings in the environment which can be used in different ways to start a business, and to create a new market. Identify opportunities on the basis of the existence of an unfulfilled market need.	3.09	M
2. Doing something continuously even though other people say that it will not succeed or it is just a waste of time and effort	3.28	HM
3. Confidence on project assigned and carry it out successfully with a higher level of time and attention.	3.14	M
4. Take logical and systematic approach to activities leading me to carefully calculate all the chances before doing something which may have unpleasant or dangerous results	3.15	M
5. Always seek quality standards and do not allow bad performance from the people I am working with. Ability to work well without errors or without wasting time, money, and energy	3.13	M
6. Competitive in a positive way and loves the idea of winning through hard work and perseverance	3.21	M
7. Gather information from relevant sources which is critical to formulation of different business strategies	3.09	M
8. Know how to plan by breaking large tasks down into time-constrained tasks. This plan can be revise on light of feedback on performance or changing circumstances	3.01	M
9. Know how to use deliberate strategies to influence and persuade others	3.02	M
10. Express own skills and know how to embrace own imperfections	3.26	HM
GENERAL ASSESSMENT	3.14	M

Legend: 3.25 – 4.00 Highly Manifested (HM) 1.75 – 2.49 Slightly Manifested (SM)
2.50 – 3.24 Manifested (M) 1.00 – 1.74 Not Manifested (NM)

Laguna University students' entrepreneurial mindset has manifested in terms of Entrepreneurial Competence. Table 2.2 shows the level of manifestation of entrepreneurial mindset among Bachelor of Science in Entrepreneurship Students. It acquired a general assessment of 3.14 which was verbally interpreted as Manifested. The indicator "I like doing something continuously even though other people say that I will not succeed or I am just wasting my time and effort" had the highest computed mean of 3.28.

The indicator with the lowest computed mean indicates that, despite all the limits and possible modifications, there may be methods to improve and do it better in the field of planning. The findings imply that students pursuing a Bachelor of Science in Entrepreneurship are extremely motivated in their pursuit of becoming a great entrepreneur someday. Overall, the results suggest that the students' level of entrepreneurial competence is good, but that there is room for improvement.

Moreover, as indicated by Pepple and Enough, (2020), business visionaries need to have the fundamental competence, including attitudinal, scholarly, social, and the board abilities, to be able to create esteem in the present market. Accordingly, the OECD (2018) one of the objectives of building up innovative capabilities was to reduce the apprehension about disappointment through a blend of strategies pointed toward bringing issues to light.

Table 3



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Test of Significant Relationship between the Level of Business Technology Adaptation and Level of Manifestation of Entrepreneurial Mindset among Bachelor of Science in Entrepreneurship Students in Laguna University

Business Technology Adaptation	Entrepreneurial mindset	r value	P value	Remarks	Decision
ICT diffusion	Entrepreneurial Self-Efficacy	.497**	.000	Significant	Reject H ₀
	Entrepreneurial Competence	.473**	.000	Significant	Reject H ₀

**Correlational at the level 0.01 *Correlational at the level 0.05(Two-tailed)

The null hypothesis was rejected, and the result showed that there was a significant relationship between the dependent and independent variables. As shown in Table 3, the r values of all the variables were interpreted as with a moderate positive correlation to correlate the level of business technology adaptation and level of manifestation of the entrepreneurial mindset.

It further means level of business technology adaptation in terms of ICT Diffusion had a significant relationship with the level of manifestation of entrepreneurial mindset among Bachelor of Science in Entrepreneurship students at Laguna University and vice versa.

Schumpeter (1943, as cited in Lydiah, Bitange, & Kennedy, 2020) accentuated the significance of advancement in the pioneering system. Business people could work without innovation, consequently, it was an unavoidable asset that gave them an upper hand on the lookout. The significance of business visionaries was stressed, just like the requirement for them to look for wellsprings of advancement, changes and indications of potential for fruitful development.

In the Philippines, colleges and universities had a social obligation to teach individuals and improve society by spreading data and innovation through guidance, meetings, talks, and expert counsel. The Commission on Higher Education (CHED) in the Philippines had commanded that colleges and schools grow their instructive and municipal administrations to the general population (Dugyon, 2016).

Discussion, Conclusions, Recommendations

The business technology adaptation among Laguna University's BS in Entrepreneurship students indicates that their ICT abilities are geared toward the digitalization demands and that they have adapted to business technology. Since the combination of both private and public ICT structures needs some improvement, the institution may encourage collaboration between the public and private sectors, which can assist in the dissemination of technology and innovation.

Moreover, students' knowledge of a product concept based on technology and their planning skills indicate that there is potential for development and enhancement of practical and technical application of their knowledge and skills, specifically on technology-based product concept and planning. In other words, the students' entrepreneurial mindset has manifested in terms of entrepreneurial self-efficacy and competence. Also, there is a significant relationship between business technology adaptation and entrepreneurial mindset among Bachelor of Science in Entrepreneurship students at Laguna University; the higher the level of business technology adaptation, the higher the manifestation of the students' entrepreneurial mindset.

Finally, a detailed Technology-Based Entrepreneurial Education Learning Program with four phases is proposed to aid the program and to produce a sustainable entrepreneurial ecosystem within and outside Laguna University. These could create a great impact and results among the students, helping them to be more digitally equipped and technically prepared once they begin their journey running their own business venture.

A coordinated effort to any suitable ICT structures may be done to bring business venture mindfulness up in the overall population. The general information and commonality needed to start and deal with an innovation-based enterprising action since assembling solid coordinated efforts can



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support the dispersion of innovation and advancement.

The program may also streamline innovative preparation and training using experience-based and learning-by-accomplishing for the students and instructors. When this is set up, they may want to have a more economical enterprising worth by offering understudies with devices, strategies, and related assets.

The study may assess the current connection between business technology adaptation and entrepreneurial mindset among Laguna University Bachelor of Science in Entrepreneurship understudies. They may fathom, yet additionally make the fundamental associations through the public sector, which assumes a crucial part in cultivating exploration and innovation. The private sector is essential in commercializing examination and innovation and putting up advancements for sale to the public. Additionally, the four-phase technology-based entrepreneurial education learning program may be utilized by university administrators, faculty members, students, and other stakeholders to help them to more efficient and sustainable strategies and programs for developing more resilient entrepreneurs. Other factors, such as cultural and economic factors, which may influence students' entrepreneurial mindset, should also be considered.

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Determining the Factors that Affect the Self-Perceived Employability of Graduating BS Accountancy Students of Quezon City University (QCU)

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Abstract

Purpose – This study aims to test the employability perceptions of the 1st batch of BS Accountancy students at Quezon City University. It also validates if the factors identified in previous studies which include 1) Generic Skills, 2) Academic Performance, 3) Work Experience/Internship, 4) Personal



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Circumstance, 5) Labor Market, 6) Contribution of University, 7) Contribution of Faculty, significantly and positively affects the students' self-perceived employability.

Design/methodology/approach – Descriptive and investigative-causal research was undertaken by fielding an online survey questionnaire adopted from the Self—Perceived Employability Scale (SPES) by Rothwell, et al, 2008 with additional questions to cover the other factors identified by other authors. From a population of 199, 159 students responded to the survey. Descriptive analysis was used to determine the employability perception of students, and factor analysis, principal component analysis, and regression were used to determine the relationship between self-per perceived employability and the 7 factors initially identified.

Findings –The result showed that accountancy students have high employability perception, and the 7 factors were significantly and positively related to the student's perceptions.

Research limitations/implications – The research covers only the graduating students from the BSA program. It does not include the perception of faculty, school management, and prospective employers. A tracer study for this batch is recommended to be made within two years after their graduation to check whether their employability perception indeed resulted in actual employment. **Practical and social implications** – The findings of this study will be shared with the management as input to their guidance and counseling program and also to the head of the Accountancy program for them to be aware of the student's employability perceptions and plans after graduation.

Originality/value – This paper follows through on earlier studies made on employability perception. The SPES developed by Rothwell. et al, which has been tested in other countries was also adopted, however, additional inputs were incorporated to validate other factors identified by other authors. This study also hopes to add to the body of knowledge on self-perceived employability in the Philippine setting.

Key Words: Employability, Perceived Employability, Education, Academic Performance, Labor Market, Generic Skills

Relevant SDGs: SDG 4 Quality Education, SDG 4 Decent Work and Economic Growth

Introduction

The COVID-19 pandemic brought disruption in the social and economic situation worldwide. Global Economic Prospects released by the World Bank shows that while there was a slight rebound in the economy in 2021, global growth is expected to decelerate markedly in 2022 and 2023. Among all

the other ill effects of the pandemic, the disruption to education is seen to leave a lasting scar – the losses to human capital which can spill over across generations (World Bank, 2022).

In the Philippines, Micro, Small, and Medium Enterprises (MSME) which account for 99.5% of all enterprises and employ 63.2% of the total labor force, considered the drivers of the economy,



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remained vulnerable to the shocks of the pandemic response (Shinozaki & Rao, 2021). The Philippines recorded its most severe unemployment rate reaching 17.7% in April 2020, equivalent to about 7.3 million unemployed individuals (ILO, 2020, p. 27).

The Labor Force Survey as of September 2021 by the Philippine Statistics Authority revealed that the economy slightly recovered in 2021. The National Economic Development Authority (NEDA), however, foresees that as an effect of the K-12 program whose first batch will be graduating in 2022, unemployment rate could increase up to 7% (CNN Phils., 2021)

The Quezon City University (QCU), a local university owned by the Quezon City Government, started offering Bachelor of Science in Accountancy (BSA) in 2018. QCU envisions to be the “No. 1 local university of employable graduates” and hopes that all graduates will become productive citizens and contribute to social and economic growth. However, given the very stiff competition in the job market as predicted by NEDA, it will be a great challenge not just for the management of QCU, but more particularly for the students.

Studies show that employability is not just a function of being able to do a job based on expertise gained in higher education. The determinants of employability according to Hogan, Chamorro-Premuzic, and Kaiser, include: 1) social/interpersonal compatibility which will make them rewarding to deal with, 2) their abilities, expertise, and know-how which will show that they are able to do the job, and 3) their ambition, work ethic and drive which will show that they are willing to work hard (Small et al., 2017). According to Álvarez-González et al., 2017, the social cognitive career theory (SCTT) suggests that self-perceived employability affects an individual’s career interest and behavior. It is in this context that this study on Perceived Employability (PE) is undertaken. In this study, we will try to examine how the BSA

graduating students perceive themselves as they face tough competition in the labor market.

Statement of the Research Problem

This research seeks to determine the readiness of the BSA graduating students to face the world of work. It aims to answer the research problem: “What factors affect the perceived employability of the 4th BS Accountancy students from Quezon City University?”

In particular, this study will answer this research question: “What is the extent of influence of 1) Generic Skills, 2) Academic Performance, 3) Work Experience/Internship, 4) Personal Circumstance, 5) Labor Market Situation, 6) Contribution of University, and 7) Contribution of Faculty on the perceived employability of 4th Year BS Accountancy students from Quezon City University?”

Objectives of the Study

The objectives of this study were as follows:

1. To determine the employability perceptions of the graduating BSA students.
2. To identify the factors that strongly affect the perceived employability of graduating BSA students.

Significance of the Study

This research was conducted at a time when the country is facing a very challenging economic situation and where unemployment and underemployment rates are very high. At these times, how higher education institutions (HEIs) can better prepare their graduates for the labor market becomes increasingly important. (Monteiro et al., 2020).



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This study is timely since it captures the first graduates of the BSA program. Properly tracking the progress of the students while in school and until they find employment is one of the ways to check the effectiveness of the program. This study hopes to provide input to the university management in further strengthening its career guidance program. In a study by PIDS, CHED and HEIs are encouraged to formulate improvements to a student's college life that will have desirable effects beyond employment through guidance counseling and other support services (Tutor et al., 2021).

This study also aims to contribute to the sustainable development goals of achieving quality education, and decent work and economic growth.

Scope and Limitation

This research captures only the student's employability perceptions and covers only the 4th year graduating students enrolled in QCU's BS Accountancy program for the 2nd semester of SY 2021-2022. Perceptions of the faculty, university management, and employers are not included.

Literature Review

The Concept of Employability and Self-Perceived Employability

The concept of employability dates back to the early 1900s which was reflected in the changing economy and a lot of public policies in the world (Ergün & Şeşen, 2021). Employability had been subject to a wealth of interpretations and measures across different disciplines (Vanherke, et al, 2014). The Confederation of British Industry (CBI) defined employability as "a set of attributes, skills, and knowledge that all labor market participants should possess to ensure they have the capability of being effective in the workplace – to the benefit of themselves, their employer and the wider economy" (Andrews & Russell, 2012). In the study of Lodi et al., (2020), the term employability was introduced as the probability of obtaining or keeping a job (De

Cuyper, et al, 2011; Fugate, et al, 2004); and the ability to obtain an initial job, to keep a job, and being able to manage one's transitions in the world of work (Hillage & Pollard, 1998).

Perceived employability (PE), as defined by Vanhercke et al., (2014) is the individual's perception of his or her possibilities of obtaining and maintaining employment. In this definition, five important aspects of PE are highlighted. First, it is a subjective evaluation and thus fits the psychological notion of employability. Second, it concerns "possibilities" of employment (Berntson and Marklund, 2007) and implies the integration of personal factors, structural factors, and their interactions. Third, it is referred to as "obtaining and maintaining" employment that attests to the idea that perceived employability is relevant for different groups in the labor market and throughout their career. Fourth, it refers to "employment" possibilities, be they with the current employer or with another employer. Fifth, the general term "employment" also concerns a focus upon both quantity and quality of the type of jobs available.

In developing an integrated model for perceived employability, Álvarez-González et al., (2017) draw on the Social Cognitive Career Theory (Lent *et al.*, 2000) which suggests that perceived employability influences career-related interests and choice behavior and becomes a strong predictor of the ability to find employment.

Factors Affecting Self-Perceived Employability

Rothwell et al., (2008) constructed a self-perceived employability matrix built on four components that aim to capture the overall measure of employability. The components are: (a) "my university," which deals with the reputation and brand image of the university; (b) "my field of study," which deals with the demand for individuals with degrees in particular participants; (c) "the state of the external labour market," which deals with awareness about the opportunities provided in the market, perceptions of the students about the external labor



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market, and the demand from the external labor market; and (d) “self-belief,” a component relating to internal factors, including vocational knowledge and skills, mastery of job search, and potential to learn (Karli, 2016).

According to Jackson & Wilton, (2017) perceptions of employability among undergraduates are influenced by individual factors such as career management competencies, work experience and background characteristics. They identified four dimensions of career management competencies as 1) development of decision-making skills, 2) opportunity awareness, 3) transition learning, and 4) self-awareness. Work experience includes the dimensions of Work-Integrated Learning (WIL) interventions such as internships and placements that enhance perceived employability (Rothwell, Jewell, & Hardie, 2009), and employment status.

The perceived employability model developed by Álvarez-González et al., (2017) considered a set of factors that were classified as personal and contextual. Personal factors include generic skills, academic performance, personal circumstances, and contacts, and contextual factors include the labour market, university faculty, and teaching staff (or an organizational nature).

Monteiro et al., (2020) adopted the four dimensions of self-perceived employability developed by Rothwell, et al (2008) - My University, My Study Field, External Labour Market, Self-Belief. The findings of the study showed that participants’ competencies as a result of their university experience are positively related to their perceived employability.

The study by Ergün & Şeşen, (2021) revealed that contextual factors (which include labor market situation, contribution of university, and contribution of faculty) have a greater effect than personal factors (which include generic skills, academic performance, work experience, and students’ circumstances). The study also showed that students’ work experiences and the

contribution of the university and academic consultants did not have any significant impact on the undergraduates’ perception of employability.

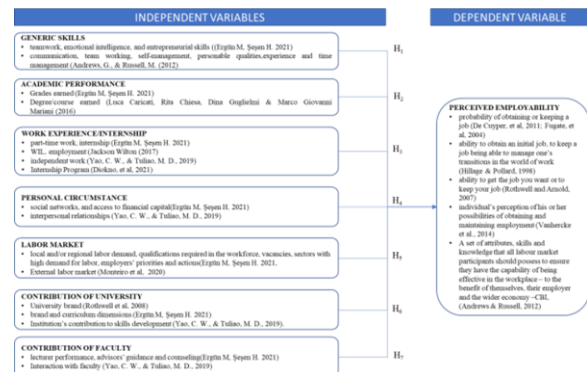
In analyzing the employability perceptions of students and graduates of sports departments in Turkey, Karli (2016) used the factors - gender, level of education, ability to communicate in a foreign language, and work experience. The analysis of demographic variables revealed significant differences in participants’ employability perceptions. Level of education emerged as the significant variable. Work experience also showed a significant positive effect on participants’ employability perceptions.

Research Philosophy, Framework, Design, and Methodology

The review of related literature presents various concepts and PE definitions. This study adopts the definition of Berntson and Marklund (2007) which states that perceived employability is the individual’s perception of his or her possibilities of obtaining and maintaining employment as adopted also by Vanhercke et al., (2014).

Various authors and researchers presented different factors affecting perceived employability. Figure 1 summarizes these theories and constructs organized into a framework that this study will adopt.

Figure 1
Theoretical Framework





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As applied to my study, this theory holds that I would expect my independent variables: 1) Generic Skills, 2) Academic Performance, 3) Work Experience/Internship, 4) Personal Circumstance, 5) Labor Market, 6) Contribution of University, 7) Contribution of Faculty, to influence the dependent variable (PE), because of the significant findings in the past studies which indicate that most of these factors have highly impacted the employability perceptions.

Operational Definition of Terms

The following definition of terms is presented to properly contextualize the terminologies used in the study.

- a. Academic performance - the self-perceived satisfaction of the students that are developed through the results and grades earned during the course of their education (Dacre et al., 2014).
- b. Contribution of faculty - the student's perception of the lecturer's performance and advisors' guidance and counseling, both academically and in relation to the labor market. (Tsui et al., 1997).
- c. Contribution of university – includes institutional brand perception by students, academics, parents, and the business world on the university's educational programs.
- d. Generic skills – skills that do not require technical knowledge and ability but are necessary and transferable for each job (Van der Heijde & Van der Heijden, 2006). Various authors refer to different specific skills mix under this such that there is no consensus in the literature about what constitutes generic skills (Tymon, 2013). This study will include teamwork, effective communication, self-confidence, time management, and analytical skills.
- e. Labor market situation – pertains to structure, conditions, and characteristics of the labor market (Hillage & Pollard, 1998),

and individuals' knowledge of this market (Wittekind et al., 2010).

- f. Personal circumstances – variables related to social and family conditions. It includes the geographical mobility conditions of the students, flexible working hours, social networks, and access to financial capital. Personal goals and ambitions are also included in this category.
- g. Work experience – these are work experiences prior to graduation that can be gained via informal methods, such as part-time work, or within a specific curriculum framework, such as internships (Finch et al., 2013).

Hypothesis/Proposition of the Study

As presented in the operational framework, this study seeks to investigate the relationships of each of the independent variables to the dependent variables. The hypotheses are as follows:

- H1 - There is a significant and positive relationship between the students' generic skills and perceived employability.
- H2 - There is a significant and positive relationship between the students' academic performance and perceived employability.
- H3 - There is a significant and positive relationship between the students' work performance/internship and perceived employability.
- H4 - There is a significant and positive relationship between the students' personal circumstances and perceived employability.
- H5 - There is a significant and positive relationship between the labor market situation and perceived employability.
- H6 - There is a significant and positive relationship between the university's contribution and perceived employability.
- H7 - There is a significant and positive relationship between the faculty members' contribution and perceived employability.



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Assumptions of the Study

For this study, the following assumptions are made:

1. Respondents understand the current social and economic situation and the Covid-19 post-pandemic effect and conditions
2. Students are aware of the regulations of the Accountancy Profession

Methodology

This study targeted only students from Quezon City University mainly located at Novaliches, Quezon City, enrolled in the BS Accountancy Program for School Year 2021-2022. This quantitative research made use of primary data from the target population. Descriptive research and explanatory-causal research designs were used for this study.

This study used a stratified random sampling method. From the total population of the university, only the BSA program and covering only the 4th year graduating students was chosen as the target population. From the total 4th-year student population of 199 enrolled for the 2nd semester, 159 responses were received which is over the required sample size of 103 as computed using A-priori Sample Size Calculator for Multiple Regression.

I adopted primarily the Self-Perceived Employability Scale (SPES) originally developed by Rothwell, Herbert, and Rothwell in 2008. The same scale was adapted in Portugal (Monteiro et al., 2020) and validated in Italy (Lodi et al., 2020). Additional questions were formulated to include factors not included in the SPES. The questionnaire was tested for reliability and consistency using Cronbach's alpha. Using Jamovi, Cronbach's alpha result for all items was 0.934 suggesting that the items have relatively high internal consistency. While individual factor analysis may show lower values of Cronbach's alpha compared to the overall value, this is acceptable since summated scales are more appropriate to use (Gliem & Gliem, 2003).

Descriptive statistics was used to analyze the demographics and employability perception of the students. Factor Analysis using R was used to identify the structure of relationships among the seven independent variables and create a new set of (fewer) variables to partially or wholly replace the original set of variables using Principal Component Analysis (PCA). The new set of variables was used to generate hypotheses to screen variables for final analysis using linear regression.

Data Results and Analysis

The demographic profile of respondents is 81.1% female, 91.8% falls in ages 22 and below, and those living in Quezon City were 98.1%.

Table I shows the summary of the descriptive statistics of all the Likert scale questions pertaining to the dependent variable (PE) and the independent variables. The result shows that with a mean of 3.79 for PE, most of the students were certain that they would get employed immediately after graduation. The independent variables Generic Skills, Academic Performance, Work Experience/Internship, Personal Circumstance, Labor Market, and Contribution of University all show mean levels ranging from 3.98 to 4.17 signifying the students' agreement to the questions pertaining to the influence of these variables to their perceived employability. The independent variable with the highest mean at 4.52 is the contribution of faculty.

Table 1
Central Tendency and Standard Deviation of Dependent and Independent Variables

	N	Mean	Median	Mode	SD	Interpretation of Mean
Employability Perception*	159	3.79	4.00	4	0.727	Certain
Generic Skills**	159	3.98	4.00	4	0.725	Agree
Academic Performance**	159	4.03	4.00	4	0.726	Agree
Work Experience/ Internship**	159	4.05	4.17	4	0.792	Agree
Personal Circumstance**	159	4.08	4.00	4	0.812	Agree
Labor Market**	159	4.05	4.00	4	0.818	Agree
Contribution of University**	159	4.17	4.20	4	0.810	Agree
Contribution of Faculty**	159	4.52	4.67	5	0.600	Highly Agree

Note: *PE, 1=Highly Not Certain, 2=Not Certain, 3=Undecided, 4=Certain, 5=Highly Certain
 **Other Factors 1=Highly Not Agree, 2=Not Agree, 3=Neutral, 4= Agree, 5=Highly Agree

Table 2

Responses to Employability Questions



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Levels	Response	Counts	% of Total	Cumulative %
Upon job application, how certain are you that you will be able to get the job immediately?	2	4	2.5 %	2.5 %
	3	55	34.6 %	37.1 %
	4	77	48.4 %	85.5 %
	5	23	14.5 %	100.0 %
Regardless of whether you have a CPA license or not, how certain are you that employers will prefer to hire you over other applicants for a certain position?	2	4	2.5 %	2.5 %
	3	50	31.4 %	34.0 %
	4	85	53.5 %	87.4 %
	5	20	12.6 %	100.0 %
How prepared are you to be in the world of work?	2	3	1.9 %	1.9 %
	3	47	29.6 %	31.4 %
	4	76	47.8 %	79.2 %
	5	33	20.8 %	100.0 %

Note: 1=Highly Not Certain, 2= Not Certain, 3=Undecided, 4= Certain, 5= Highly Certain

A detailed look at responses to the three PE questions shown in Table II reveals that more than 60% are certain they will get a job immediately, that they will be preferred by future employers, and that they are prepared for the world of work.

When asked about their plans after graduation, Table IV shows that only 19.5% intend to go on full-time review for the CPA board exam, 22% will work and not take the board exam at all, while 54% intend to work at the same time review for the CPA Board.

Test of the Independent Variables as Predictors of Perceived Employability

Kaiser–Meyer–Olkin (KMO) test was used to determine how suited data was for factor analysis. The generated KMO value of 0.87269 means the values were meritorious and appropriate for Factor Analysis in order to identify the structure of relationships among the seven independent variables. Table III summarizes the tests for reliability and significance of independent variables.

Table 3

Tests of Reliability and Significance of the Independent Variables

	Cronbach α	MSA	Factor Loadings	1-Factor Analysis (Loadings)*
Generic Skill	0.719	0.87931	0.71045	0.709
Academic Performance	0.733	0.83249	0.69836	0.704
Work Experience/ Internship	0.643	0.91076	0.55939	0.56
Personal Circumstance	0.766	0.8672	0.72997	0.727
Labor Market	0.766	0.86035	0.70083	0.698
Contribution of University	0.88	0.87979	0.74718	0.748
Contribution of Faculty	0.792	0.89505	0.70306	0.705

* Test of the hypothesis that 1 factor was sufficient. The chi square statistic is 38.96 on 14 degrees of freedom. The p-value was 0.000369

The 1-factor analysis generated a p-value that indicates that all the variables combined are statistically significant for further analysis. A look at the values of the specific variables shows that among the 7, Work Experience/Internship has a low Cronbach α signifying a questionable internal consistency and a factor loading which is the lowest among the 7 variables. These values, however, do not affect the overall structure of all variables with an overall Cronbach α of 0.934 and p-value of 0.000369 in the 1-factor analysis.

1) Principal Component Analysis (PCA)

Having found the appropriateness of the data for factor analysis, the factors were further defined using PCA. The idea of PCA is to construct new variables, called principal components (which are weighted averages of the original variables), that account for a large part of the total variation. The extraction of PCs is a variance maximizing (varimax) rotation of the original variable space. The results are as follows:



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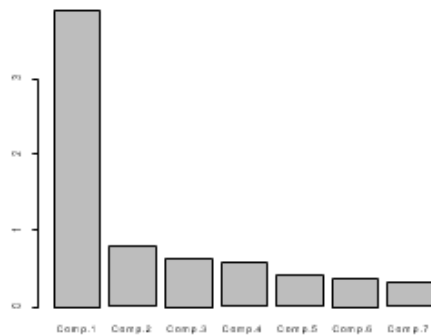
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	Comp.1	Comp.2	Comp.3	Comp.4	Comp.5	Comp.6	Comp.7
Academic Performance	0.379720	0.571690	0.042534	0.115506	0.217490	0.020678	0.682718
Contribution of Faculty	0.382080	-0.189520	-0.192925	-0.610609	-0.585870	0.064690	0.246189
Contribution of University	0.398580	0.173110	-0.030299	-0.502975	0.561530	0.164592	-0.463529
Generic Skills	0.384950	-0.197740	-0.396538	0.503053	-0.056170	0.622239	-0.109880
Labor Market Situation	0.381350	0.424710	0.328511	0.251936	-0.481710	-0.221879	-0.470660
Personal Circumstances	0.392460	-0.331300	-0.366179	0.198877	0.199390	-0.723035	0.006683
Work Experience/Internship	0.321440	-0.527300	0.748869	0.068886	0.138510	0.095421	0.157444
Component variances:							
	Comp.1	Comp.2	Comp.3	Comp.4	Comp.5	Comp.6	Comp.7
	3.88963	0.78828	0.63622	0.58107	0.41407	0.36272	0.32801
Importance of components:							
	Comp.1	Comp.2	Comp.3	Comp.4	Comp.5	Comp.6	Comp.7
Standard deviation	1.972210	0.887850	0.797633	0.762280	0.643486	0.602264	0.572718
Proportion of Variance	0.558660	0.112610	0.090888	0.083010	0.059153	0.051817	0.046858
Cumulative Proportion	0.558660	0.668270	0.759162	0.842170	0.901325	0.953142	1.000000

Figure 2

Screen Plot



The screen plot generated by the PCA is a graph of eigenvalue λ_i against index i . The plot shows the “elbow”: steep to the left, and nearly flat to the right.

This means that the additional variation explained by PCs after the elbow is small. Therefore, only 2 PCs will be selected for further analysis.

1) Linear Regression

In order to determine whether the factors have significant effects on the dependent variable (employability perception), linear regression was undertaken using the 2 PCs (formula = $\text{Employability.Perception} \sim \text{PC1} + \text{PC2}$, data = empfactors):

Table 4

Results of Regression

	Estimate	Std. Error	t value	Pr(> t)
Intercept	3.7945	0.0398	95.27	< 2e-16 ***
PC1	0.1573	0.0202	7.79	8.9e-13 ***
PC2	-0.1679	0.0449	-3.74	0.00025 ***

Significant at: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
 Residual standard error: 0.502 on 156 degrees of freedom Multiple R-squared: 0.324,
 Adjusted R-squared: 0.315
 F-statistic: 37.3 on 2 and 156 DF, p-value: 5.67e-14

The value of the R^2 indicates the linearity of the dependent and independent variables. The PCs explained 31.50% of the variability in the dependent variable. The regression resulted in significant p-values for the 2 PCs showing that the 7 factors were significant predictors of the dependent variable, students’ perceived employability. Since PC2 showed a negative but significant relationship to the dependent variable, only PC1 supports the 7 hypotheses that the variables are positively and significantly related to the students’ perceived employability.

Discussion, Conclusions, Recommendations

The descriptive analysis clearly indicates that the students have high employability perception, most of whom are delaying, if not foregoing taking the CPA Board to work immediately. Factoring in the social cognitive career theory (SCTT) that self-perceived employability is a determinant of an individual’s ability to find a job, the result of the study is a good indicator that the graduating students of the BS Accountancy Program will have a good chance in landing into a job immediately despite the current situation in the labor market because of the Covid19 pandemic.

The factor analysis and regression analysis revealed that the 7 independent variables - generic skills, academic performance, work performance/internship, personal circumstance, labor market situation, the contribution of the university, and contribution of the faculty- are significant predictors of the perceived employability of the graduating students, thereby accepting the 7 hypotheses that these 7 factors have a significant



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and positive relationship with perceived employability of the BSA graduating students.

The result of this study deviates from the findings of Ergün & Şeşen, (2021) which state that students' work experiences, the contribution of the university, and the contribution of academic consultants/faculty did not have any significant impact on the undergraduates' perception of employability. It was, however, consistent with the findings of Karli (2016), Álvarez-González et al., (2017), and Monteiro et al., (2020), on the specific variables included in their studies.

A similar study using the same instrument is proposed to be conducted in the other programs in QCU to check the consistency of the result and to know if students from other fields have the same perception. A similar study in other universities in the Philippines is also proposed to be implemented to test this theory.

In addition, a tracer study for the 1st batch of BSA graduates is recommended to be made within two years after their graduation to check whether their employability perception indeed resulted in actual employment. Such a study together with this result can influence the programs and activities that may be implemented by the Guidance and Counseling Office of QCU.

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Quality of Training and Development Programs and Its Influence on Job Satisfaction and Productivity

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Abstract

Following training and development, job satisfaction is a frequently studied topic among scholars, but only few have considered the job satisfaction of older workers. Some researchers aimed to develop a model that describes the mediating effect of happiness on job satisfaction specifically on a select group of aging Filipino workers. This study used a descriptive-correlational method of research. The study respondents were two hundred and one (201) employees working from the selected municipality in the Province of Bulacan. The quality of training and development, job satisfaction, and job productivity were analyzed using descriptive statistics. Overall, the job satisfaction of the employees has an average rating of 3.88 which is high. Individually, extrinsic rewards gleaned a mean of 3.71, supervisory support with a mean of 3.90, reward fairness with a mean of 3.88, autonomy with a mean of 3.86, corporate image with a mean of 4.03. Overall, the satisfaction has a mean of 3.92. Furthermore, job productivity among employees among employees was registered to be 3.90. Individually, the components are interpreted to have an optimal correspondence among the employees: affinity at 3.90, employee development at 3.85, and employee loyalty at 3.94. Regression analysis was implemented to examine the association between the two variables. Results include the following: (1) The quality of training and development significantly influences the level of job satisfaction of the employees; and (2) The quality of training and development significantly influences the level of productivity of the employees. Several implications drawn from the findings of the study can help managers properly train and develop their human resource so that the employees will grow with the company or the institution.

Key Words: organization, human resource management, productivity, job satisfaction, training and development

Introduction

Businesses and countries of today are beset by the economic crisis known to be the most challenging situation. Human resource plays a crucial role in the economic development of a nation. Human capital's readiness in diverse sectors prepares the workforce to adapt to change and innovation through training and development programs.

Several studies have examined the impact of selected training programs implemented to effect change in personnel, contributing to the

workforce's performance and productivity in the Philippines (Agabin, 2012; Galang, 2010; Ofulencia et al., 2015). In highlight, Ofulencia et al. (2015) employed in-depth interviews as part of data gathering and analysis. The research findings revealed that training programs effectively obtained improved knowledge, attitudes, skills, and practices and further developed self-regulatory management frameworks. Technology adoption and utilization of the skills acquired have provided interventions in the socio-economic conditions of personnel. The data served as a guideline in reengineering the training design and formulating policies to effect change in addressing organizations' effective human resource training



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and development programs toward competitive advantage.

From another perspective, leading companies in the Philippines have realized that nurturing an entrepreneurial culture by implementing various strategic human resource management (HRM) practices will enhance their firm's ability to gain a competitive advantage and achieve superior performance. Edralin (2010) attempted to determine the degree to which various HRM practices stimulate corporate entrepreneurship and which HRM function is the most significant driver of corporate entrepreneurship (CE) in large companies in the Philippines. It was revealed that the companies are extensively implementing different practices related to HRM functions that cultivate CE. Employee relations, training and development, and recruitment and selection HRM functions are significant enablers of CE. Employee relations proved to be the most significant driver of innovation in the firms.

Following training and development, job satisfaction is a frequently studied topic among scholars, but only a few have considered the job satisfaction of older workers. Some researchers aimed to develop a model that describes the mediating effect of happiness on job satisfaction, specifically on a select group of aging Filipino workers (de Guzman et al., 2014). De Guzman et al. (2014) utilized structural equation modeling (SEM) for data analysis to test what impact happiness has on job satisfaction. Three hundred aging Filipino workers, both from public and private organizations in the Philippines, took part in this study by completing a five-part research tool that consists of a Robotfoto (a Dutch term that describes a photo-like picture drawn by police to describe a suspect from a witness's illustration). The same researchers also adopted questionnaires for physical and mental well-being, employee recognition, happiness, and job satisfaction. The structural equation model revealed that physical and mental well-being and employee recognition significantly affect happiness predictors.

Moreover, it was found that happiness has an impact on the job satisfaction of older workers.

In line with this, the study aimed to validate whether the quality of training and development influences job satisfaction and productivity. The study focused on creating quality training and development and how it may influence job satisfaction and productivity in the workplace. This study sought to answer the level of job satisfaction and quality of training and development programs widely discussed and studied until now.

The results from this study shall be a basis for various policy-making processes for small and medium-sized workplaces in the Philippines.

Literature Review

This section of the study presents the literature review and studies on local and foreign sources, which add more relevance and depth to the study.

Quality of Training and Development

Training is defined as a program that helps employees learn specific knowledge or skills to improve their current roles. On the other hand, development is more expansive and focuses on employee growth and future performance rather than an immediate job role. Good training and development programs help companies retain the right people and grow profits. As the battle for top talent becomes more competitive, employee training and development programs are more important than ever. Hiring top talent takes time and money, and how companies engage and develop that talent from the time they are first onboarded impacts retention and business growth. According to the 2019 Workplace Learning Report from LinkedIn, 82% of L&D professionals say that their executives actively support employee engagement in professional learning, and 59% say they will spend more on their online learning budget.



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Moreover, training has become the buzzword in the dynamic competitive market environment. Human capital differentiates a great organization from a good one. Organizations investing in effective training and development for human resources tend to achieve both short- and long-term benefits. Nda & Fard (2013) presents a literature review on the significance of training and development on employee productivity. According to the authors, employees tend to become absolute, making the need to adapt to the continuous learning and updating of the skill and knowledge invaluable due to the organizational, technological, and social dynamics. Thus, for organizations to achieve optimum returns from their investment, they need to manage training and development programs effectively. However, the most vital asset of every organization under stiff and dynamic competition is its human capital. Training and development are an instrument that aid human capital in exploring their talent. Therefore, training and development are vital to the productivity of an organization's workforce.

Conceptually, the training theory was established about five decades ago when knowledge of athletes' preparation was far from complete, and the biological background was based on a relatively small amount of objective research findings. At that time, traditional 'training periodization,' a division of the entire seasonal program into smaller periods and training units, was proposed and elucidated. Since then, international sport and sport science have experienced tremendous changes, while the traditional training periodization has remained at the same level as the published studies of the initial publications. As one of the most practically oriented theory components, training periodization is intended to offer coaches basic structuring and planning training guidelines. However, during recent decades contradictions between the traditional model of periodization and the demands of high-performance sports practice have inevitably developed. The main limitations of traditional periodization stemmed from (i) conflicting

physiological responses produced by 'mixed' training directed at many athletic abilities; (ii) excessive fatigue elicited by prolonged periods of multi-targeted training; (iii) insufficient training stimulation induced by workloads of medium and low concentration typical of 'mixed' training; and (iv) the inability to provide multi-peak performances over the season. The attempts to overcome these limitations led to the development of alternative periodization concepts. The recently developed block periodization model offers an alternative revamped approach for planning the training of high-performance athletes. Its general idea proposes the sequencing of specialized training cycles, i.e., blocks, which contain highly concentrated workloads directed to a minimal number of targeted abilities. Unlike the traditional model, in which the simultaneous development of many athletic abilities predominates, block-periodized training presupposes the consecutive development of reasonably selected target abilities. The content of block-periodized training is set down in its general principles, a taxonomy of mesocycle blocks, and guidelines for compiling an annual plan (Issurin, 2010).

An employee is the bloodstream of any business. The accomplishment or disaster of the firm depends on its employee performance. Hence, top management realized the importance of investing in training and development to improve employee performance. Chen (2014) aimed to study the effect of training on employee performance and suggest how the firm can improve its employee performance through effective training programs. The research approach adopted for the study conforms to qualitative research, as it reviews the literature and multiple case studies on the importance of training in enhancing the performance of the workforce.

Furthermore, the paper analyzes and understands the theoretical framework and models related to employee development through training and development programs. Its effect on employee performance offer suggestions for the top



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management in the form of a checklist. It is also appropriate for all businesses to assess employee performance and find out the true cause(s) of the performance problem so the problem could be solved in time through the desired training program. The study in hand faces limitations as there are no adequate indications to correlate the relationship between training and employee performance directly. Hence, there is a need to conduct empirical research to test the proposition discussed in the study. The study in hand provides a brief overview of the literature about training effectiveness and how it contributes to enhancing employee performance and ultimately concludes along with a recommendation to give directions for future research by applying a different level of analysis on exploring the impact of training practices on employee performance (Chen, 2014).

However, Adnan & Bataineh (2014) argues that the most important resource that any organization can have is human resource. According to them, it forms the bloodstream of the company that maintains the survival of the business. On the other hand, the success or failure of any business organization depends on employees. This is why the management of organizations invests in the training and development of their staff to improve performance.

Reaction. Organizations in the United States alone spend billions on training each year. These training and development activities allow organizations to adapt, compete, excel, innovate, produce, be safe, improve service, and reach goals (Salas et al., 2012). Training has successfully been used to reduce errors in such high-risk settings as emergency rooms, aviation, and the military. However, training is also important in more conventional organizations. These organizations understand that training helps them to remain competitive by continually educating their workforce. They understand that investing in their employees yields greater results. However, training is not as intuitive as it may seem. The science of training shows that there is a right way

and a wrong way to design, deliver, and implement a training program. The research on training clearly shows two things: (a) training works and (b) the way training is designed, delivered, and implemented matters. This article aims to explain why training is important and how to use training appropriately.

Learning. Using the training literature as a guide, Salas et al. (2012) explained what training is, why it is important, and provide recommendations for implementing a training program in an organization. According to the authors, training is a systematic process, and the researchers explain what matters before, during, and after training. Steps to take at each three time periods are listed and described and are summarized in a checklist for ease of use. It was concluded with a discussion of implications for both leaders and policymakers and an exploration of issues that may arise when deciding to implement a training program. Furthermore, the research included key questions that executives and policymakers should ask about the design, delivery, or implementation of a training program.

Behavior. In the Philippines, one study aimed to determine the current training and development experiences and the emerging best practices of large corporations in the manufacturing and non-manufacturing sectors. The findings reveal that the most frequently cited importance of training is that it helps improve job performance. Companies implement technical training slightly more than behavioral training. The most often used training method is the lecture, combined with new technologies such as the CD-ROM, the Internet, and the company intranet/portal. Adequate resources like budget and expertise are provided for the delivery of training and development programs. The implementation of extensive continuing training and development programs, not only for the improvement of technical competence but for the development of cultural behavior and values congruent with that of the company's core values and philosophy, is one of



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their emerging best practices that stimulate innovation (Edralin, 2011).

Moreover, the emigration of skilled nurses from the Philippines is an ongoing phenomenon that has impacted the quality and quantity of the nursing workforce while strengthening the domestic economy through remittances.

Organizational Results. Dimaya, McEwen, Curry, & Bradley (2012) conducted a study that examines how the development of brain drain-responsive policies is driven by the effects of nurse migration and how such efforts aim to achieve mind-shifts among nurses, governing and regulatory bodies, and public and private institutions in the Philippines and worldwide. Interviews and focus group discussions were conducted to elicit exploratory perspectives on the policy response to nurse brain drain. Interviews with key informants from the nursing, labor and immigration sectors explored key themes behind developing policies and programs that respond to nurse migration. Focus group discussions were held with practicing nurses to understand policy recipients' perspectives on nurse migration and policy. Using qualitative data, a thematic framework was created to conceptualize how nurse migration has driven the policy development process. The framework demonstrates that policymakers have recognized the complexity of the brain drain phenomenon and are crafting dynamic policies and programs that shift domestic and global mindsets on nurse training, employment and recruitment. The development of responsive policy to Filipino nurse brain drain offers a glimpse into a domestic response to an increasingly prominent global issue. As a major source of professionals migrating abroad for employment, the Philippines has formalized efforts to manage nurse migration. Accordingly, the Philippine paradigm, summarized by the thematic framework presented in the research, may act as an example for other countries experiencing similar shifts in healthcare worker employment due to migration (Dimaya et al., 2012).

Training and Development Methods

It has been noted by Nielsen (2016) that all human resource development activities must aim to improve the performance of the individual, train new skills for a new job or new position in the future and for the general growth of the organization and its workforce. There have been two broadly different methods that the organization has been implementing for training and developing the employees' skills. These include on-the-job training and off-the-job training.

According to Armstrong (2015), on-the-job training is given to organizational employees while conducting their regular work at the same working venues, while off-the-job training involves taking employees away from their usual work environments. Examples of on-the-job training are job rotations and transfers, coaching and mentoring, while off-the-job training includes conferences and role-playing.

As organization shifts to different training methods, Purcell, Kinnie & Hutchinson, (2015) extended a general outlook on organizational performance and how training affects employees' productivity in general. It has been noted that competencies change through effective training and development programs. It improves the overall performance of the employees as they effectively perform their job and enhances their knowledge, skills and attitudes necessary for professional and personal development.

Moreover, Weil and Woodall (2016) mentioned that training generally improves the workers' performance by improving their skills, ability, competency, and behavior. Aside from these positive effects, it is important to note that conducting training and development programs must be carefully planned. Kenney and Reid (2016) emphasized that planned training is the deliberate intervention to achieve the learning necessary for improved job performance. The following steps



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must be considered in conducting training and development programs:

- Identify and define training needs.
- Define the learning required in terms of its skills and knowledge as well as attitude.
- Define the objectives of the training.
- Plan training programs to meet the needs and objectives by using the right combination of training techniques and methods.
- Decide who provides the training
- Evaluate the training.
- Amend and extend the training as necessary.

When needs and satisfaction are not met, dissatisfaction may occur, including complaints, absenteeism and turnover can be greatly reduced. Others tend to leave the workplace, especially when the employees receive no supervisory support during the training and development programs (Carrel, Kuzmits, & Elbert, 2019).

Job Satisfaction

Job satisfaction represents one of the most complex areas facing today's managers when managing their employees. According to Aziri (2011), many studies have demonstrated an unusually large impact on the job satisfaction on the motivation of workers, while the level of motivation has an impact on productivity, and hence also on the performance of business organizations. Unfortunately, job satisfaction has received the proper attention from neither scholars nor managers of various business organizations in the region. Despite considerable interest in the study of job satisfaction and dissatisfaction, the understanding of these phenomena has not advanced at a pace commensurate with research efforts. It is argued that a major reason for this lack of progress is the implicit conception of causality accepted by most psychologists.

In the modern era, organizations are facing several challenges due to the dynamic nature of the environment. One of the many challenges for a business is to satisfy its employees to cope with the ever-changing and evolving environment and achieve success and remain in the competition. To increase efficiency, effectiveness, productivity and job commitment of employees, the business must satisfy the needs of its employees by providing good working conditions. The paper of Raziq & Maulabakhsh (2015) analyzed the impact of the working environment on employee job satisfaction. The study employed a quantitative methodology, while a simple random sampling is used to collect data from 210 employees. The results indicated a positive relationship between working environment and employee job satisfaction. Finally, the study concludes with some brief perspectives that businesses need to realize the importance of a good working environment to maximize job satisfaction.

Extrinsic Rewards. Continuing, Rich, Lepine, & Crawford (2010) theorized that engagement, conceptualized as the investment of an individual's complete self into a role, provides a more comprehensive explanation of relationships with performance than do well-known concepts that reflect narrower aspects of the individual's self. Results of a study of 245 firefighters and their supervisors supported the authors' hypotheses that engagement mediates relationships between value congruence, perceived organizational support, and core self-evaluations, and two job performance dimensions: task performance and organizational citizenship behavior. Job involvement, job satisfaction, and intrinsic motivation were included as mediators but did not exceed engagement in explaining relationships among the antecedents and performance outcomes.

Supervisory Support. Lesser job satisfaction, according to studies, also leads to burnout. In line with this, a longitudinal study examined whether employees can impact their own well-being by



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crafting their job demands and resources. Based on the Job Demands-Resources model, we hypothesized that employee job crafting would impact work engagement, job satisfaction, and burnout through changes in job demands and job resources. Data was collected in a chemical plant at three-time points with one month in between the measurement waves (N = 288). The results of structural equation modeling showed that employees who crafted their job resources in the first month of the study showed an increase in their structural and social resources throughout the study (2 months). This increase in job resources was positively related to employee well-being (increased engagement and job satisfaction, and decreased burnout). Crafting job demands did not result in a change in job demands, but results revealed direct effects of crafting challenging demands on increases in well-being. Researchers conclude that employee job crafting has a positive impact on well-being and that employees should be offered opportunities to craft their own jobs (Tims et al., 2013).

Fairness. In terms of fairness among the nursing workplaces, Naing et al. (2017) concluded that the design of future interventions and policies that promote a healthy psychosocial work environment by ensuring nurses working in these areas have the required specialization skills, there is a balance of workload and nurse-to-patient ratios. They are offered fairness and equity in career progression and promotion.

The researchers explored high-dependency care nurses' experiences of their psychosocial work environment. Four focus groups were conducted with 23 emergency and critical care hospital nurses in Brunei. All sessions were recorded, transcribed verbatim and analyzed using inductive approach thematic analysis. Findings: three major themes were identified. 'Specialization/specific skills' explained a fundamental requirement for the high-dependency care nurses to work effectively and efficiently in their workplace. 'Task completion' narrated the

pressure they experienced to complete their tasks within time constraints exacerbated by a reduced number of staff. 'Acknowledgement' signified their need for a fair and adequate reward for their hard work through career progression and promotion.

Autonomy. Sequentially, job stress and job satisfaction are important factors affecting workforce productivity (Hoboubi et al., 2017). Hoboubi et al. (2017) carried out a study to investigate job stress, job satisfaction, and workforce productivity levels, examine the effects of job stress and job satisfaction on workforce productivity, and identify factors associated with productivity decrement among employees of the Iranian petrochemical industry. Results reveal that employees' perceived job stress and job satisfaction were moderate-high and moderate, respectively. Also, their productivity was evaluated as moderate. Although the relationship between job stress and productivity indices was not statistically significant, the positive correlation between job satisfaction and productivity indices was statistically significant. The regression modeling demonstrated that productivity was significantly associated with shift schedule, the second and the third dimensions of job stress (role insufficiency and role ambiguity), and the second dimension of job satisfaction (supervision). In conclusion, corrective measures are necessary to improve the shift work system. "Role insufficiency" and "role ambiguity" should be improved and supervisor support must be increased to reduce job stress and increase job satisfaction and productivity.

Corporate Image. The study conducted by Kim et al. (2017) investigated whether perceptions of corporate social responsibility (CSR) initiatives affect casino customers' corporate image as well as the customers' behavioral intentions (i.e., revisit intentions), through the lens of Carroll's corporate social performance model, stakeholder theory, and legitimacy theory. This study also examines the mediating effect of corporate image on the relationship between perceived CSR and



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behavioral intentions. An onsite survey was conducted with 596 casino customers in South Korea. Results revealed that ethical CSR had the strongest impact on corporate image, followed by economic and philanthropic CSR. Only philanthropic CSR had a significant and direct effect on behavioral intentions. Corporate image mediated the relationship between three types of CSR (ethical, economic, and philanthropic) and behavioral intentions. Companies can benefit from these findings by understanding how specific CSR initiatives can enhance corporate image and increase customer retention.

Job Productivity

Organizations frequently downsize in the hopes of creating a 'lean and mean' company able to be flexible and quick to adapt to changing environmental needs. The current research aimed to assess the effects of job insecurity on productivity, counterproductivity, and creativity in a simulated organizational environment and a field setting. In the first study conducted by Probst, Stewart, Gruys, & Tierney (2007), 104 non-traditional undergraduate students ($M = 30.48$ years) participated in a laboratory experiment that manipulated the threat of lay-offs (job insecurity) and measured creativity and productivity over two time periods. Compared to control group participants, results indicate that participant productivity increased in higher levels of job insecurity, whereas creative problem solving decreased. In the second study, 144 employees in five organizations completed a survey measuring their job insecurity perceptions, enactment of counterproductive work behaviors, and creative problem-solving ability. Regression analyses indicate that job insecurity predicted lower creativity scores but was also related to lower counterproductive work behaviors. Taken together, these studies suggest that job insecurity may have adverse effects on creativity yet moderately beneficial effects on productivity. Results are interpreted considering the increasing prevalence of job insecurity and organizational

downsizing in today's workplace (Probst et al., 2007).

Affinity. In terms of job productivity, one of the major trends in the Philippines is the presence of a shift work culture. Shift work has been reported to affect the worker's health and well-being. However, the many interacting factors involved in shift work make it difficult to understand the mechanism underlying its effects. The currently rising demand for shift workers in the Philippine business process outsourcing (BPO) industry, particularly in the contact center sector, has spurred an increased interest in research on the effects of shift work on Filipino workers. The fact that shift work affects employees' health and well-being and affects economic productivity gives enough reason for doing shift work studies. In the paper of Lozano-kühne et al. (2012), a review of research publications was conducted, including project reports and theses (graduate and undergraduate), to determine the current state of knowledge on shift work in the Philippines define future research directions. Results of the review indicate that many aspects of shift work have been explored in studies in the Philippines, but there is still a big knowledge gap that needs to be addressed. While there are studies that investigated health effects, job satisfaction, job performance, lifestyle, risk behaviors and other topics, the number of studies done in the country is still quite limited and the variables investigated do not allow comparison with situations in other countries. There is still a need for more detailed studies to provide empirical evidence on shift work's effects on Filipino workers and be able to make relevant interventions to improve the workers' health and well-being. There are no local studies that investigated chronic diseases such as cardiovascular diseases and cancer in terms of research questions. There are also no published studies, yet that investigated the Filipino chronotype concerning shift work. The chronotype characterizes how an individual's internal biological clock synchronizes to the external clock.



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Furthermore, the importance of chronotype in shift work research has been shown in studies in other countries. However, the chronotype variation among Filipinos is not yet known. Other untapped topics on shift work research in the Philippines include light and shift work, speech ability and shift work, actual physical workload and time pressure, exposure to heat, dust or other hazards during shift work, dermatological problems related to shift work, genes and shift work, social and psychological aspects of shift work and long-term effects of shift work. We also included here a framework of research approaches on how to thoroughly investigate the effects of shift work on the worker's health and well-being (Lozano-kühne et al., 2012).

Employee Development. Saporna & Claveria (2013) claims that it is widely believed that turnover adversely affects organizational effectiveness and productivity. Consequently, turnover can harm the functioning of an organization through loss of cohesion and morale. Knowing what causes an employee to leave an organization allows managers to curtail turnover more effectively. It is in this context that this research was conceptualized. The authors' study was undertaken to determine how job satisfaction dimensions and organizational commitment influence turnover intentions among employees in selected low-cost hotels in Oriental Mindoro, Philippines. The study used a descriptive-correlation research design, with 110 respondents conveniently selected from 10 low-cost hotels in Oriental Mindoro. Results showed that all job satisfaction dimensions are important to the respondents. On the other hand, job satisfaction dimensions are related to turnover intentions regarding job nature and career development. Meanwhile, no relationship exists between organizational commitment and turnover intentions.

Loyalty. Factors promoting loyalty are of great interest to academics and practitioners because consumer loyalty is a notable predictor of business

success. Park et al. (2017) identifies the congruency between consumer values and the goals of corporate social responsibility (CSR) activities and corporate ethical standards as the two main determinants of CSR quality and commitment. It further investigates how consumer perceptions of CSR shaped by these two factors increase loyalty. The results of structural equation modeling analysis (N = 931) reveal that higher ethical standards lead consumers to perceive that the company is committed to its CSR activities. The company's CSR commitment induces greater satisfaction with and trust in the company and its services, ultimately encouraging consumers to remain loyal.

Finally, another study aimed to investigate the effects of stress and job satisfaction on the functioning of a company. It sought to focus on factors affecting stress and job satisfaction such as the number of work hours, good relations between management and employees, good function of the group and work related to employees' area of education.

A random sample of 425 employees in the private and public sector and two-stage cluster sampling is first used to collect primary data. Factor analysis is used next to identify the responsible factors for the correlation among many qualitative and quantitative variables and their influence on productivity. Logistic regression is used next, presenting many useful elements concerning the function of stress, satisfaction and supportive elements on productivity. As expected, increased stress leads to reduced productivity, and increased satisfaction leads to increased productivity.

When work begins to overlap with workers' personal life, this implies a negative effect on productivity. Quality work is more related to conscientiousness and personal satisfaction than workload. Energetic and active individuals affect productivity positively (Halkos & Bousinakis, 2010).



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Research Philosophy, Framework, Design, and Methodology

This paper is anchored on the theory of performance, which was developed by Elger (2003). The Theory of Performance (ToP) develops and relates six foundational concepts (*italicized*) to form a framework that can explain performance and performance improvements. To perform is to produce valued results. A performer can be an individual or a group of people engaging in a collaborative effort. Developing performance is a journey, and the level of performance describes the location in the journey. The current level of performance depends holistically on six (6) components: *context*, *level of knowledge*, *levels of skills*, *level of identity*, *personal factors*, and *fixed factors*. Three axioms are proposed for effective performance improvements. These involve a performer's *mindset*, *immersion in an enriching environment*, and *engagement in reflective practice*.

Additionally, Sonnentag & Frese (2005) said that individual performance is highly important for an organization as a whole and for the individuals working in it. The performance comprises both a behavioral and an outcome aspect. It is a multi-dimensional and dynamic concept. To know if training and development can affect job satisfaction, performance and productivity, the figure is illustrated below.

Figure 1. Conceptual Model of the Study

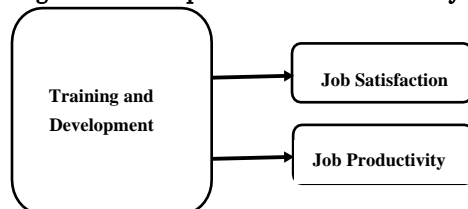


Figure 1 above shows the conceptual model of the

study. The study shall anchor itself on a predictor-criterion model. Training and development shall act as the independent variable, while job satisfaction and job productivity shall be the dependent variables.

This paper will aim to use an independent variable (or predictor), training and development, which, as posited, will influence the following dependent variables: job satisfaction and job productivity. The study will determine the causal relationship the predictor variable has on job satisfaction and job productivity.

Methodology

Research Design

This study employed descriptive-correlational methods of research. Particularly, since the nature of the questions leads to numerical data, the study incorporated a quantitative design. Specifically, the methodology was chosen because the researcher wants to establish the influence of the quality of the training and development regarding employee job satisfaction and productivity.

The study used purposive sampling in which the researcher relies on his or her own judgment when choosing population members to participate in the study. It is a nonprobability sampling method, and it occurs when elements selected for the sample are chosen by the researcher. This is to obtain a representative sample by using sound judgment, especially in limited numbers of people and can serve as primary data sources due to research design, aims, and objectives (Black, 2016).

Descriptive research using a quantitative design aims to describe data in terms of scales or degree of measurements. Usually, respondents answer the data by their own perception, and the answers' nature is limited responses. Other cases may employ another person measuring the respondents, depending on the case. Correlational research focuses on finding significant influences



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of a predictor variable to a criterion variable (Creswell, 2011).

Population and Sampling

In line with the purpose of the study, the researcher randomly selected respondents working from the selected municipality in the Province of Bulacan. In Particular, 201 participants have undergone training and development programs sponsored by the government to improve the employees' job satisfaction and productivity. The samples were taken via simple random sampling without replacement (SRSWOR).

Employees	Population	Sample Taken
Permanent	91	52
Casual	49	49
Job-order	265	100
Total	405	201

Data Collection Procedure

The researcher observed the following steps to accomplish the study:

1. Before the defense, the researcher secured a permission letter signed by the researcher with the adviser's endorsement, addressed to the secretary of the selected municipality of this study in the Province of Bulacan
2. Upon the approval of the letter and the study, the researcher selected respondents based on the set standards.
3. The survey questionnaire was administered face-to-face to the target respondents and was retrieved the same immediately after accomplishment by the respondents
4. The researcher ensured that respondents had accomplished the questionnaires completely.

Ethical Considerations

The researcher observed ethical norms in the conduct of the study. Initially, the participants'

consent was elicited to respect their decision to be involved/not to be involved in the study. Also, the participants' anonymity was secured, and their responses were held with confidentiality. Finally, the survey results were treated with full objectivity, which was evidence of professional respect on the quantitative data gathered from the respondents, with compliance to the RA 10173, or the Data Privacy Act of 2012.

This included the following: (1) data gathering was done with care; the respondents signed a consent form indicating that their personal information shall be safeguarded throughout the study; (2) during the data gathering and reporting of the results, the respondents' data from the municipality were coded, and the personal information of the respondents was blackened, lastly (3) the researcher employed destruction of research raw data upon the research completion and informed the respondents of the results of the study.

Data Results and Analysis

Influence of the Quality of Training and Development on the Job Satisfaction of the Employees

This table presents the regression of the quality of training and development on the employees' job satisfaction. Regression analysis was implemented to examine the association between the two variables. The B coefficient presents the amount of change in the employees' level of job satisfaction concerning the quality of training and development. The magnitude of the values of their B coefficient is relatively included in the equations. The same results indicate that for every increase in the respondent's variables with a corresponding increase of 0.189 in reaction, an increase of 0.099 in learning, an increase of 0.141 in behavior and a .383 increase in organizational results.

Furthermore, the recorded t-probability of the reaction is 3.062 with a p-value (Sig.) of .003, the



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recorded t-probability of the learning which is 1.906 with p-value (Sig.) of .058, the recorded t-probability of the behavior is 3.012 with a p-value (Sig.) of .003, and the recorded t-probability of the organizational results, which is 6.091 with p-value (Sig.) of .000 indicate that the quality of training and development significantly influences job satisfaction. This is further supported by the R coefficient of 0.659, which indicates a high level of prediction, and the R² of 0.434 indicates the model's closeness to the regression line. It can be indicated that the explanatory powers of the dependent variable of 0.434 imply that 43% of the variation in job satisfaction is accounted for by the changes in the quality of training and development. However, learning is not accounted for. Only the reaction, behavior and organizational results are the significant predictors.

Table 2

Regression Run Analysis on the Influence of Quality of Training and Development on the Respondents' Job Satisfaction

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.747	.224		3.336	.001
Reaction	.189	.062	.189	3.062	.003
Learning	.099	.052	.120	1.906	.058
Behavior	.141	.047	.180	3.012	.003
Organizational results	.383	.060	.403	6.091	.000

a. Dependent Variable: job satisfaction

R = 0.659
R² = 0.434
F-Value 37.594
p-value of 0.000
Alpha = 0.05

Meanwhile, the Analysis of Variance results in a significant 0.05. Data denotes an F-value of 37.594 with a p-value of 0.000, which is less than alpha=0.05. This result means that the predictor variables collectively account for a statistically significant proportion of the variance in the criterion variable of the respondents. Ultimately, the researcher rejects the null hypothesis and concludes in favor of the research hypothesis, which states that the quality of training and development significantly influences the employees' job satisfaction.

Influence of the Quality of Training and Development on the Job Productivity of the Employees

The table presents the regression of the quality of training and development on the employees' job productivity. Regression analysis was implemented to examine the association between the two variables. The B coefficient presents the amount of change in the employees' level of job productivity concerning the quality of training and development. The magnitude of the values of their B coefficient is relatively included in the equations. The same results indicate that for every increase in the respondent's variables with a corresponding increase of 0.212 in reaction, an increase of 0.160 in learning, an increase of 0.059 in behavior and a .308 increase in organizational results.

Furthermore, the recorded t-probability of the reaction, which is 3.073 with a p-value (Sig.) of .002, the recorded t-probability of the learning, which is 2.752 with p-value (Sig.) of .006, the recorded t-probability of the behavior is 1.132 with a p-value (Sig.) of .259, and the recorded t-probability of the organizational results, which is 4.631 with a p-value (Sig.) of .000 indicate that the quality of training and development significantly influences job productivity. This is further supported by the R coefficient of 0.659, which indicates a high level of prediction, and the R² of 0.434 indicates the model's closeness to the regression line. It can be indicated that the explanatory powers of the dependent variable of 0.434 imply that 43% of the variation in the job productivity is accounted for by the changes in the quality of training and development. However, behavior is not accounted for. Only the reaction, learning, and organizational results are the significant predictors.

Table 3

Regression Run Analysis on the Influence of the Quality of Training and Development on the Respondents' Job Productivity



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Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.947	.250		3.786	.000
Reaction	.212	.069	.208	3.073	.002
Learning	.160	.058	.189	2.752	.006
Behavior	.059	.052	.074	1.132	.259
Organizational results	.308	.067	.335	4.631	.000

a. Dependent Variable: job productivity

R = 0.659
R² = 0.434
F-Value 37.594
p-value of 0.000
Alpha = 0.05

Meanwhile, the Analysis of Variance results in a significant 0.05. Data denotes an F- value of 37.594 with a p-value of 0.000, which is less than alpha=0.05. This result means that the predictor variables collectively account for a statistically significant proportion of the variance in the criterion variable of the respondents. Ultimately, the researcher rejects the null hypothesis and concludes in favor of the research hypothesis, which states that the quality of training and development significantly influences the employees' job productivity.

Discussion, Conclusions, Recommendations

Implications Derived from the Findings of the Study

Based on the findings of the study, the research paper made the following implications:

1. The quality of training and development is high since it accounts for the high job satisfaction and job productivity of the employees in the institution. Findings imply that the working environment in the workplace is favorable, given the rewards are great, and the colleagues are reliable and carry the institution's right philosophy.
2. Job satisfaction relies more on the corporate image, meaning the institution's proper philosophies drive the employees' will to work hard and do their best. Partnering it with proper compensation and fair rewards makes the employee less likely to get unsatisfied or less productive.

3. Teamwork is important in a successful workplace. As observed from the results of the job productivity component, the affinity criterion scored the highest. This finding implies that the workforce relies more on teamwork rather than individualism. Together, they raise the morale of the employees, which makes them more motivated and forward-looking in their job.
4. Quality of training greatly influences job satisfaction and productivity. It drives the employee to become more knowledgeable in the workplace and find their comfort in bringing good results to the institution. This implies that proper handling of human resources results in a happy workplace.
5. All the employees are treated fairly and compensated well. This finding accounts for their good performance and high respect for the people in the workplace. Also, the management handles the quality of the training and development in an excellent way, for it is an effective influencer of satisfaction and productivity.

Conclusions

In light of the findings of the study, the following conclusions were drawn:

1. The quality of training and development conducted in the institution was very effective. It is supported by the high approval of the respondents based on their positive reaction towards training, significant and noticeable change in behavior, learnings to a great extent, and very satisfactory organizational results.
2. The job satisfaction of the employees is applaudable. It has garnered high values on the different criteria, namely: extrinsic rewards, supervisory support, reward fairness, autonomy, corporate



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image. Overall, respondents are satisfied.

3. Job productivity is also highly positive in rating in terms of affinity, employee development, and employee loyalty. Overall, productivity exceeded expectations. All goals, objectives and targets were achieved above the established standards.
4. The quality of training and development significantly influences the level of job satisfaction of the employees.
5. The quality of training and development significantly influences the level of productivity of the employees
6. Several implications drawn from the findings of the study can help managers properly train and develop their human resources so that the employees will grow with the company or the institution.

Recommendations

Based on the findings and conclusion of the study, the following recommendations are hereby submitted:

1. The selected municipality of this study in the Province of Bulacan should continue to provide quality training and development seminars and workshops.
2. Employees must continue participating willingly in training and development programs to boost their work satisfaction.
3. Managers should allocate funds for future interesting pieces of training or team building that will elicit the employees' morale and increase their level of productivity.
4. Future researchers must validate the influence of quality of training on job satisfaction by re-conducting the research with other institutions or

companies.

5. Future researchers should experiment with other than a correlational-regression approach of establishing a construct between the quality of training and job productivity.
6. Future researchers should investigate other factors that the quality of training and development can influence.

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**Employee Motivation in the Workplace of Freight Forwarding
Industries in Parañaque City**

Pearl Joy T. Ebales



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Abstract

The study was intended to assess the levels of employee motivation in the workplace of freight forwarding industries in Parañaque City. The researcher used the descriptive method through survey technique and quantitative description. Frequency and percentage distribution, weighted mean, t-Test and one-way analysis of variance were employed as statistical tools. Most of the respondents aged 21 to 30 years old, male, single, Bachelor's Degree holder, with the average monthly income of P10,000.00 – P20,000.00, rank and file and served the company for 2 to 4 years. The respondents agreed on the levels of motivation in terms of intrinsic and extrinsic factors regardless of their profile. It is evident that both intrinsic and extrinsic factors play a significant role in the motivation of employees. Based on the findings and conclusions, the researcher recommends that the freight forwarding industries shall create a more effective trainings, update the salary structure for each individual with regards to their corresponding job description, create a more enhanced benefits package, implement programs and activities that will promote a more sustainable work-life balance and create an understandable company administrative policies for easy understanding.

Keywords: employees, extrinsic factors, freight forwarding, intrinsic factors, motivation

Relevant SDGs: SDG 1 No Poverty, SDG 8 Decent Work and Economic Growth, SDG 10 Reduced Inequalities

Introduction

Motivation is the willingness to perform things and the degree of energy, creativity and commitment that an individual brought to them. It is a significant element in setting and attaining an objective or goal and an important aspect in the worksite which leads to the performance of a unit or even the whole business.

An issue to the human resource management or even to the managers is how to successfully motivate their employees or staff. While it is true that the different facets of human resources are vital to the organization, the foundation of running a business substantially depends on how motivated employees are to contribute success to the organization.

The freight forwarding industry is one of the most dynamic industries in the Philippines. It involves

transferring of goods from one place to another. It plays an essential role and became the cornerstone in the supply chain management where transferring of goods, sorting, organizing and storing is already a challenge in the local sense. But the innovativeness of these industries has made complex work easier and more convenient for the companies globally. Choosing the best logistics company will improve the services of most organizations related in all sorts of industries because it will bring conduciveness to the service itself.

While it is obvious that in today's competitive market environment, human resource has become one of the principal sources of business advancement. Successfully motivating employees is one of the basic instruments for human resource emulation. For freight forwarding industries, it is important to properly make use of motivation policy to promote employee engagement and retention at work. As part of the human resources, the



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researcher sought to determine the levels of agreement on the effects of intrinsic and extrinsic factors on employee motivation in the workplace of freight forwarding industries in Parañaque City. The researcher also wants to determine the importance and benefits of motivation, its impact to the organization, to apprehend how motivation works and to create a working environment where employees are motivated about their jobs in an overall aspect.

Significance of the Study

This study will be relevant on the 17 Sustainable Development Goals such as SDG 1 No Poverty, SDG 8 Decent Work and Economic Growth, and SDG 10 Reduced Inequalities.

This study will have an impact on SDG 1 on poverty, if major percentage of the community is employed, there will be a decrease in poverty or even eliminate poverty in the country. Unemployment will increase poverty however, if workers are motivated with their jobs there will be a greater chance to stay for a longer period of time. They will also be able to provide for themselves and to their families as well.

This study will also have an effect on SDG 8 decent work and economic growth which will help young people to find the right fit for them and establish a decent work for themselves. Providing jobs for the youth will help economies sustain profitability and economic growth. Being motivated at work will help these youth to be productive and efficient while targeting the intrinsic and extrinsic factors of employee motivation in their workplaces.

If the majority of the youth or the population are employed, it will somehow help reduce inequalities, SDG 10, while promoting economic growth. If a person has a decent job, they start to create morale on themselves and eliminate inequalities in the different status of their life.

This study will also be beneficial to the following:

Employer. This study will help the employers to identify the factors affecting motivation of the employees and will be able to give what is right and beneficial to them to help employees become motivated and productive in the workforce.

Employees. This study will benefit the employees to be more productive and motivated in the workplace to be less likely to leave their companies and love the jobs they have.

Industries and Organizations. This will serve as a guide in providing workers the opportunity to satisfy their higher needs, promote effective performance and enhance their management styles and organizational designs.

Future Researchers. This study will gain the future researchers on the result which will serve as their guide.

Statement of the Problem

The study was intended to identify the levels of agreement on the effects of intrinsic and extrinsic factors on employee motivation in the workplace of freight forwarding industries in Parañaque City. Specifically, it aimed to give solutions to the following questions:

1. How do the respondents determine the levels of agreement on the effects of intrinsic and extrinsic factors on employee motivation in the workplace of freight forwarding industries in Parañaque City in terms of the following?
 - 1.1. Intrinsic Factors
 - 1.1.1. Recognition
 - 1.1.2. Sense of Achievement
 - 1.1.3. Growth and Promotional Opportunities
 - 1.1.4. Responsibility
 - 1.1.5. Meaningfulness of the Work
 - 1.2. Extrinsic Factors
 - 1.2.1. Pay



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- 1.2.2. Company/Administrative Policies
 - 1.2.3. Fringe Benefits
 - 1.2.4. Physical Working Condition
 - 1.2.5. Status
 - 1.2.6. Interpersonal Relations
 - 1.2.7. Job Security
2. Is there a significant difference in the respondents' assessment on the levels of agreement on the effects of intrinsic and extrinsic factors on employee motivation in the workplace of freight forwarding industries in Parañaque City in terms of intrinsic and extrinsic factors when they are grouped according to profile?

Literature Review Employee's Motivation

According to Webster's dictionary, motivation came from the root word, motive which means something that causes a person to act. Therefore, motivation can be defined as "the act of providing motive that causes someone to act" cited by Shanks (p. 24). In other words, according to Nancy Shanks, "motivation causes someone to act and someone else cannot make someone motivated." It is one's decision to perceive if they will be motivated or not. "Motivated and unmotivated are not opposites, but instead, there are determining factors that could cause someone to be unmotivated, such as life events and attitudes towards a specific job", discussed by Kellie Burton (2012).

According to Prachi Juneja (2017), "Motivation is the word derived from the word 'motive' which means needs, desires, wants or drives within the individuals. It is the process of stimulating people to actions to accomplish the goals. In the work goal context, the psychological factors stimulating the people's behavior can be – desire for money, success, recognition, job satisfaction, team work, etc. One of the most important functions of management is to create willingness amongst the employees to perform to the best of their abilities. Therefore, the role of a leader is to arouse interest in the

performance of employees in their jobs. The process of motivation consists of three stages: 1) a felt need or drive; 2) a stimulus in which needs have to be aroused; 3) when needs are satisfied, the satisfaction or accomplishment of goals. Therefore, motivation is a psychological phenomenon which means the needs and wants of the individuals have to be tackled by framing an incentive plan".

Intrinsic Factors

Recognition

Individuals who feel valued at work turn out to be experiencing greater self-confidence and have the potential to make a contribution more to the firm. The end result is a happier and more effective employee. Staff recognition, according to Heathfield (2019), is one of the keys to winning employee motivation. Employee appreciation entrusts satisfaction with their manager and worksite. He additionally mentioned that work recognition is rare because of numerous factors. People don't realize a way to offer employee recognition efficiently so they turn out to be having awful experiences. He additionally anticipates that employee recognition is totally rewarding to some employees. Consequently, employers think limited on how to reward employees that will truly constitute real recognition.

Sense of Achievement

Motivation is related to the achievement of personnel at work. It addresses how employees perceive the dignity and sense of achievement in their jobs. To increase motivation and employee morale, managers should take active measures and make it as a strategy. Ignoring to encourage workers will lead to disenchantment which will lessen productivity and cause turnover according to Rose Johnson (2019).

Growth and Promotional Opportunities

Some firms have maintained high rankings on perceived growth and development possibilities in



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the course of monetary downturns. The secret is to keep opportunities for simple promotions and growth inside the organization and talk to them on a daily basis. For employees to sense possibilities for growth and development, maintain communication about improvement and succession planning. Maintain conversation about development possibilities on a business enterprise level and through private improvement meetings where the question is being asked, “Where do you see yourself in this company five years from now?” and “How can we help you get there?” (Rogel, 2018).

Responsibility

Every employee in an organization either hourly or fixed, lower or upper management, should function based on their job description. An employee is accountable to accomplish any tasks given to them while adherent to rules and regulations. They should come to work and do what is expected of them while handling their time efficiently and engaged in a team positively. Employees ought to course through any questions or problems that they experience to the management for the betterment of the company, (Natter, 2019).

Meaningfulness of the work

Work has a significant meaning to one’s life because they usually spend almost one third of their day at work, (Keles Hatice, 2016). People start to foresee their jobs as a focal point of giving importance to their lives once they spend more time at work (Hoar, 2004; Holbeche & Springett, 2004). Whilst there was no generally accepted definition of meaningfulness of work, (Baumeister and Vohs, 2002) expressed that “bond” was the best definition which depends on the positive outcome both for the organization and the workers.

Extrinsic Factors

Pay

Money greatly affects the motivation of employees

and it is hard to disregard the role of money in motivating employees. Performance bonuses and profit sharing helps to motivate employees to deliver greater service, productivity and innovativeness. Giving monetary incentives helps the firm because it creates a positive impact on the productivity of employees (Johnson, n.d.).

Company & Administrative Policies

Autumn Sanelli (2018), determines policies and procedures as a vital element for every firm. Policies are essential because they deal with relevant issues like what makes up an admissible behavior by employees. However, procedures obviously determine a series of actions to be followed in a consistent manner for instance how the firm will react to any policy offenses. Applying both policies and procedures when making decisions guarantees that employers are consistent in their decisions.

Fringe Benefits

Fringe benefits as defined by Neil Kokemuller (2019) are types of compensation given to employees beyond the agreed salary or wage. Typical samples of fringe benefits are meal allowances, vacation and sick leaves, clothing and transportation allowances, etc. Another description from Julia Kagan (2019), fringe benefits are extra compensation given to employees outside of agreed salary or income.

Physical Working Condition

Author and University of Virginia Professor Scott A. Snell, in the book, “Managing Human Resources,” defines working conditions as an environment where there is spirit and energy that boost performance at work. A positive workplace can result in an increase in health, social and personal well-being. There’s a blockage of success if there’s no positive environment for employees.

Status

“Status is a socially defined position or rank to



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groups or group members by others – permeates every society”, (Citeman, 2018). Status is like a reputation where people want to replicate other’s accomplishments. This driving force strives to be an excellent Endurance Leader, 2019). According to the Editors of Encyclopaedia Britannica (2015) the word “status” means social structure on a vertical scale. People are interested in a higher position if their works are distinguished by others or if they gain a reputation.

Interpersonal Relations

Job Security

Denise Dayton (2019), describes job security as “the assurance that you’ll keep your job without the risk of becoming unemployed”. Another definition by James (2012) is job security as a promise in an employee’s job coherence as a result of global economic conditions in the nation. It involves the probability or likelihood of a person keeping their jobs, (Adebayo and Lucky, 2012). It deals with the possibilities that workers keep with the aim of not being employed, (Simon, 2011). Jobs without agreement or specific contract considered to have lack of security. It may also be viewed that workers are worried about losing their jobs. Different people have higher job security depending on their job career and employment. Job security is a guarantee that employees will keep their jobs for a long period of time as they desire (businessdictionary.com).

Filipino Research on Motivation

A study conducted by Bea Hernandez (2015) about “What Motivates the Filipino Employees?” cited the question in the local setting as this: “How do you motivate the Filipino workforce to be on top of their game and do their jobs well?” While there are different approaches on ways to keep employees happy, Filipinos are essentially family-oriented, usually striving to fulfill the needs of their families, not necessarily performing on their own fulfillment or for career growth. She additionally mentioned that happiness at jobs performs a crucial factor in

keeping workers engaged and encouraged at all times. As there’s no secret in keeping employees happy, managers and human resource departments should try to keep their employees satisfied by giving out different incentive programs such as loyalty programs, performance bonuses, etc.

Freight Forwarding Industry

According to BusinessDictionary.com, freight forwarding is a firm that specializes in arranging the storage and transportation of goods on behalf of its shippers. It typically provides a full range of services including: inland shipping tracking, preparation of shipping and export documents, storage, cargo space reservations, shipping fee negotiation, shipping consolidation, cargo insurance, and claims filing. Shippers usually ship against their own bills of lading or air waybills (called domestic bill of lading or domestic air waybill) and their agents or associates at the destination (overseas forwarders) provide document delivery, deconsolidation and cargo collection services. At its core, the role of a freight forwarder in today’s modern society is simple but important. They are the hardworking people who make it possible to transport goods around the world. Whenever a product successfully moves from manufacturer to market or from manufacturer to customer’s hands, there’s a freight forwarder to thank. A forwarding service uses established relationships with carriers, from air carriers and trucking companies to rail freighters and ocean liners, to negotiate the best possible price for transporting shippers’ goods by the most economical route by working out various bids and selecting the one that best balances speed, cost and reliability. Freight forwarders take care of the considerable logistics of transporting goods from one international destination to another, a task that would otherwise be a huge burden for their clients.

Freight Forwarding Companies in Parañaque City

Parañaque is the location of Terminals 1, 2 and 4 of Ninoy Aquino International Airport. It is located along Ninoy Aquino Avenue and many major



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international airlines operate flights from the terminal. However, terminal 3 is located just a few kilometers from the city as the airport complex sits on the Pasay-Parañaque border where everyone can easily access the said airport. The city is composed of businesses and companies which make it as the third placer in Economic Dynamism Category and earned seventh place in overall standing in the Cities Competitiveness of the Philippines (Source from Philippine Chamber of Commerce and Industry of Parañaque City, Inc.).

Among the competitive businesses in Parañaque are the freight forwarding industries which is highly notable for it comprises the majority of the economy's revenue. Below are the lists of freight forwarding companies that compete widely in the industry and are used in this study:

RAPID INC. Was established in July 1973 which has both the expertise and the resources to cover the full spectrum of the client's expanding needs, changing markets and requirements: as project cargo and logistics manager, freight forwarder (international or domestic), licensed customs broker, break bulk agent or non-vessel operating common carrier (NVOCC). RAPID INC has a global network of overseas representation providing total solutions to the clients' every need. It has existing partnership agreements with equally capable, competent and strong international freight agents all over the world. They bank on their competitive strength worldwide and the quality of their service that spans the globe. (Source: www.rapidinc.com.ph)

Location: Unit 8 JJM Bldg 2 Ninoy Aquino Ave., Brgy Sto. Niño, Parañaque City

MERCURY FREIGHT INTERNATIONAL INC. Inspired by the speed of the roman God, Mercury and the spirit of the 1986 EDSA revolution, Mercury Freight International Inc. came into existence into the world of challenges in cargo forwarding business. It soon established itself as a company that offers safe, economical and efficient integrated transport services for domestic and international

markets. Through the years, Mercury Freight International Inc. has grown to be an excellent cargo forwarding firm and is now housed in its own building and warehouse in Paranaque City, Metro Manila. (Source: www.mercuryfreight.com.ph)

Location: Mercury Freight Int'l. Bldg corner A. Bonifacio St. San Dionisio Parañaque City

BOLLORÉ LOGISTICS is a global leader in international transport & logistics. Constantly adapting to its customers' changing needs, the company has enriched its expertise to become a tier-one supply chain partner and one of the top 10 transport and logistics companies in the world with the largest integrated logistics network in Africa. Bolloré Logistics delivers custom-fit solutions with a high added value that draw on an in-depth experience and understanding of different industries, as well as the constant quest for improvement and optimization that is central to the company's own culture and values. (Source: www.bolloré-logistics.com)

Location: 3/F Formation Bldg. B, Amvel City Business Park, Parañaque,

CASTLE MERCHANTS & HAULAGES INC. (CMHI) is a Trading and Logistics Corporation, duly registered under the Securities and Exchange Commission (SEC), incorporated in the Philippines on the 6th of January 2009. As a Freight Forwarding company, it offers services for International and Domestic markets, handling Air and Sea for Dry and Liquid Cargo. It is based in Manila with sub-offices in Davao, General Santos, and Cagayan de Oro and has a reliable network of agents around the world. It offers complete logistics package i.e. Customs Brokerage, Warehousing, Trucking, LCT & Barge Operations, and Integrated Cargo Handling in Port Operations. The company takes pride in its seasoned leaders and competent employees who work together as a family in providing personalized services to its customers. (Source: www.castlemerchants.com.ph)



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Location: Gate 2 Lot 1, Ninoy Aquino Ave. Corner A. Bonifacio St., Brgy. San Dionisio, Parañaque City

DSV AIR & SEA INC. With offices and facilities in more than 90 countries on six continents, they provide and run supply chain solutions for thousands of companies on a daily basis. They are a global supplier of transport and logistics services and offer a wide selection of transport service combinations and solutions. Via their solid global transport network, their air and sea freight handles shipments to overseas markets by air or by sea, as full or part loads, containers or airway unit load devices. They act as a specialized intermediary between the individual customer and the shipping lines and airline companies. (Source: ph.dsv.com)

Location: 2A Johanne Street, Bo. Ibayo Brgy. Sto. Nino, Paranaque City

Research Philosophy, Framework, Design, and Methodology Theoretical Framework

Motivation-Hygiene Theory or the dual-factor theory was authored by Frederick Herzberg in 1959. He is an American psychologist who studied motivation and job satisfaction. He made a study and found out that people at work answered differently on their good and bad experiences. From there, he developed that motivation relies on two factors: satisfaction and dissatisfaction.

Intrinsic factors. According to Herzberg, the intrinsic/motivational factors produce definite satisfaction. These kinds of factors are essential at work. These factors inspire workers for excellent performance. These factors are known as satisfiers. These factors are engaged in operating the job. Workers determine these factors as intrinsically rewarding. The motivators represented the psychological desires that were observed as supplemental advantage. Motivational factors comprise:

- **Recognition** – Praise and recognition by the managers for the employees'

accomplishment is necessary in one's job.

- **Sense of achievement** – This means that employees ought to feel the sense of achievement that relies on their job and there should be a fruit of several outcomes in it.
- **Growth and promotional opportunities** – To be able for the employees to perform well, there should be development opportunities and growth waiting for them so they can perform better.
- **Responsibility** – Employees should be accountable for their own job and the managers ought to give them possession at work wherein it reduces control but maintains responsibility.
- **Meaningfulness of work** – Employees are encouraged on their job because it has significance in their life, it is interesting and they are challenged to carry out the tasks they are expected to do.

Extrinsic factors– These are job factors which are vital for the motivation at work. These do not result in satisfaction but, if they were missing, it will lead to resentment. They are also called dissatisfiers or maintenance factors as they are important to avoid dissatisfaction which characterizes the environment at job.

- **Company and administrative policies** – The policies ought to be understandable and flexible which include vacation leaves, sick leaves, flexible office hours, company dress code, etc.
- **Fringe benefits** – Employers must provide health benefits and/or programmers for their employees and their family members.
- **Physical Working conditions** – The work site needs to be secured, neat, and sanitized. The equipment ought to be up to date and well-maintained as well.
- **Status** – The employee status inside the firm ought to be clear and emphasized.
- **Interpersonal relations** – It is the relationship of an employee to his



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colleagues including supervisors, managers and subordinates. There should be a harmonious relationship between employees and co-workers.

- **Job Security** – The workplace should be secured at all times. (Source: www.simplypsychology.org).

Methodology

Research Methods

In order to see the general picture of the levels of agreement on the effects of intrinsic and extrinsic factors on employee motivation in the workplace of freight forwarding industries in Parañaque City, the descriptive method was used. A descriptive study is detailed and factual information to describe a current phenomenon.

The researcher makes use of questionnaires to gather and analyze data. It was designed as a survey questionnaire to collect factual information on the specific study about employee motivation.

Population Sample Size and Sampling Technique

The study utilized simple random sampling to determine the samples of the study. It is the simplest strategy and the most widely used method for selecting a sample among the population. In random sampling, every member in a population is likely to be chosen as a participant as part of the sample.

The research population on this study constituted 200 total employees of freight forwarding companies in Parañaque City who were picked randomly. The participants were employed in the freight forwarding companies and are willing to participate in the study. The forwarding companies are the following: RAPID INC, Mercury Freight

International Inc., Bollore Logistics, Castle Merchants and Haulages Inc, and DSV Air and Sea Inc. The proponents prepared a set of careful and logically ordered sets of questions.

Slovin's formula was employed in this study to get the sample size of the total population of 400 employees of different forwarding companies in Parañaque City. Slovin's formula was used to calculate the sample size (n) given the population size (N) and a margin of error (e).

The sample size is computed as:

$$n = \frac{N}{(1+Ne^2)}$$

Where:

n = sample size

N = total population e = marginal error

$$n = \frac{400}{1 + 400 (0.05)^2}$$

$$n = \frac{400}{1 + 400 (0.0025)}$$

$$n = \frac{400}{1 + 1}$$

$$n = \frac{400}{2}$$

$$n = 200 \text{ number of respondents}$$

Description of the Respondents

The researcher gathered information from the employees of freight forwarding companies in the district 1 of Parañaque City which was composed of managers, supervisors and rank and file employees. They were the chosen respondents because the researcher believed that they can contribute to the study about the levels of agreement on the effects of intrinsic and extrinsic factors that affect employees' motivation.

Research Instruments

An adopted questionnaire was used in gathering data. The questionnaire was divided into two (2) parts.

- Part 1: Profile of the respondents such as



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age, sex, civil status, highest educational attainment, average monthly income, job position level and number of years in service

- Part 2: The levels of agreement on the effects of intrinsic and extrinsic factors on employee motivation in the workplace of freight forwarding industries in Parañaque City which is divided in two (2) headings:

Intrinsic factors include recognition, sense of achievement, growth and promotional opportunities, responsibility and meaningfulness of the work.

Extrinsic factors include pay, company/administrative policies, fringe benefits, physical working condition, status, interpersonal relations and job security.

The following indicators were employed for the guideline in assessing the levels of agreement on the effects of intrinsic and extrinsic factors on employee motivation in the workplace of freight forwarding industries in Parañaque City as:

Point of Estimate	Verbal Interpretation
5	Strongly Agree
4	Agree
3	Moderately Agree
2	Disagree
1	Strongly Disagree

Data Gathering Procedure

The researcher seeks approval from the adviser if the adopted questionnaire was ready for distribution. After this, the researcher wrote a letter of request to the management of freight forwarding companies asking permission to conduct study from their employees. Upon approval, the researcher furnished a copy to the Human Resources Department and requested the list of employees with their designation to determine the population of the respondents. Afterwards, when everything had been prepared and ready, the researcher approached the employees to seek their approval and willingness to participate in the study and

assured them the confidentiality of their responses.

Statistical Treatment of Data

Immediately after the relevant data were collected, the researcher promptly collated, sorted and tabulated them. These were subjected to statistical treatment for the purpose of answering the questions considered in this study. The treatment includes scoring, giving percentage and ranking.

For part 1 of the questionnaires, the researcher used the frequency, equivalent percentage of the profile of the respondents, and ranking.

Frequency Distribution is a tool for arranging and demonstrating group data. A frequency distribution table is constituted to make the task amenable and saves time in computing different statistics.

Percentage is a method of expressing a number as a fraction of 100 (P represents "per hundred" in Latin).

$$P = \frac{f}{N \times 100}$$

Where:

P = percentage

f = frequency

N = number of respondents

Ranking refers to the data conversion in which numerical or ordinal values are replaced by their rank when the data are grouped.

For part 2 of the questionnaire, the researcher used the weighted mean.

Weighted Mean can be obtained by dividing the summation of weight and value for each item by number of respondents:

$$W = \frac{(WX)}{N}$$

Where:

(WX) = summation of weight and value of each item

N = number of respondents

For part 3 of the questionnaire, the researcher used the two-tailed test.



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A **two-tailed test** is a technique in which the critical area of a distribution is two-sided and tests whether a sample is greater than or less than a certain range of values. It is used in null-hypothesis testing and testing for statistical significance. If the sample being tested falls into either of the critical areas, the alternative hypothesis is accepted instead of the null hypothesis. The two-tailed test gets its name from testing the area under both tails of a normal distribution, although the test can be used in other non-normal distributions.

Results and Discussion

Table 1

Profile of the Respondents

Demographic Profile	Variables	Frequency	Percent
Age	21-30 years old	103	51.5
Sex	Male	116	58.0
Civil Status	Single	110	55.00
Highest Educational Attainment	Bachelor's Degree	176	88.0
Average Monthly Income	₱10,000-20,000.00	104	52.0
Job Position Level	Rank and File	154	77.0
Number of Years in Service	2-4 years	120	60.0

Table 2

Levels of Agreement on the Intrinsic Factors

Intrinsic Factors	Grand Mean	Verbal Interpretation	Rank
Recognition	4.14	Agree	2
Sense of Achievement	4.11	Agree	4
Growth and Promotional Opportunities	4.07	Agree	5
Responsibility	4.15	Agree	1
Meaningfulness of the Work	4.13	Agree	3

Table 3

Levels of Agreement on the Extrinsic Factors

Extrinsic Factors	Grand Mean	Verbal Interpretation	Rank
Pay	4.10	Agree	5
Company/Administrative Policies	4.20	Agree	2
Fringe Benefits	4.01	Agree	6
Physical Working Condition	4.13	Agree	3.5
Status	4.13	Agree	3.5
Interpersonal Relations	4.21	Agree	1
Job Security	3.99	Agree	7

Table 4

Significant difference on the levels of agreement on the effects of intrinsic factors when grouped according to profile

Intrinsic Factors	Age	Sex	Civil Status	Highest Educational Attainment	Average Monthly Income	Job Position Level	Number of Years in Service
Recognition	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Significant
Sense of Achievement	Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Significant
Growth and Promotional Opportunities	Significant	Not Significant	Significant	Not Significant	Not Significant	Not Significant	Not Significant
Responsibility	Significant	Not Significant	Significant	Not Significant	Not Significant	Not Significant	Significant
Meaningfulness of the Work	Significant	Not Significant	Significant	Not Significant	Not Significant	Not Significant	Significant

Table 5

Extrinsic Factors	Age	Sex	Civil Status	Highest Educational Attainment	Average Monthly Income	Job Position Level	Number of Years in Service
Pay	Significant	Not Significant	Significant	Not Significant	Significant	Significant	Significant
Company/Administrative Policies	Significant	Not Significant	Significant	Significant	Significant	Not Significant	Not Significant
Fringe Benefits	Significant	Not Significant	Significant	Not Significant	Not Significant	Not Significant	Not Significant
Physical Working Condition	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant
Status	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant
Interpersonal Relations	Not Significant	Not Significant	Not Significant	Significant	Significant	Not Significant	Not Significant

Summary of Findings

The study revealed that out of 200 respondents, 103 (51%) were in the age range of 21-30 years old; 116 (58%) were predominantly male. 110 (55%) were single; and with bachelor's degree 176 (88%); 104 (52%) were receiving average monthly income of ₱10,000 - ₱19,999; 154 (77%) were rank and file and majority rendered 2-4 years in service, 120 (60%).

There were no significant difference on the levels of motivation of the intrinsic factors in the following aspect: Recognition when grouped according to age, sex, civil status, highest educational attainment, average monthly income, and job position level; Sense of Achievement when grouped to sex, civil status, highest educational attainment, and job position level; Growth and Promotional Opportunities when grouped to sex, highest educational attainment, average monthly income, job position level and number of years in service; Responsibility when grouped to sex, highest educational attainment, average monthly income, and job position level; Meaningfulness of Work when grouped to sex, highest educational attainment, average monthly income, and job position level. However, there were significant differences in the following aspects: Responsibility when grouped according to number of years in service; Sense of Achievement when grouped to age, and number of years in service; Growth and Promotional



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Opportunities when grouped to age and civil status; lastly, Responsibility and Meaningfulness of Work when grouped to age, civil status, and number of years in service.

There were no significant difference on the levels of motivation of the extrinsic factors in the following aspect: Pay when grouped according to sex and highest educational attainment; Company/Administrative Policies when grouped according to sex, job position level, and number of years in service; Fringe benefits when grouped according to sex, highest educational attainment, average monthly income, job position level, and number of years in service; Physical Working Conditions, Status, and Interpersonal Relations when grouped according profile. However, there were significant difference in terms of the following: Pay when grouped according to age, civil status, average monthly income, job position level, and number of years in service; Company/Administrative Policies when grouped according to age, civil status, highest educational attainment, and average monthly income; Fringe Benefits when grouped according to age and number of years in service; Interpersonal Relations when grouped to highest educational attainment and; Job Security when grouped to age and number of years in service.

Conclusions

Based on the gathered findings, the following conclusions were obtained:

1. Majority of the respondents were 21 to 30 years old, male, single, bachelor's degree holder, with the average monthly income of P10,000.00 – P20,000.00, rank and file and served the company for 2 to 4 years.
2. The respondents agreed on the levels of the intrinsic and extrinsic factors affecting motivation which implies that both factors have an impact on the motivation of the employees in the workplace of freight forwarding companies as it was beneficial

on their job to be satisfied.

3. Some of the factors were significant on the levels of agreement on the effects of intrinsic and extrinsic factors and some were not significant based on the respondents when grouped according to profile. This means that both factors will have a different effect depending on the demographic of the respondents and will not be dependent on each other.

Recommendations

Based on the conclusions, the following recommendations were derived:

1. Since the majority of the respondents were young professionals and have a shorter length of service, it will be beneficial to create more effective training for the development and effectiveness of each role to increase their knowledge. New strategies and technologies relevant to their job should be introduced constantly.
2. The management should update the salary structure for each employee with regards to their corresponding job description. Freight forwarding companies should be competitive in offering salary to these young professionals who are new to the industry.
3. The management should create a more enhanced benefits package for the employees and their dependents. Since these young professionals who are single will be building their own family soon and will be more attracted to the benefits package of the company.
4. Implement programs and activities that will promote and develop a more sustainable work-life balance to all employees especially to young individuals. Create an environment that is more welcoming and will also give priority to their families.
5. Create understandable



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company/administrative policies so that rank-and-file who were the majority of the freight forwarding industries could easily understand and follow the rules and regulations of the company. Provide also a refresher or semi-annual orientation of improved policies so that employees will always be reminded of it.

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Programs on Organizational Citizenship Behavior During the Covid 19 Pandemic: The Case for a Medical Device SME

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Abstract

Purpose – The study aims to identify the effect of financial and non-financial compensation on Organizational Citizenship Behavior (OCB), as well as the effect of training and development on OCB of a company in the medical device industry.

Design/methodology/approach – This research design of this study is a causal design and utilized a positivist approach. A self-administered questionnaire was used to measure demographic characteristics, training and development, compensation and OCB of the company. A total of sixty-two (62) respondents participated in this study.

Findings – The study found that non-financial compensation does not have a significant impact OCB in terms of altruism, conscientiousness, sportsmanship, courtesy and civic virtue. However, the study also found that financial compensation and training and development has a significant positive effect on OCB. The study also shows that there is a significant difference between courtesy and civic virtue actions of the employees before and during the pandemic.

Research limitations/implications – First, the study is limited to one case test of the hypothesized relationship. Training and development may differ in style and manner across different companies. Second, enhancement of the scope of this study using other relevant variables such as other HR functions may be beneficial.

Practical and social implications – Based on the findings of the study, it is suggested that the management of the company should continuously review its compensation or rewards policies to enhance organizational citizenship behavior amongst the employees. Financial compensation should be equally (if not more) competent as the non-financial compensation that an employee receives. Aside from compensation, training and development is also another HR function that plays a big role.

Originality/value – Scholarly research focusing on the medical device industry of the Philippines are limited. There are also few studies who look into specific HR functions and its relationship to OCB of employees. This paper aims to contribute to these areas where there is little information available.

Key Words: Employee compensation training and development, organizational citizenship behavior

Relevant SDGs: SDG 8: Decent Work and Economic Growth



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Introduction

The role of employees in the workplace goes beyond performing the tasks assigned to them. Although their primary duty is to provide acceptable work on their deliverables, they are also expected to stay away from behaviors that could be troublesome or hurtful to the organization. After all the engagements in the formal recruiting process, such as the in-depth interviews and the signing of employment contracts, the work relationship structure comes to existence. Employees are now expected to abide by the do's and don'ts of their contract agreements, in exchange for a monthly paycheck and career development opportunities. This is where organizational citizenship behavior (OCB) comes into play. What makes OCB so interesting is that it does not come with the formal job descriptions of employees. It is the mindset and actions, basically anything that the employees do out of their own free will, that supports the entire company and the people within that organization. A positive OCB transpires when workers view their jobs as more than just a paycheck, and they go above and beyond to make the work environment function smoothly, despite it having a minimal connection to their formal duties. Managers would agree that a positive OCB constitutes an integral part of organizational life, so it's imperative the CEOs and head leaders of a firm maximize business functions that would encourage a positive OCB within the organization.

Literature Review

Organizational Citizenship Behavior

Organ (1988), defined OCB as "individual discretionary behaviors, not directly or explicitly recognized by the formal reward system, and that promote the effective operation of the organization. These are proactive behaviors that are primarily motivated by employees' willingness to voluntarily contribute to the organization" (Hughes, 2018). It is

well known for its 5 dimensions, Sportsmanship, Altruism, Civic Virtue, Courtesy, and Conscientiousness, which Organ (1998) summarizes in the table below:

Table 1

Definition of OCB Dimensions

Dimension	Definition
Altruism	Actions aimed at helping a person with difficulties at work and discretionary behavior and, on the part of workers, helping specific people with relevant problems in the organization
Courtesy	Actions aimed at helping a person avoid problems at work
Sportsmanship	Attitude of citizenship that consists of tolerating small frustrations and inconveniences at work without complaints.
Conscientiousness	A standard that results in going beyond the minimum required levels of presence, punctuality, maintenance of the space and of the resources at work.
Civic virtue	Responsible and constructive involvement in the political life of the organization.

Compensation

Bussin & Brigman (2019), defined compensation as "the entire sum of monetary and non-monetary pay agreed to be given to an employee by the employer in return for work performed as required". In a research from Silaban and Syah (2018), they argue that compensation is one of the major reasons for lack of commitment and turnover in an organization. Compensation is the integration of one's remuneration, leaves, bonuses, insurance, and any other perk that an employee may get as an exchange for the fulfillment of their duties in the firm. Compensation according to Simamora (in Sinambela, 2016), compensation may be viewed in two separate categories: financial and non-financial. Financial compensation is usually limited to the direct and indirect cash benefits that the employees receive for the services that they render as employees of a particular organization. While, non-financial compensation consists of "the satisfaction that a person receives from the job itself, or from the psychological and physical environment in which the person works" (Simamora, 2004). Some



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examples of these are work flexibility, fringe benefits, pleasant working conditions, and the like. There have been plenty of studies that have linked compensation as a significant factor to OCB, but there are also some who found that compensation is not a predictor of OCB (Choi et al., 2015., Ahmed 2016). Literature has also revealed that workers who perceive their compensation to be adequate and respective of their contributions to the company, have a higher tendency to perform and exert effort that is more than expected than what is written in their contracts of employment. It is worth validating such information in specific companies before making decisions based on these claims.

The self-determination theory states that individuals are motivated to grow and change by three innate and universal psychological needs namely: Autonomy (the basic need to be the author of one's life—to have a sense of choice and self-endorsement of one's actions), Competence (the basic need to feel effective, to be successful, and to grow), and Relatedness (the basic need to feel we belong and “matter” to others). When these basic needs are met, intrinsic or extrinsic motivation arises. Intrinsic motivation refers to doing an activity for its own sake out of enjoyment and interest, while extrinsic motivation refers to the performance of an action because it will result in a reward or punishment. OCB is related to intrinsic motivation. OCB stems from voluntary and discretionary behavior and is not based on self-rewards.

Training and Development

Training programs are one of the options that companies turn to in order to address some weaknesses in the workforce. Companies who invest in training and development programs usually have the intention of strengthening the skills of their employees, reducing any weak links, in hopes that the higher level of knowledge will give favorable returns back to the organization. Some advantages of mandating employees to attend these trainings or workshops, is that it creates an overall

knowledgeable staff who can take over for one another as needed, and encourages them to work independently without too much supervision. Jahan (2015), refers to training and development as “the process of giving employees instruction, seminars, coaching, mentoring and other learning opportunities that inspire, educate and enable them to serve their positions to the best of their knowledge within the requirements set by their organization”. Though there have been plenty of studies that have concluded that training and development practices have significant positive effects on OCB, contrary to these findings, a negative relationship between training and development and OCB was found (Patil & Ramanjaneyalu, 2018), hence the need to investigate further.

Case: Sinawal Medical Supplies

Established in January 2007, Sinawal Medical Supplies is a young, but competitive trade player in the medical device industry. It was formed with the primary purpose of establishing a sales and marketing arm and becoming the leading distributor of high-quality implants and instruments used in orthopedic surgery. Over the years, the company has built a full range of joint replacement products and instruments used for surgery. Belonging to a very dynamic industry, Sinawal continually strives to improve and upgrade their work practices, as well as the technology and machinery that they use through mandatory training and development programs for its workforce. In an interview with the director of the company, he admits that there are varying attitudes that he observes among the employees. Since the company has specific salary scales and mandatory training and development programs for the entire workforce, this company will be well suited for the objectives of this study to be investigated in.

Research Problem/s

The general problem that this study would like to address is if employee compensation and training



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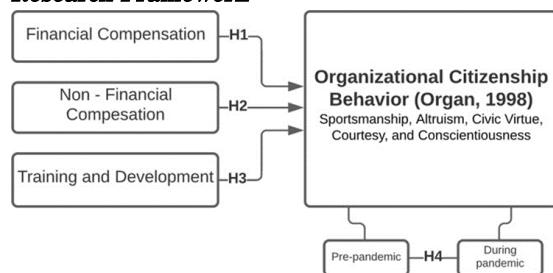
and development programs have an effect on organizational citizenship behavior. Moreover, the researcher would like to know if there was a difference in the OCB of the employees before and during the pandemic. In particular, the study aims to answer the following specific questions:

- Does financial compensation have an effect on OCB?
- Does non-financial compensation have an effect on OCB?
- Do training and development programs have an effect on OCB?
- Is there a significant difference between the OCB of the SMS employees before and during the pandemic?

The study aims to identify the effect of financial and non-financial compensation on OCB, as well as the effect of training and development on OCB of the SMS employees. It also aims to identify if there is a significant difference between the levels of OCB before and during the pandemic. This research allows previous studies to be tested in an all-new and challenging environment experienced worldwide.

Research Philosophy, Framework, Design, and Methodology

Figure 1
Research Framework



This paper utilized the positivist approach to address the research questions. We begin with situating financial compensation, non-financial compensation, and training and development as the predictor variables of OCB. Following arguments

from previous studies, this study would like to determine if employees indeed increased the level of OCB practices during the pandemic where employees have transitioned to a work-from-home setup. From here, we present the following hypotheses:

- HA¹: Financial compensation has a significant effect on the OCB of the SMS employees.
- HA²: Non-financial compensation has a significant effect on the OCB of the SMS employees.
- HA³: Training and development has a significant effect on the OCB of the SMS employees.
- HA⁴: There is a significant difference between the OCB of the employees before and during the pandemic.

Methodology

The study utilized a quantitative and causal research design to identify the effect of compensation and training development to the OCB of the SMS employees. A self-administered questionnaire was used to measure demographic characteristics, training and development, compensation and OCB. The questions were adapted from Manenzhe & Ngirande, (2021) and Chaikidurajai, (2019). The scale has found a Cronbach's alpha value of above 0.7, and all scales were measured on a 5-point Likert scale ranging. A total of sixty-two (62) respondents were purposely chosen on the basis of their permanent position within the company. All probationary employees were excluded from the study. The questionnaire was administered and retrieved manually. Data treatment ensued using Jamovi software. After testing the variables for assumption checks, it was found that the data collected was normal, and it is supported by the skewness and kurtosis scores that fall within -3 and +3.

Data Results and Analysis



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Table 2
Descriptive Information

Variable	Category	Freq	% of Total	Cumulative %
Gender	Male	37	59.7 %	59.7 %
	Female	25	40.3 %	100.0 %
Years in the Firm	2 - 4	17	27.4%	27.4%
	5 - 7	28	28.0%	55.4%
	8 - 10	12	37.5%	92.9%
	11 - 14	5	8.06%	100.0%
	Elementary	7	11.30%	11.30%
Highest Qualification	Highschool	31	50.00%	61.30%
	College	24	38.70%	100.00%

Table 2 shows the profile of the respondents. 62 employees participated in the study. 37 are male, and 25 are female. 17 respondents have been working for the firm from 2-4 years, 28 have been working for 5-7 years in the firm, 12 have been working in the firm for 8-10 years, and 5 have been working for the firm for 11-14 years. Of these employees, 7 have graduated in the elementary level, 31 from the high school level, and 24 from the college level.

Table 3

Linear Regression

Model	R	R ²	Adj R ²	F	df1	df2	p
Financial Compensation	0.495	0.245	0.233	19.5	1	60	<.001
Non - Financial Compensation	0.147	0.0215	0.0517	1.32	1	60	0.256
Training and Development	0.5	0.25	0.238	20	1	60	0.002

Table 3 shows the results for the linear regression test for each of the independent variables. As revealed by the R² column, the results show that the total variation in the dependent variable can be explained by financial compensation, non-financial compensation, and training and development by 49.5%, 14.7%, 50% respectively. Only the R value of non-financial compensation fell below 50%, which can indicate that it may not really be a good predictor of OCB. In fact, with the correction factor found in the column of the adjusted R², the results show a lower value of 2%. Thus, based on its adjusted R² value, non-financial compensation cannot explain the behavior in OCB. For the beta coefficient, it was found that the independent variable predicts OCB by 35%. Finally, the results in the p value column show that non-financial compensation does not have a significant impact on

OCB, but financial compensation and training and development both have a significant impact on OCB, since it yields a p value less than 0.05. Thus, this study fails to reject null hypothesis 2. The study however, accepts Ha1 and Ha3

Table 4

Paired Sample T-Test

	Pre-Pandemic			During Pandemic		
	Mean	SD	SE	Mean	SD	SE
Altruism	3.26	1.378	0.175	3.21	1.549	0.197
Conscientiousness	3.32	1.446	0.184	3.53	1.104	0.14
Sportsmanship	3.68	1.34	0.17	3.79	1.147	0.146
Courtesy	3.52	1.434	0.182	4.03	0.94	0.119
Civic Virtue	3.79	1.118	0.142	4.32	1.004	0.128
	Statistic	df	p			
Altruism	0.192	61	0.849			
Conscientiousness	-2.032	61	0.047			
Sportsmanship	-0.509	61	0.613			
Courtesy	-2.225	61	0.03			
Civic Virtue	-2.97	61	0.004			

Table 4 shows the results of the paired sample t-test. The interpretation of the means follows a scale. 0 to 1.5 is “always”, 1.6 to 2.5 is “often”, 2.6 to 3.5 is “sometimes”, 3.6 to 4.5 is “rarely”, and 4.6 and above is “never”. The altruistic activities of the employees in the company before the pandemic show a mean score of 3.26 which means that on an average, the employees in the firm would sometimes help others with difficulties at work. Before the pandemic, the employees, on an average, would sometimes go beyond the minimum required levels of presence, punctuality, maintenance of the space and of the resources at work. During the pandemic, the mean score rose to 3.53 for conscientiousness, although this was not a significant difference. For sportsmanship, there was no significant difference as well. The attitude of the employees in terms of tolerating small frustrations and inconveniences at work without complaints, did not change despite the shift in the work set up from onsite to WFH. The mean scores were 3.68 and 3.79 respectively. The results however, show that there is a significant difference between the courtesy and the civic virtue actions of the employees before and during the pandemic. When work shifted from onsite to work from home, employees would more often help the company to avoid problems (courtesy) and also be more constructively involved in the political life of



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the organization.

Discussion, Conclusions, Recommendations

The study found that non-financial compensation does not have a significant impact OCB in terms of altruism, conscientiousness, sportsmanship, courtesy and civic virtue. However, the study also found that financial compensation and training and development has a significant positive effect on OCB. These are consistent with the study of Manenzhe & Ngirande (2021), but are in contrast with the study of Chaikidurajai (2019), who found that non-financial compensation had a significant impact on OCB. The study also shows that there is a significant difference between courtesy and civic virtue actions of the employees before and during the pandemic.

Based on the findings of the study, it is suggested that the management of the company should continuously review its compensation or rewards policies to enhance organizational citizenship behaviour amongst the employees. Financial compensation should be equally (if not more) competent as the non-financial compensation that an employee receives. Aside from compensation, training and development is also another HR function that plays a big role. There seems to be a strong link between training and the OCB levels of the company. Empowering employees is imperative for success. The enhancement of the employees' skills, expertise, and work for the firm through these development programs may strengthen their attachment to the company and in return, employees may have a sense of belonging towards the organization that will encourage them to help the company progress towards its goals. Thus, it is recommended that the company invests in training and development programs that address some weaknesses or shortages in skills among the employees.

With regard to the OCB levels of the company, all OCB dimensions stayed consistent and even increased for some, despite the transition between

the onsite setup and work from home. This implies that work from home is an alternative work setting that the company may adopt in the long run after considerable effort in exploring this change.

This study is not without limitations. Training and development may differ in style and manner across different companies. Enhancement of the scope of this study using other relevant variables such as other HR functions may be beneficial. It is recommended to include other medical device companies to the study so the sample can be increased. An in-depth study of a particular industry is also suggested, as it was not a factor in this study. Such research would be more beneficial to our local SMEs as the nature of each industry can be considered.

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From Resisting to Reconnecting: Reducing Employee Resistance to



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Returning to the Office

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Abstract

The COVID-19 outbreak has had an unprecedented impact on many businesses worldwide. As a result, many organizations were forced to quickly adapt to a work-from-home setup to ensure the safety and well-being of their employees. Now that vaccines and booster shots were already distributed and infection rates are beginning to stabilize in the country, the Philippine Economic Zone Authority (PEZA) decided for all ecozone-registered firms to return to office starting April 1, 2022. This short notice to return to onsite work exacerbated the employees' resistance to the sudden change in work arrangement.

Thus, this action research project was initiated to address the issue of employee resistance to the sudden transition to onsite work. Albeit the company has been very generous in supporting employees during the work-from-home setup, it is also imperative for the company to help their workforce prepare for the return to onsite work. As stated under the Occupational Safety and Health (OSH) law, employers are responsible for providing safe workplaces for employees to perform their jobs.

In this action research, an intervention program was developed to help explain the reasons for returning to onsite work. Likewise, the primary goal was to prepare employees to return to the physical office and reduce resistance to the sudden change in work arrangement. The collaborators applied the Work Adaptation Theory by Petrini and Hultman (1995) to address issues that caused resistance to change. Despite time limitations, there was a transformation in employees' sentiments, reflecting a reduction in their opposition to returning to the office.

Key Words: Return to Work, Reducing resistance, Action Research

Relevant SDGs: SDG #8 – Decent Work and Economic Growth

Introduction

The COVID-19 outbreak has had an unprecedented impact on many businesses worldwide. As a result, many organizations were forced to quickly adapt to a work-from-home setup to ensure the safety and well-being of their employees. Now that vaccines and booster shots were already distributed and infection rates are beginning to stabilize in the country, the

Philippine Economic Zone Authority (PEZA) decided for all ecozone-registered firms to return to office starting April 1, 2022. Given the short notice from remote working to onsite working, there is a challenge in employee resistance to the sudden change of work arrangement.

The company where this intervention took place had provided different avenues to ensure every



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employee's well-being was taken care of, especially during the outbreak when everyone was working remotely. However, being a Philippine Economic Zone Authority (PEZA) organization, when PEZA announced that all ecozone-registered firms needed to return to the office on such short notice, the majority of the lead researcher's teammates expressed their disapproval of this order through social media. After discussing with the team why they had such adverse emotional reactions, the collaborated agreed on doing action research on the issue of resistance to the sudden transition to onsite work

The company, referred to as the Card Network, is an American multinational financial services corporation that facilitates electronic payment processing and connects consumers, businesses, financial institutions, and governments in more than 200 countries and territories worldwide. The Card Network is not a bank and does not issue cards; rather, Card Network is a global payments technology company that provides its clients with authorizing, clearing, and settling of transactions with network processing services and branded payment products along with various other value-added services such as risk management, loyalty services, dispute management, and value-added information services. It enables a fast, secure and seamless payment experience through credit, debit, prepaid and cash-access programs. Banks and merchants rely on the Card Network's payment processing platform for payment to be taken electronically and debited or credited to a cardholder's account when making purchases. Card Network makes money by charging merchants and businesses a transaction fee for their network processing service.

Literature Review

Employee resistance can significantly deter effective organizational change (Cummings & Worley, 1997, as cited in Folger & Skarlicki, 1999, p. 35). According to Radzi and Othman (2016), resistance to change is to support the current situation against anything

that wants to change the current situation (p. 643). On the other hand, Morris and Raben (1995) proposed that employees resist change based on rational arguments of whether the current state is more appropriate (p. 39).

Resistance includes almost any behavior, ranging from "eye-rolling" to open sabotage (Ford & Ford, 2010, as cited in Paulikas, Zuperkiene, & Abele, 2020, p. 328). According to Predișcan, Braduțanu, and Roiban (2013), reducing resistance to change is a well-defined and crucial phase in the change implementation process in organizations (p. 1611). Reducing employee resistance to change successfully establishes the preconditions for attaining more objectives.

According to Paulikas, Zuperkiene, and Abele (2020), factors to which employees resist are defined by scholars as some obstacles to the implementation of change; therefore, identification of the causes of employee resistance can be the key to a successful implementation of change (p. 320).

Research Philosophy, Framework, Design, and Methodology

In this research, the methodology of Action Research (AR) and the ontological underpinning of Critical Realism were combined to address the issue of employee resistance. Using this methodological approach can offer new insights into finding solutions to barriers faced by the organization. According to Coghlan and Shani (2019), "Action research is defined as an emergent inquiry process in which applied behavioral science knowledge is integrated with existing organizational knowledge and applied to address real organizational issues... It is an evolving process that is undertaken in a spirit of collaboration and co-inquiry (p. 520)."

According to Petrini and Hultman (1995), there are two types of people who resist change (p. 15). The first is active resisters who openly complain, criticize, and ridicule the change. They use facts selectively and often sabotage, threaten, or



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manipulate. The other type is passive resistors, who agree verbally but do not follow through. They feign ignorance, withhold information or support, and even stand by to allow change to fail.

Such behaviors tell us that people resist change but do not tell us why. Identifying the active and passive resistors and the reasons for resisting is essential. To better understand resistance to the return to office decision and to help facilitate the change process, this Action Research used a theoretical framework called Work Adaptation Theory developed by Petrini and Hultman (1995). According to Petrini and Hultman, as cited by Bresciani, Griffiths, and Rust (2009), six common beliefs underlie employee resistance to change and provide strategies for dealing with such resistance (pp. 5-7).

The six common beliefs include the following: (a) One's needs are currently met by the traditional methods already in place, (b) The change will make it more difficult to meet one's needs, (c) The risks involved outweigh the possible benefits, (d) There is no basis for the change – it is just another plan to get more work out of us with fewer resources, (e) The organization is mishandling the change, and (f) The change will fail and go away.

Stories and Outcomes

The Card Network is committed to ensuring that Sustainable Development Goal (SDG) #8, Decent Work and Economic Growth, is supported by the organization. It is very serious about taking care of its employees mentally, emotionally, and physically. It provides a competitive compensation and benefits package to its employees and encourages them to embrace a healthy lifestyle by providing a yearly fitness club subsidy. Likewise, Card Network supports the employees' career and personal aspirations and subsidizes tuition fees for an approved program of studies leading to a formal education certification.

However, despite all the benefits the company provides to its employees and despite being

consistently ranked as Glassdoor's *Best Places to Work*, the lead researcher observed that most employees are still expressing their negative sentiments. Some employees even considered leaving the company when the news of returning to the office broke.

The company has been in a work-from-home setup since the President imposed an enhanced community quarantine last March 2020. The company decided to continue its operation with employees working remotely until there is clear information about when the pandemic will end. Although there is no clear indication that the pandemic will soon end because of different variant mutations, the infection rates in the country are starting to stabilize. For this reason, the Philippine Economic Zone Authority (PEZA) ordered all ecozone-registered firms, including our company, to return to the office starting April 1, 2022. This sudden transition from remote to on-site working has caused employee disequilibrium, provoking their resistance to the return to office decision.

To help construct the issue, the lead researcher used Schein's ORJI.

Table 1

Application of ORJI (Schein, 1999) for Cycle 1

<p>1. What did I OBSERVE?</p>	<p>Since the Philippine Economic Zone Authority (PEZA) ordered all ecozone-registered firms to return to office starting April 1, 2022, I saw how some of our company employees are reacting negatively through social media and virtual group meetings. I noticed that everyone was already used to the work-from-home setup. Most especially since the company made sure to provide employees additional monetary benefits during the pandemic, including a home gym subsidy reason, when the news of the Return to Office (RTO) order by PEZA broke out, some of my teammates shared their negative reactions through social media. Others hoped for the order to be suspended. Few shared their sentiments regarding the issue through our private conversation. Those whom I talked to are even asking for any remote working opportunities so they can resign once the RTO is implemented.</p>
<p>2. How did I REACT? What feelings were aroused in me?</p>	<p>As an employee who was also used to the work-from-home set-up implemented since the pandemic started, I felt sad because I saw that everyone was doing better in a telecommuting work arrangement.</p>



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3. What was my JUDGMENT about what happened?	I judged PEZA because of its sudden implementation of RTO. I initially needed to research the reasons why PEZA ordered an onsite return. My collaborators and I thought that the order did not undergo careful deliberation, just like the government's other implementations during the pandemic, such as putting a plastic barrier in the ride-sharing app Angkas that may cause road accidents.
What thoughts or evaluations did the event trigger?	
4. What did I do about it? How did I INTERVENE?	I stepped back on my immediate judgment and read legitimate resources. I understood that enjoining all businesses to do more onsite operations is a general economic recovery strategy to encourage the revival of other sectors, particularly the micro-, small-, and medium-sized enterprises around offices.

Using ORJI, she realized that she reacted negatively without understanding PEZA's reasons for ordering firms to return to the office. Since her collaborators were reacting negatively online, she reacted similarly because she saw that everyone was doing better in a telecommuting work arrangement. However, researching the reasons for PEZA's order, she came to understand that the order is a general economic recovery strategy that strongly supports SDG #8.

To decide on which issue to address, the lead researcher presented an array of issues that could be addressed. Possible issues raised included a decline in attendance due to mental health reasons, including mourning the death of their loved ones due to COVID-19. On the other hand, there is also a timely and relevant issue of resistance to the return to office order. When asked about their thoughts on the issue of absenteeism, they did not even know that other team members had attendance issues because we were working online. They are not even aware that the issue exists. Since this issue only affects a small number of people in our team, she asked her collaborators if they thought we should address the issue of resistance to the return to the office instead. They agreed because they thought that this affected the entire team.

To support the use of first-person inquiries in constructing the issue, she asked her collaborators how they felt about the work-from-home arrangement and their concerns about returning to the office. Like her observation, they said they could not ask for more from the company because everything was already given to us. However, the

only problem they have is to retain the status quo, which is to work from home since they have already adjusted to the current setup.

The team used the six common beliefs from the Work Adaptation Theory (Petrini & Hultman, 1995) to evaluate the causes of resistance. The collaborators used this theory to identify the intervention to help address the resistance issue to the return to office order and successfully prepare everyone to work onsite. Table 2 shows how the questions raised by the team were addressed through the use of the Work Adaptation Theory.

Table 2

Application of Work Adaptation Theory by Petrini and Hultman (2005)

First Belief:	Resolution:
<p><i>One's needs are currently met by the traditional methods already in place.</i></p> <p>My collaborators believe that the current work-from-home setup has made them function quite well. They were able to maximize their time with domestic duties, especially because they did not have to consume time commuting.</p>	<p>With the help of my manager, I clearly explained why the change was essential and how the change would help the team better. I started by letting them know that their needs and concerns are valid and that the management genuinely cares about them. I told them that it is not only a requirement that we need to adhere to but will allow us to foster face-to-face interaction and engagement for key activities. It will enhance the three C's—collaboration, connection, and community—to ensure we continue fostering a strong and rewarding culture within the company.</p>
Second Belief:	Resolution:
<p><i>The change will make it more difficult to meet one's needs.</i></p> <p>Given that my collaborators have already adjusted to a work-from-home setup, they find commuting inconvenient. They felt that it would decrease their productivity, not to mention that it was truly an additional expense. Thus, their needs still need to be met.</p>	<p>To diminish this threat to job satisfaction, I emphasized the benefits the company generously provides to its employees, including the COVID-19 rehabilitation program to support employees and their dependents who are finding it difficult to recover from the long-term effects of COVID-19. I assured them that the management understands that everyone is experiencing different levels of need and comfort and that we are here to support them in every way. I added that the company is doing its best to ensure employees have the best tools and resources to meet their needs.</p>



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Third Belief:	Resolution:
<p><i>The risks involved outweigh the possible</i></p> <p>There is no clear indication when the pandemic will end because of different variant mutations. In addition to that, we are also working the graveyard shift. For these reasons, the collaborators found returning to the office a risk to themselves and their families.</p>	<p>I told them that the company ensured their safety by enhancing the facilities' cleaning regime and that office doctors and nurses were available 24/7. Adjustments were also made in the building, including the replacement of air filtration, air quality monitoring, and maximizing air ventilation. Apart from this, there is a newly opened gym exclusive for the employees to ensure they remain fit and well. As for their fear of commuting at night, I reminded them of the sufficient sleeping lounges and break rooms the company has provided where they can stay.</p>
Fourth Belief:	Resolution:
<p><i>There is no basis for the change.</i></p> <p>My collaborators and I initially thought that imposing such an order did not undergo careful deliberation, just like other implementations the government made during the pandemic.</p>	<p>To help employees understand the necessity for change, I listened to their concerns and was careful to address each while explaining the consequences of continuing with the current setup. I reiterated that PEZA made the changes to help the economy bounce back from the pandemic. Additionally, my manager and I listed the reasons for returning to the office, such as being able to exchange ideas, solve problems, and foster innovation, which is easier when interacting face-to-face. Not to mention that having social interaction is fun and motivating and helps enable others and uplift/inspire everyone. Working in the office helps foster an inclusive environment, one of the company's principles.</p>
Fifth Belief:	Resolution:
<p><i>The organization is mishandling the change.</i></p>	<p>I told them that the company wanted to provide us time to make necessary adjustments to enable us to work onsite; therefore, we were expected to return to the office on April 25 instead of the PEZA's order of April 1. I reiterated that the company ensures that safety and security measures are strictly followed. I also shared with them the good news. Although the company already sent a memorandum that it is implementing a hybrid setup where employees only need to work in the office three days a week.</p>
Sixth Belief:	Resolution:
<p><i>The change will fail and go away.</i></p>	<p>I told them that although many companies are shifting to a complete work-from-home setup, we need a hybrid setup to collaborate, connect, and build community. Our new flexible work model is critical to our long-term success. For this reason, I emphasized that our innovation will become stronger, our team dynamics will become healthier, our client interactions will become more productive, and our professional development will become more impactful with this change. Hence, being together in the office a few days a week will make us better. The transition may be challenging for most of us, and it will take time to re-habituate, but the company is here to support us.</p>

The team was happy to know that we would not be working for five days in the office, but instead, the company will support a hybrid workforce wherein we will only be required to work in the office three days a week. One of their concerns was our work-from-home allowance for consuming electricity and internet at home. Everyone was happy to know that it will not be withdrawn from our benefits since there will still be days that we will still be working at home. Another question they raised is when the hybrid workforce will be supported, as they hoped it would be permanent. We relayed the information from the management that it would last until September and that they would reevaluate the situation again after that.

The researchers conducted a pre- and post-survey to determine if the intervention helped improve the resistance to returning to work issue. According to the pre-survey, 13.3% are very comfortable returning to the office. In comparison, 20% are very uncomfortable, and 40% are somewhat uncomfortable about returning to onsite work mainly because of the commuting inconvenience. After the intervention, there was quite an improvement in the post-survey results. Those who answered that they were somewhat uncomfortable working in the office decreased to 15.4%.

Meanwhile, no one answered very uncomfortable. There was an increase to 15.4% from the 13.3% who answered that they were very comfortable working in the office now. Although there was only a 2% decrease in those who answered that they preferred to continue working from home for longer, it still was a positive change.



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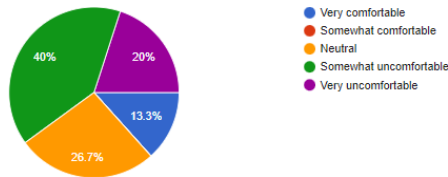
Figure 1

Survey Results after Cycle 1

Pre-Survey

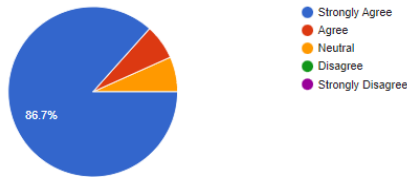
With the pandemic situation stabilizing, how comfortable do you feel about returning to work in the office

15 responses



I would prefer to continue working from home for longer, rather than return to on-site working / working in the office.

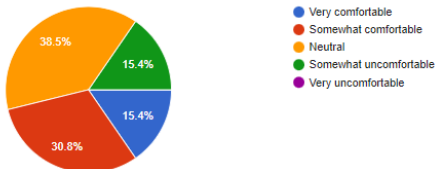
15 responses



Post Survey

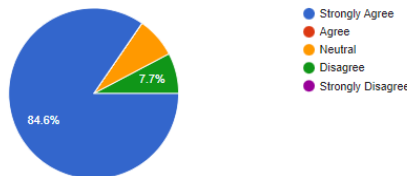
With the pandemic situation stabilizing, how comfortable are you working in the office now?

13 responses



I would prefer to continue working from home for longer, rather than return to on-site working.

13 responses



Before the intervention, most of the collaborators objected to the decision to return to working onsite. Two collaborators who are recognized as passive resisters resigned in the middle of implementing Cycle 1, just before we disseminated the information that we will support a hybrid setup.

After the intervention, the collaborators were pleased that their concerns and questions were answered. They were delighted to know that the company will support a hybrid workforce instead of full onsite work. Some even said they could not wait to return to the office and hang out with their teammates again. Although the collaborators did not particularly pay attention to why PEZA was imposing such an order, they agreed that working side by side is important. They were more concerned about achieving our organizational goals as we will benefit from them.

Even though resistance to change developed over time, even after the intervention was implemented, the team felt that the intervention helped them understand the company's objectives more.

Meta-Learning – Meg Acurato’s Reflections

Initially, I had a different IAR topic in mind. After consulting with my collaborators, we saw how this timely and relevant issue of resistance to onsite work affected the whole team. Hence, we decided to use this issue to create an intervention.

There needs to be more than just a competitive benefits package and other perks for an employee to avoid resisting any change happening to the organization. It may motivate them and deter them from leaving the company. However, not having adequate explanations regarding any change and not being able to satisfy the employees' needs for personal security and belonging may result in resistance to change, especially if it will hurt their current status. With the intervention made using the Work Adaptation Theory, open communication and detailed explanations are keys to reducing resistance to any change



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Although the issue of resistance to change develops over time, the intervention helped them understand the company objectives more. Admittedly, the action research was a challenge because of the limited time we had, not to mention the non-participation of some collaborators for various reasons. Nonetheless, we saw positive changes based on their feedback and teamwork.

The action research tools helped us understand the specific issue we need to address. At first, some of the collaborators were scared to speak up when asked about their sentiments on the issue. With this, I realized that we should not only listen to those actively resisting the change. I realized how sensitive it is for passive resisters to voice their objections because they need their jobs and cannot do anything but follow the order. Hence, our anonymous survey was critical in discussing sensitive issues and obtaining more detailed and honest feedback. Through the survey, they knew that they were equally heard.

I also realized that when dealing with employee resistance, I must first understand those individuals who must adjust to the change. I understood their beliefs, feelings, and reasons for resistance through the Work Adaptation Theory. I also realized the importance of clear and effective communication: provide all the facts—what, why, who, and when—and answer all employee questions thoroughly. Everyone is resisting the RTO order because we do not know the reason behind it at first. When we discovered that the company was supporting a hybrid workforce, my collaborators' moods suddenly shifted. I realize that in all situations, we must reflect before reacting.

We understood the reasons for the company's decision to return to the office not only because the company is required to comply with the government requirements but also to ensure we continue to foster a strong and rewarding culture within our organization. As a person who always welcomes change, I, too, tend to resist change when I know the status quo is better. Moving forward, I promise to

think critically before reacting negatively to any change to avoid making situations worse. Moreover, I pledge to become an effective listener and communicator as I now understand that open communication is crucial to successful change implementation. Despite our limited time to implement the program, it positively impacted the team.

Conclusion

The action research conducted focused on reducing resistance to the Return-to-Office setup. Resistance is a function of disruption, an inherent part of any change, often an emotional response to change and an indirect response to an underlying concern. This organizational issue identified does not only exist in the workplace but also in different settings where change is implemented. Change is inevitable. If we are not changing, we are not moving forward.

Even if the change is for the better, many prefer the status quo that is safe and predictable. Additionally, our lack of understanding is one of the reasons for resisting any change. Hence, the Work Adaptation Theory framework used was beneficial in explaining the sudden change in work arrangement.

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Business Operational Practices of Micro, Small, and Medium Garment Enterprises in Taytay, Rizal

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Abstract

This paper determined the relationship between the business operational practices of micro, small, and medium garment enterprises and the level of their financial performance as assessed by 385 randomly selected garment enterprise owners in Taytay, Rizal, the majority of whom are female, single, college graduates, having at least one store operating for about two to five years, and with an initial capital investment of less than Php 50,000. The respondents assessed the extent of business operating practices in terms of (1) human resources, (2) production/operations, and (3) marketing as “Always Practiced”, while (4) finance was “Moderately Practiced”. The study showed that the overall assessment of respondents as regards their financial performance is “High” and that there is a significant relationship between the business operational practices and the overall financial performance of micro, small, and medium garment enterprises. With the results given, garment enterprise owners should consider intensifying their business operational practices such as human resource management, financial management, operations management, and marketing management for them to effectively manage, lead, and control their resources to achieve business operational sustainability and competitive advantage.

Key Words: garment enterprises, businesses operations, financial performance

Relevant SDGs: SDG 1 No Poverty, SDG 3 Good Health and Well-Being, SDG 8 Decent Work and Economic Growth, SDG 9 Industry, Innovation and Infrastructure, SDG 11 Sustainable Cities and Communities, SDG 17 Partnership for the Goals

Introduction

The garment industry is a significant part of employment, industry, trade, and economy in several developing countries. It is one of the oldest, largest, and most global industries in the world. The industry is a complex fragmented global system fraught with social and economic problems. It is labor-intensive and viewed as a typical “starter” business for countries engaged in export-oriented industrialization. The garment industry’s roots can

be traced back to the 1950s. Its operations are transferable from one location, country, or nation to another and had been at the vanguard of industrial development.

The industry offers a range of opportunities in emerging countries, some of which have yielded a high production growth rate in the sector. These changing dynamics in the garment industry have increased pressure on manufacturers to be extremely flexible and responsive to the market. To maintain their competitiveness, businesses need to



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understand the latest trends, consumer insights, and industry best practices.

The garment industry in the Philippines comprises 39% exporters and 61% subcontractors, including homeworkers and small contractors to garment exporters. The garments industry in Taytay, Rizal was rooted in the efforts of the Municipal Mayor back then who had easy access to suppliers and knowledge about the procedures. It was from the 1950s to the 1960s when he discovered importing remnant textiles also known as aged textiles from New York. The majority of garment businesses were located on the ground floor of their houses to lessen the overhead costs in addition to permits and licensing requirements.

“Taytay”, informally named “Garments Capital of the Philippines”, is one of the 14 towns in the Province of Rizal. It has been and still is the bread and butter of many families in the town. As they aimed to increase their production, families decided to capitalize on and maximize the potential of the industry and take advantage of the opportunities the industry offers.

In an article published by Mercurio (2017), most of the garment enterprises rent in Club Manila East Compound, which offers big space enough to accommodate micro, small, and medium garment enterprise owners. Surprisingly, there were 1,516 registered vendors during its opening.

The Local Government Unit (LGU) of Taytay is continuously developing steps to elevate and improve the quality of production in the municipality. Rebuilding industries is the government’s priority and topping the list is the garment industry. Likewise, the government is also planning to put its garment trade as the front line of the tourism industry, not just within the province of Rizal but across the globe.

It is for these reasons that the author decided to explore the business operational practices of the micro, small, and medium garment enterprises in

the municipality. Generally, the study aims to examine how these business operational practices affect their financial performance and sustainability. The researcher, being a resident of the Rizal province for years, would like to contribute to the growth of the garment industry by suggesting strategies that can strengthen and/or improve the efficiency of practices of micro, small and medium business entrepreneurs in her hometown.

Significance of the Study

The study captured relevant SDGs; SDG 1 No Poverty, SDG 3 Good Health and Well- Being, SDG 8 Decent Work and Economic Growth, SDG 9 Industry, Innovation and Infrastructure, SDG 11 Sustainable Cities and Communities, SDG 17 Partnership for the Goals.

The results of the study will be beneficial to the following:

- **Business owners and groups.** The study will help sustain market confidence through improved quality and a variety of business services and bring the industry to greater heights.
- **Customers.** The study will aid them in their knowledge of the garments business and may contribute to the expansion of the garment industry of Taytay. The study will lead potential entrepreneurs to opportunities in the garment industry and will give them insights on how to operate one and make it sustainable.
- **Garment Enterprise Owners.** The study aims to help these owners keep their businesses at pace and continuously improve their products and services for them to remain competitive in the industry. Through this research, they will be provided with ideas to meet customer satisfaction and give insights on how to expand into new markets.
- **Garment Industry.** The study can serve as a guide as to how to augment the long-term



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goals and vision of the garment industry in Taytay Rizal. This may give insights to elevate and improve the quality of production to be able to put its garment trade at the frontline of business and tourism. Government. Providing a clearer view of international trade instruments and their significance for policymakers in both business sectors and government to foster a supportive environment will allow businesses to be sustainable, remain aggressive and competitive, and seize and maximize market opportunities to increase the number of entrepreneurs and investors opening their doors across the Philippines.

- **LGU of Rizal Province.** The study may be able to tap other markets and increase its reach and visibility.

Literature Review

Micro, Small, and Medium Enterprises (MSMEs)

Republic Act No. 9501 is an act to promote entrepreneurship by strengthening development and assistance programs for micro, small, and medium-scale enterprises, amending for the purpose republic act no. 6977, as amended, otherwise known as the “Magna Carta for small enterprises” and other purposes

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

SECTION 1. Section 1 of Republic Act No. 6977, as amended, is hereby further amended to read as follows:

“SEC. 2. *Declaration of Policy.* — Recognizing that MSMEs have the potential for more employment generation and economic growth and therefore can help provide a self-sufficient industrial foundation for the country, it is hereby declared the policy of the State to promote, support, strengthen and encourage the growth and development of MSMEs

in all productive sectors of the economy particularly rural/Agri-based enterprises. To this end, the State shall recognize the specific needs of the MSMEs and shall undertake to promote entrepreneurship, support entrepreneurs, encourage the establishment of MSMEs and ensure their continuing viability and growth and thereby attain countryside industrialization by:

- a. intensifying and expanding programs for training in entrepreneurship and skills development for labor;
- b. facilitating their access to sources of funds;
- c. assuring them access to a fair share of government contracts and related incentives and preferences;
- d. complementing and supplementing financing programs for MSMEs and doing away with stringent and burdensome collateral requirements that small entrepreneurs invariably find extreme difficulty complying with;
- e. instituting safeguards for the protection and stability of the credit delivery system;
- f. raising government efficiency and effectiveness in assisting MSMEs throughout the country, at the least cost;
- g. promoting linkages between large and small enterprises, and by encouraging the establishment of common service facilities;
- h. making the private sector a partner in the task of building up MSMEs through the promotion and participation of private voluntary organizations, viable industry associations, and cooperatives; and
- i. assuring a balanced and sustainable development through the establishment of a feedback and evaluation mechanism that will monitor the economic contributions as well as bottlenecks and environmental effects of the development of MSMEs.”

SEC. 3. Section 3 of the same Act, as amended, is hereby further amended to read as follows: “SEC. 3. *Micro, Small, and Medium Enterprises (MSMEs) as Beneficiaries.* — MSMEs shall be defined as any



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business activity or enterprise engaged in industry, agribusiness, and/or services, whether single proprietorship, cooperative, partnership, or corporation whose assets, inclusive of those arising from loans exclusive of the land on which the particular business entity's office, plant, and equipment are situated and must have value falling the following categories:

- Micro: not more than P3,000,000
- Small: P300,001 – P15,000,000
- Medium: P15,000,001 – P100,000,000

“The above definitions shall be subject to review and adjustment by the Micro, Small, and Medium Enterprises Development (MSMED) Council under Section 6 of this Act or upon recommendation of sectoral organizations concerned, taking into account inflation and other economic indicators. The Council may use other variables such as the number of employees, equity capital, and asset size.

“The Council shall ensure that notwithstanding the plans and programs set for MSMEs as a whole, there shall be set and implemented other plans and programs varied and distinct from each other, according to the specific needs of each sector, encouraging MSMEs to graduate from one category to the next or even higher category.”

Micro Businesses in the Philippines are defined according to the size of assets, equity capital, and several employees. A typical micro business employs nine people or fewer, holding assets worth up to three million Philippines pesos and below. Small and medium businesses are also defined using a similar rating scale, and the Government assists them in various ways.

Micro, small, and medium enterprises (MSMEs) comprise 99.5% of all registered businesses in the Philippines, employing almost 62% of the workforce. MSMEs account for 25% of the country's total export revenue and comprise 60% of all Philippine exporters. They play an important role in the growth of the economy by contributing to the following:

business numbers, employment generation, output growth, and export growth. Supply products, and services, to businesses big or small, poverty alleviation, economic empowerment, and wider distribution of wealth.

MSMEs require less capital and are labor-intensive, and highly dependent on manpower. They involve the use of technology and the intensive utilization of individual skills. They commonly render personalized service to customers. They are highly localized industries as they use local resources and manpower. They are eligible for government assistance and patronage of financial institutions.

Profile of Business Entrepreneurs

The 2013 Entrepreneurship in the Philippines Report shows the profile of entrepreneurs in the Philippines. Some key findings are as follows:

- The average Filipino entrepreneur is young, 18 to 34 years old.
- Filipino women have more positive attitudes towards entrepreneurship than men.
- Filipinos see their country as having an environment conducive to entrepreneurship. They see a good opportunity to start a business in their environment, as agreed by close to 48% of Filipinos.
- Filipinos are confident that they have the capabilities to start a new business and have a low perception of failure.
- They see entrepreneurship not as a job-generation activity for the country but as an income-generation opportunity for owners.
- Businesses in the Philippines are mainly focused on the domestic market.

The garment industry is related to the fashion industry where they are more inclined to art and these people own binary proficiency as they know how to handle small businesses and can influence fashion buying and retailing. Hannon (2018) wrote



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that “The highest success rates in entrepreneurship come from founders in the middle age and beyond”.

In an article by Xiong (2021), it is indicated that “women not only represent the majority of the garment industry, but they also represent the majority of low-skilled, low-wage workers.” On a more positive note, the garment industry has the powerful potential to create business opportunities for many women in developing countries.

According to the article by Walsh (October 2021), “Women around the world are getting married later and part of that is because women are getting more educated and investing in their careers” noting a boost in the ratio of college-educated women to college-educated men. “They’ve invested a lot of time and money into college, so they’re getting a job and delaying marriage — if not opting out completely.”

There is a substantial difference in educational outcomes in an analysis of educational attainment among U.S. entrepreneurs who start employer businesses. However, education varies little by gender. Asian entrepreneurs tend to be more educated, while Hispanic entrepreneurs tend to have less education.

Around half (51.4%) of all entrepreneurs held at least a bachelor’s degree, with 28.8% holding this as their highest level of educational attainment. About one in five (19.2%) entrepreneurs’ most advanced degree is from high school. A similar portion (22.6%) hold a graduate degree. A small portion of entrepreneurs (3.6%) has not completed high school.

Similarly, small portions have completed vocational school (5.9%) or hold an associate degree (5.5%). Educational attainment by entrepreneurs was similar among men and women.

Among races, however, the educational outcomes differ significantly. Hispanic entrepreneurs with less than a high school degree constitute (12.8%) and it is more than four times the segment of African American entrepreneurs which is (2.8%) or White

entrepreneurs (2.9%) with this level of educational attainment. The highest percentage was among Hispanic entrepreneurs who completed high school and had no further schooling (24.8%) while African American entrepreneurs (15.5%) were the lowest.

In an article by Kauffman Foundation for Trends in Entrepreneurship, Asian entrepreneurs (29.6%) and White entrepreneurs (29.1%) were most likely to hold a bachelor’s degree as their highest level of education. Hispanic entrepreneurs (18.7%) were least likely to hold a bachelor’s degree as their highest level of education. The highest proportion of entrepreneurs with graduate degrees was among African American entrepreneurs (30.3%), followed closely by Asian entrepreneurs (28.0%). Hispanic entrepreneurs (16.9%) were the least likely to have obtained a graduate degree.

Garment Industry

As reported by BOI (2018), there are about 190 registered garment manufacturers, 52 remnant cloths sellers, 29 registered ready-to-wear (RTW) retailers, and 4,000 surveyed flea market sellers, as reported by the Taytay Business License Processing Office. Out of this statistical data on registered firms, organizations and individual entrepreneurs are the two known major garments manufacturers in Taytay namely Taytay Mega Tiangge, Baclaran Garment Producers, Inc. (BAGPI), and I Love Taytay Garments Producers, Inc. (IGPAI).

Garments manufacturing is one of the “Silong” industries in Taytay. However, an amendment to Taytay Local tax Ordinance No. 10 was approved in 2010 engaging Kalayaan Park as the initial venue for the local *tiangge*. As the petition for a larger space arose, Club Manila East Compound opened its gates to function and serve more micro, small, and medium garment manufacturers which are now called the Taytay Municipal Tiangge.

As of 2014, the top 5 major markets of the garment sector; which is roughly 83% of total garment export are (i) the United States, (ii) Japan, (iii) Germany,



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(iv) South Korea, (v) Canada, whereas the textile sector major markets which cover 63% of the total textile exports are: (i) Japan, (ii) the United States of America, (iii) China, (iv) South Korea and (v) Thailand.

Business Operational Practices

According to Velasco (2015), the majority of MSMEs are either very knowledgeable or knowledgeable on accounting principles and concepts. MSMEs' common accounting methods used are cash, accrual, and installment. Common accounting practices used by MSMEs are manifested in their bad debt estimation, depreciation method used, net receivable estimation, business documents used, and payment methods. MSMEs practice basic accounting controls; however, computers are not commonly used.

Most of the garment manufacturers in Taytay are likely family-owned and still small-scale. It is one of the "Silong" industries in Taytay. Most garment manufacturers sell their items in bulk to retailers or online resellers. These are commonly the ones putting brand names on garments.

In the study of Blas and Erestain (2018), Flea markets and Bazaars exist all over the world and have been contributing to the success of each place. In the Philippines, Taytay Tiangge plays an important role in the economic development of the Municipality of Taytay. Further knowledge about the strategies employed by the *tiangge* sellers and their effects on the purchasing interest of the market will bring larger success and benefits to the municipality and the residents. It was concluded that in terms of style or practice, the strategy of the sellers is to not limit their merchandise to a particular trend, but rather, sell other RTW-related commodities too like lace, curtains, rubber shoes, t-shirts, and combinations not given in the survey checklist. From the sellers' point of view and within their observed consumer purchases, the clients usually settle for wholesale or retail schemes. Frequent buyers are usually given favorable

discounts. The price of the commodity is the main determinant of the whole selling scheme. Commonly, customers haggle for a certain price in a *tiangge* setting. Prices are negotiated where the seller and the buyer satisfy their bargains.

Financial Performance

Hamilton (2020) enumerated internal factors that affect sales performance which are: product, marketing, availability of finance, availability of suppliers, technology, and automation. On the other hand, external factors include the economic cycle, consumer expectations, laws and regulations, and competition.

The internal factors originate within the company, and it's the company that has control over them. These factors include:

1. The product. It is one of the top factors that can determine the business' sales growth is the capital itself. If the product is satisfying customers' needs at reasonable prices, it will sell. The business should ensure that they maintain the quality of the product and add or modify the functions. according to the ever-changing technology and the varying tastes and preferences of the customers.
2. Marketing. The marketing strategy of an organization plays a significant role when it comes to sales. Marketing strategy is all about selecting the correct target audience, positioning the brand, proper pricing, etc. when you do all these correctly, it can make a significant effect on the sales of a product.

The qualifications and experience of the company's marketing team play a crucial role in winning more and more consumers. Creating well-defined marketing strategies, and promotion ideas, using the right sales enablement platforms, and staying updated with current market trends can help the organization to achieve



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higher sales volume.

3. Availability of finance. The availability of adequate capital at critical moments, like when introducing new products, during an expensive campaign, or when switching your manufacturing technology to a more sophisticated one, require a significant amount of money. If the business has money at its disposal, it can be easy to introduce newer business methods that can positively affect sales.
4. Technology and automation. Any business that wants to achieve higher sales growth must upgrade its technology. Investing in newer, smarter technology and automating their business processes like electronic payment services, automated order booking, or electronically addressing the customers' grievances can generate an excellent market base and increase sales. Storeowners should consider implementing inventory management software to manage their stock in the right way.

The external factors are competition and political, economic, and technological forces that affect sales. The company has no control over them, but it can develop some strategies to respond to them. The external factors include:

1. Economic cycle. The economy of any country goes through various cycles like growth, expansion, and recession. The demand for a product depends on the economic cycle that the country is currently experiencing. In the growth phase, the demand is high and customers have more disposable income, while in a recession phase, money is reduced as well as the demand and supply of a product. Therefore, the economic cycle has an impact on sales.
2. Consumers' expectations. Consumers' tastes, preferences, and expectations about prices, new features, packaging, and delivery keep on changing, making a

significant impact on demand for a product. The company has no control over these expectations; it can only change its production and marketing methods to meet its consumers' needs.

3. Laws and regulations. Any business has to comply with the demands of laws and regulations of the particular country where it operates. Pronouncements of laws by the government regarding the legality of the product, its minimum pricing requirements, and taxes can affect sales of that particular product. Moreover, advertising restrictions can also affect sales.
4. Competition. The market position of the competitors' products plays an important role in determining the sales of a particular business' product. If the competitor has a reputable brand controlling a significant market share, its presence may negatively affect the sales of the rival's products.

Perry and Wood (2019) discussed how and why manufacturers of the garments industry opted for vertical disintegration and outsourcing of production to a network of subcontractors. Moreover, the study reveals that garment manufacturers are prompted to subcontract because of the retailer's perspectives on the extent of control that it wishes to exert over the supply function and how it views sourcing within the organization. Further, the study relates subcontracting or outsourcing to the contractual theory of the firm by Andrew

Allen Cox in 1996, wherein it links competencies, relationships, and asset specificity to procure a supply and value chain which reduces the costs of transactions and improves profitability.



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Research Philosophy, Framework, Design, and Methodology

Theoretical Framework

The two major variables of the study are (a) business operational practices and (b) financial performance. To establish and determine the business operational practices of micro, small, and medium garment enterprises in Taytay, Rizal, the four functional areas of a business enterprise of Porter (2020) were utilized as the theoretical framework, while the financial performance was established and determined using the three financial metrics of Young (2020).

Four Functional Areas of a Business Enterprise

According to Porter (2020), there are four basic functional areas of a business enterprise. These are (1) production/operations management, (2) financial management, (3) marketing management, and (4) human resources management.

Figure 1.

Business Operational Management Model



Figure 1 shows the theoretical framework to establish and determine the business operational

practices of the micro, small, and medium-sized garment enterprises in Taytay, Rizal.

Financial Performance

The Financial Performance of the micro, small, and medium-sized business enterprise will be measured in terms of three financial metrics by Young (2020), namely: (1) Sales, (2) Profit, and (3) Cash Flow.

In this study, the three mentioned metrics were used to establish the financial performance of the micro, small, and medium business enterprises considering the size and nature of operations. This is represented through a model below:

Figure 2.

Financial Performance Model



The Financial Performance Model carries three metrics for measuring the financial performance of a business. Sales refer to company income, profit is the business earnings, and cash flow is the in and out of cash in a business.



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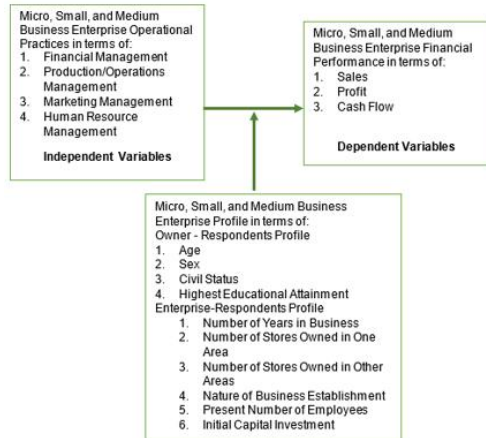
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Conceptual Framework

Figure 3.

Conceptual Framework of the Study



The diagram depicts the independent, dependent, and intervening variables of the study.

Research Design and Methodology

The study utilized the descriptive correlation research design, which is used to describe the statistical association between two or more variables. The researcher employed a self-constructed survey questionnaire as a tool to gather the necessary data. This helped the researcher describe, analyze, and interpret the respondents' views on the said study.

Participants of the Study

Due to the infinite number of populations, the Cochran sample size formula was used in this study. The Cochran formula allows you to calculate an ideal sample size given a desired level of precision, desired confidence level, and the estimated proportion of the attribute present in the population.

Cochran's formula is considered especially appropriate in situations with large populations. A sample of any given size provides more information

about a smaller population than a larger one, there is a 'correction' through which the number given by Cochran's formula can be reduced if the whole population is relatively small.

The Cochran formula is:

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where:

e is the desired level of precision (i.e., the margin of error),
 p is the (estimated) proportion of the population that has the attribute in question,
 q is 1 - p.

Using the Cochran formula, 385 was the computed sample size. The 385 respondents are enterprise owners who have permits to operate and are duly registered with the Department of Trade and Industry.

The Simple Random Sampling technique was used in determining the respondents. In simple random sampling, each member of the population in the study had an equal chance of being chosen, and the probability of a member of the population being selected is unaffected by the selection of other members of the population.

Research Instruments

The researcher utilized a structured survey questionnaire instrument. The items on the instrument were based on the theories and literature of the study. The Four Functional Areas of Business Enterprise by Porter and the Financial Performance by Young were the primary basis of the construction of the instrument. Questions were developed purposely for this survey to convey important concepts and to elicit accurate responses. The questionnaire is divided into three major parts, which start with a brief instruction for the respondents that will include necessary procedures for accomplishing the survey.



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Part I of the survey questionnaire is composed of items to describe the profile of the respondents such as their age, sex, civil status, highest education attained, number of years in business, number of stores owned in the area, nature of the establishment of business, the present number of employees and initial capital investment. Part II of the questionnaire refers to the extent of business operational practices of garment enterprise owners. Part III of the questionnaire refers to the level of financial performance of their respective garment enterprises.

The Likert Scale was used as a criterion in interpreting the items provided in the questionnaire, which served as the basis for the data analysis and interpretation. To interpret the weighted mean values of the variables in Part II of the questionnaire, the researcher adopted the Four-Point Likert Scale. Each category has an assigned value as “Always Practiced” equivalent to 4 and “Never Practiced” which equals 1. The total assigned value was determined by computing the weighted mean. Interpretations of the weighted mean values of the different variables of the study are as follows:

Scale Value	Range of Weighted Mean	Verbal Interpretation
4	3.51 4.00	Always Practiced
3	2.51 3.50	Moderately Practiced
2	1.51 2.50	Slightly Practiced
1	1.00 1.50	Never Practiced

In addition, the researcher utilized the Four-Point Likert Scale to interpret the weighted mean values of the variables in Part III of the questionnaire. Each category has an assigned value as “Strongly Agree” equivalent to 4 and “Strongly Disagree” which equals 1. The total assigned value was determined by computing the weighted mean. Interpretations of the weighted mean values of the different variables of the study are as follows:

Scale Value	Range of Weighted Mean	Verbal Interpretation
4	3.51 4.00	Strongly Agree
3	2.51 3.50	Agree
2	1.51 2.50	Disagree
1	1.00 1.50	Strongly Disagree

The researcher opted to use the Four-Point Likert Scale. The neutral choice was not part of the Likert Scale because the researcher believes that a neutral choice means the respondent is undecided and reluctant to be determined. It can also divert the results of the survey and the true essence cannot be achieved.

Experts in the field and a statistician conducted the validity and reliability test of the survey instrument before administering it to the respondents. The survey was initially administered to forty-eight (48) respondents, who are no longer part of the actual sample. Cronbach’s alpha coefficient was computed to see if the instrument established reliability.

Data Collection Procedure

The principal source of data was gathered through a survey. It was conducted at 385 enterprise owners located at garment centers operating in Club Manila East Compound. Secondary data were collected using published books, periodicals, journals, published and unpublished theses, foreign and local studies, and web surveys.

In line with the conduct of the survey to the enterprise owners, the researcher asked permission and approval from the administrator of garment centers before administering the questionnaires to the respondents. Some of the questionnaires were distributed to the owners by visiting them directly at their stores. The researcher also sent out the survey questionnaire online via google forms to randomly selected micro, small, and medium entrepreneurs engaged in garments to aid community quarantine restrictions. These entrepreneurs were initially identified when the



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researcher personally visited and talked to the administrators and owners. After collecting all the questionnaires, the researcher tabulated, analyzed, and interpreted the data gathered under the supervision of her adviser and statistician.

Statistical Treatment of Data

The data obtained from the questionnaires after the survey was compiled, sorted, organized, coded, tallied, and tabulated to facilitate the presentation and interpretation of the data. All responses gathered were analyzed and interpreted using the following statistical tools:

1. Percentage and Frequency. These are used to describe the distribution of the respondents in terms of age, sex, civil status, highest education attained, number of years in business, number of stores owned in the area, nature of the establishment of business, the present number of employees, and initial capital investment. The percentage was applied to determine the ratio of the frequency of responses to the total number of respondents. The results will be multiplied by 100, as illustrated below:

$$\text{Percentage} = \frac{N}{N} \times 100$$

Where:

- N = number of respondents
 N = total number of respondents

2. Weighted Mean. It was used to determine the weighted average of the responses on the extent of business operational practices of garment enterprise owners and the level of financial performance of their respective garment enterprises. The formula for the mean weighted average is as follows:

$$\text{Symbolically: } WX = \frac{\sum(wx)}{N}$$

Where:

$\Sigma(WX)$ = summation of weighted and value of each item

N = is the number of respondents

3. Kruskal Wallis H-Test and Mann-Whitney U Test. These were used to test the comparison between business operational practices and financial performance of micro, small, and medium garment enterprises when the respondents were grouped according to their profiles.

The Kruskal Wallis H – test is the non-parametric alternative to the One-Way ANOVA. Non-parametric means that the test does not assume your data comes from a particular distribution. The H test is used when the assumptions for ANOVA are not met (like the assumption of normality). It is sometimes called the one-way ANOVA on ranks, as the ranks of the data values are used in the test rather than the actual data points.

The test determines whether the medians of two or more groups are different. Like most statistical tests, you calculate a test statistic and compare it to a distribution cut-off point. The test statistic used in this test is called the H statistic. The hypotheses for the test are:

H_0 : population medians are equal.

H_1 : population medians are not equal.

The Kruskal Wallis test will tell you if there is a significant difference between groups. However, it would not tell you which groups are different. For that, you will need to run a Post Hoc test.



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Formula:

$$H = \frac{12}{n(n+1)} \sum \frac{R_i^2}{n_i} - 3(n+1)$$

Where:

n = sum of sample size for all sample

c = number of samples

T_j = sum of ranks in the jth sample

N_j = size of ranks in the jth sample

- The Mann Whitney U test, sometimes called the Mann Whitney Wilcoxon Test or the Wilcoxon Rank Sum Test, is used to test whether two samples are likely to derive from the same population (i.e., that the two populations have the same shape).

Some investigators interpret this test as comparing the medians between the two populations. Recall that the parametric test compares the means (H₀: μ₁=μ₂) between independent groups.

In contrast, the null and two-sided research hypotheses for the nonparametric test are stated as follows:

H₀: The two populations are equal versus

H₁: The two populations are not equal.

This test is often performed as a two-sided test and, thus, the research hypothesis indicates that the populations are not equal as opposed to specifying directionality. A one-sided research hypothesis is used if interest lies in detecting a positive or negative shift in one population as compared to the other. The procedure for the test involves pooling the observations from the two samples into one combined sample, keeping track of which sample each

observation comes from, and then ranking lowest to highest from 1 to n₁+n₂, respectively.

It is the most familiar measure used and it employs all available information. It is affected by the value of every observation. In particular, it is strongly influenced by extreme values. Since the mean is a calculated number, it may not be an actual number in the data set.

Formula:

$$U_1 = n_1 n_2 + \frac{n_1(n_1+1)}{2} - R_1$$

$$U_2 = n_1 n_2 + \frac{n_2(n_2+1)}{2} - R_2$$

Where:

n₁ = is the sample size for sample 1

n₂ = is the sample size for sample 2

R₁ = is the sum of the ranks in sample 1

R₂ = is the sum of the ranks in sample 2

- Pearson R. It was used to determine the significant association between the level of agreements on business operational practices and financial performance. Pearson's correlation coefficient is the test statistic that measures the statistical relationship, or association, between two continuous variables. It is known as the best method of measuring the association between variables of interest because it is based on the method of covariance. It gives information about the magnitude of the association, or correlation, as well as the direction of the relationship.

Formula:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

Where:

N = number of pairs of scores

Σxy = sum of the products of paired scores

Σx = sum of x scores



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Σy = sum of y scores
 Σx^2 = sum of squared x scores
 Σy^2 = sum of squared y scores

Data Results and Analysis

Table 1

Profile of Respondents

Profile Variable	Particulars	Frequency	Percentage
Owner-Respondents			
1. Age	20 yrs. old & below	37	9.6
	21-30 yrs. Old	164	42.6
	31-40 yrs. Old	95	24.7
	42 yrs. old & above	89	23.1
	TOTAL	385	100
2. Sex	Female	269	69.87
	Male	116	30.13
	TOTAL	385	100
3. Civil Status	Single	205	53.25
	Married	165	42.86
	Widow/Widower	11	2.86
	Separated	4	1.04
TOTAL	385	100	
4. Highest Educational Attainment	Elementary Graduate	27	7.01
	High School Graduate	147	38.18
	College/University Graduate	198	51.43
	Others	13	3.38
	TOTAL	385	100

Enterprise-Respondents

Profile Variable	Particulars	Frequency	Percentage
1. Number of Years in Business	1 year or less than 1 year	139	36.1
	2-5 years	169	43.9
	6-10 years	66	17.14
	11 years or more	11	2.86
	TOTAL	385	100
2. Number of Stores in One	1 store	269	69.87
	2 stores	83	21.56
	3 stores	24	6.23
	4 stores or more	9	2.34
	TOTAL	385	100

3. Number of Stores in Other Areas	None	42	10.91
	1 store	272	70.65
	2 stores	45	11.69
	3 stores	20	5.19
	4 stores or more	6	1.56
TOTAL	385	100	
4. Nature of Business Establishment	Single Proprietorship	318	82.6
	Partnership	58	15.06
	Others	9	2.34
	TOTAL	385	100

5. Present Number of Employees in One Store	1 employee	318	82.6
	2-3 employees	58	15.06
	5 or more employees	9	2.34
	TOTAL	385	100

6. Present Number of Employees in Other Stores	Less than 10 employees	332	86.23
	10-20 employees	36	9.35
	More than 20 employees	17	4.42
	TOTAL	385	100

7. Initial Capital Investment	Less than Php 50,000	253	65.71
	Php50,001-Php100,000	110	28.57
	More than Php100,000	22	5.71
	TOTAL	385	100

Table 2

Overall Business Operations

Overall Business Operational Practices	Mean	Standard Deviation	Remarks
1. Financial Management	3.184	.6527	Moderately Practiced
2. Production/Operations Management	3.423	.5762	Always Practiced
3. Marketing Management	3.452	.6163	Always Practiced
4. Human Resources Management	3.275	.6317	Always Practiced
Overall Business Operational Practice	3.334	.5151	Always Practiced



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Assessment of the overall financial performance of micro, small, and medium-sized garment enterprises based on the three financial metrics

Table 3

Level of Owner-Respondents' Assessment on the Overall Financial Performance of their Micro, Small, and Medium Garment Enterprises in Terms of Sales

Sales	Mean	Std. Deviation	Remarks
1. In our line of business, it is better to have more sales with low markup rather than low sales with high markup in prices.	3.32	0.6368	Strongly Agree
2. Our store is focused on serving our existing local customers than trying to get new ones.	3.13	0.7108	Agree
3. Our store can still meet the weekly sales target despite having some days of the week without any sales.	3.2	0.7317	Agree
4. I employ simple promotional gimmicks, like buy 1 get 1, or pick 2 and pay the 1 with the highest price, to increase our sales.	3.25	0.7387	Agree
5. After the sales, we immediately ask our customers the best way we can reach them when we have new items.	3.35	0.6436	Strongly Agree
Overall Financial Performance- Sales	3.25	0.5188	Agree
Financial Performance-Sales Scale (1-10)	7.6	1.2292	High

Table 4

Level of Owner-Respondents' Assessment on the Overall Financial Performance of their Micro, Small, and Medium Garment Enterprises in Terms of Profit

Profit	Mean	Std. Deviation	Remarks
1. The daily profit our store earns is sufficient for us to sustain our operations.	3.35	0.6067	Strongly Agree
2. I always encourage my store staff to be wise in using store supplies/materials.	3.42	0.6492	Strongly Agree
3. We are more profitable having more sales with low markup instead of high markup in prices.	3.28	0.6656	Strongly Agree
4. I reinvest back to the store portion of the profit I earn.	3.33	0.6004	Strongly Agree
5. I put all the store's profit in my savings.	3.01	0.8228	Agree
Overall Financial Performance- Profit	3.28	0.5069	Strongly Agree
Financial Performance- Profit Scale (1-10)	7.8	1.192	High

Table 5

Level of Owner-Respondents' Assessment on the Overall Financial Performance of their Micro, Small, and Medium Garment Enterprises in Terms of Cash Flow

Cash Flow	Mean	Std. Deviation	Remarks
1. I have sufficient cash on hand to buy replenishment stocks, especially fast-moving items.	3.4	0.5964	Strongly Agree
2. I have sufficient cash on hand to pay for the daily wages of my employees.	3.42	0.5896	Strongly Agree
3. I keep about 10% of the store's weekly cash earnings for savings for future investment or as a backup for an extraordinary event that may happen.	3.31	0.6697	Strongly Agree
4. The cash-on-hand I have is sufficient to pay for the store's utility expenses.	3.38	0.5651	Strongly Agree
5. I always keep sufficient cash to pay off interest payments on debts/loans.	3.3	0.6697	Strongly Agree
Overall Financial Performance-Cash Flow	3.36	0.5163	Strongly Agree
Financial Performance-Cash Flow Scale (1-10)	7.71	1.15	High

Assessment on Association Between the Extent Business Operational Practices and the Financial Performance of Micro, Small, and Medium-Sized Enterprises

Table 6

Significant Association between the Extent of Overall Business Operational Practices and Overall Financial Performance

Overall Business Operational Practices vs	Pearson -R	Computed p-value	Decision	Remarks
Overall Financial Performance	0.5290	0.0000	Reject Ho	Significant

Discussion, Conclusions, Recommendations

Majority of the respondents were female, belong to the age range of 21 to 30 years old, single, earned bachelor's degree, with two to five years in business operation, with one store in one area and one employee per store, single proprietor, and have less than PhP50,000 initial capital investment. The respondents' assessment on the extent of business operational practices of micro, small, and medium



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garment enterprises were “Always Practiced”. There is a significant difference in the extent of business operational practices when they are grouped according to their profile. The respondents have rated the overall financial performance in terms of their Sales, Profit, and Cash Flow as “Strongly Agree”. There is a significant difference in the overall financial performance when the owner-respondents were grouped according to their profile. There is a significant association between the financial performance variables and business operation practices.

In light of the study’s results, the following recommendations were formulated:

In terms of business operational practices, garment enterprises are encouraged to strengthen their financial management for business efficiency. It is recommended that garment enterprise owners have the capability and knowledge about the garment industry and a wide understanding of the market and products. It is also suggested that the administrators of garment centers may collaborate with the LGU of Taytay for assistance, like giving seminars or training on how to start and operate a garment enterprise. Special courses like financial literacy, inexpensive marketing activities, and strategies. Garment center administrators may endorse enterprise owners to the LGU of Taytay and other government agencies for assistance like possible sourcing of textiles and technological advancement support like machinery, tools, and equipment for efficient and quality production.

Expanding business while simultaneously delivering profit and achieving sustainable growth is one of the biggest challenges faced by MSMEs in the garment industry. It is recommended to expand clientele by improving accessibility and attracting new customers.

It is also suggested to adapt to the dynamic market that they serve and the potential market that they want to attract.

It is proposed that the local government unit of Taytay, Rizal, and other government agencies conduct programs that will support and protect the micro, small, and medium enterprises in the garment industry. The government may also take special measures for MSMEs since they are the driving forces for the sector. They may provide an easy loan facility and allocation of a special fund or financial assistance. Garment enterprises are encouraged to look into their standardized model in their operational activities. They may also consider their suppliers, and distribution channels so that they can be sure that they serve the demand of their customers efficiently.

Given that there is a significant association between the business operational practices of garment enterprises and their financial performance, it is strongly recommended not to compromise quality to be able to diversify market opportunities not only in Rizal but also in other provinces. Tapping the LGU of Taytay for their assistance to consider the opportunity of exporting for business expansion is also proposed. To remain sustainable, enterprise owners may consider intensifying their operational practices such as human resources, financial, operations, and marketing management for them to effectively manage, lead, supervise, and control their resources to achieve competitive advantage and operational sustainability.

Finally, specific policies are proposed to the LGU of Taytay, Rizal. The objective of the policy is to promote, support, strengthen, and encourage the growth and development of MSMEs, which dominate the garment sector. To address the different needs of the MSMEs and help attain sustainability, the following are recommended:

- a. To provide MSMEs’ need for working capital financings such as an easy loan facility, or a flexible credit system;
- b. To supplement financing programs for MSMEs;
- c. To institute security and stability of the credit delivery system;



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- d. To give training programs in entrepreneurship and business operations such as financial management, marketing management, and labor management;
- e. To look for non-traditional sources of textile and technological advancements to upgrade facilities and efficient production; and
- f. To promote connections between large companies and MSMEs to expand the market.

To be eligible for the assistance and incentives of the LGU of Taytay, the enterprise owner must possess the following:

- a. MSMEs must be duly registered with the Department of Trade and Industry and other proper agencies.
- b. The enterprise must also have permits and licenses to operate.
- c. The enterprise must be owned by Filipino citizens and a resident of Taytay Rizal, whether single proprietor or partnership.
- d. The business activity must be within the garment and textile sector.
- e. The enterprise must not be a branch, subsidiary, or division of a large-scale enterprise.

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Job Satisfaction and Administrative Capabilities Among Employees in Higher Education Institutions in Sulu

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Abstract

The study is descriptive research that looked into the profile of employees in Higher Education Institutions in Sulu in terms of age, educational attainment, length of Service, a field of specialization; more important; this research undertaking identified the various level of job satisfaction and administrative capabilities of the employees on administrator`s, employees, organizational, administrative capabilities in Higher Institutions in Sulu.

The study was conducted in Jolo, Sulu using selected employees of Higher Education Institutions such as: Sulu State College (SSC), Notre Dame of Jolo College (NDJC), Hadji Butu School of Arts and Trade (HBSAT), and Sulu College of Technology (SCT).

A checklist questionnaire was used in gathering the data pattern from the study of John Thomas Husman (2007). There are three sets of questions: the first set will inquire about the profile of the respondents; the second set will examine the employees' job satisfaction as influenced by the administrative capabilities of the school administrator. The third will inquire about the organizational powers of school administrators based on the perception of employees in Higher Education Institutions.

The issue of validity and reliability of the instruments was accounted to the work of John Thomas Husman (2007). Initially, the reliability of the questionnaire was found the reliability of the questionnaire were found at Cronbach's Alpha for general scales are .862 (very high) and correlation coefficients at .782 (highly correlated) for overall subscales.

The level of Job Satisfaction of the Employees on administrators' administrative capabilities in Higher Education Institutions in Sulu was statistically described in this study as, "Satisfied". The extent administrators' organizational powers in Higher Education Institutions in Sulu are generally described in this study as, "to High Extent".

Introduction

School heads administrative capabilities triggered the management activities of the school from its most minor component of student activities, teachers teaching activities, school curriculum, budgetary sustenance, and other features that support to make the school performance viable to school community development which create a

vision for the success of the school goals and objectives. School heads can provide a plan of activities to establish overall effective strategies supporting development to enhance the achievement of the schools' vision, mission, and goals. The school heads are usually involved in the management and supervision strategies to provide the faculty, staff, and other employees with essential duties and responsibilities to enhance the success of the school.



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The school administrators are entirely commissioned for effective management through functional capabilities based on knowledge, skills, and strategic experiences to develop the job satisfaction of the employees. No matter what the school administrators' essential qualities are to improve the school culture, the employee's job satisfaction may contribute significantly to the success of attaining the school goals. The employees' motivation generates job satisfaction which contributes to the innovative processes of the school administrators desire to develop school performance.

The Administrative capabilities of the school leaders is central to educational quality. Leadership is the ability to develop a vision for change, which leads to improvements in outcomes for learners and is based on shared values and robust evaluation of evidence of current practice and effects. It mobilizes, enables and supports others to develop and follow through on strategies for achieving that change; Administrative capabilities of the administrators are involved in the operational implementation and maintenance of the practices and systems required to complete this change. Those in, or aspiring to, promoted roles within the education system will develop increasing capability and capacity concerning the kinds of functions outlined in the institution. These roles may include ability, the capability of the school administrator for team, and line management. All leaders have a responsibility for ensuring the mobilization of inter-agency working across the learning community and beyond, particularly by building staff the capability to achieve positive outcomes for all learners.

Leaders in schools will have different areas of capability and enhanced pedagogical skills, which may include curriculum leadership, departmental or faculty leadership, pastoral leadership, leadership in additional support provision, or supervision of school improvement priorities. They may have line management responsibility for a staff team, lead a team delivering a specific area of condition, or a group involved in development activities. In taking

their particular areas of responsibility forward, school leaders will work and contribute to the school improvement plan, particularly in building a culture of job satisfaction among personnel; It is the premise that the researcher will explore the job satisfaction and administrative capability among employees in Higher education Institution's in Sulu.

Conceptual Framework

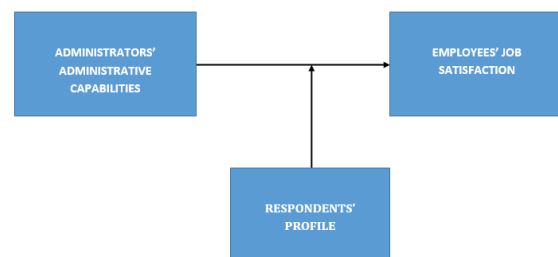
This study was concerned with the relationship between the administrator's management strategies and the satisfaction of teachers. The teachers have contributed to developing a positive school climate and supporting the school culture, provided they are satisfied in their job.

This study investigated the effect of the independent variables on the dependent variables. Noted in the theories above, the administrator's administrative capabilities can affect the employees' job satisfaction.

In this study, the school administrators' organizational powers are included in the independent variables. The employees' job satisfaction is included in the dependent variables. The profile of the respondents is included in the intervening variables. The relationship between these variables is shown in the conceptual paradigm in figure 1.

Figure 1

Conceptual Paradigm of The Study





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Significance of the Study

The result of this study was very significant for the school administrator, faculty, students, and other stakeholders. The school administrator can use the impact of this study to prepare programs for employees' development to improve employees' satisfaction. The faculty can utilize the impact of this study to enhance the employees' job satisfaction concerning the administrative capabilities of school administrators. The student can use the impact of this study to facilitate the job satisfaction of employees towards strong motivation of employees to achieve the goal of the school. Other stakeholders such as the community and parents can use the result of this study to facilitate the achievements of their sons and daughters by establishing a close relationship with the school administrators and the school employees.

Hypotheses of the Study

1. This study was anchored on the following research null hypotheses. There is no significant difference between the levels of job satisfaction of the employees in Higher Education Institutions when the responses are categorized according to the profile of the employees.
2. There is no significant difference between the employees' perceptions on the administrative capabilities of the school administrators of Higher Education Institutions when the data are grouped according to the employees' profiles.
3. There is no significant relationship between the levels of administrative capabilities of the school administrators of Higher Education Institutions and the levels of organizational capabilities as perceived by the employees.

Research Methodology

Research Design

The researcher used a Descriptive survey in this study.

Research Locale

This study was conducted in Jolo, Sulu using selected employees of Higher Education Institutions such as: Sulu State College (SSC), Notre Dame of Jolo College (NDJC), HadjiButu School of Arts and Trade (HBSAT), and Sulu College of Technology (SCT).

Respondents of the study

Selected employees of Higher Education Institutions were used as the respondents in this study. Figure 1 below shows the distribution of respondents to the study.

Figure 1

Distribution of Respondents According to School

HIGHER EDUCATION INSTITUTIONS	Number of Employee-Respondents
1. Sulu State College (SSC)	50
2. Notre Dame of Jolo College (NDJC)	50
3. HadjiButu School of Arts and Trade (HBSAT)	50
4. Sulu College of Technology (SCT)	50
TOTAL	200

Sampling Design

Since the study concerns the administrator's administrative capabilities of Sulu State College and the employees' job satisfaction of its employees, this study will utilize a purposive sampling design



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to select the respondents. All of the employees of Higher Education Institutions were used in the study.

Research Instrument

This study used a checklist questionnaire patterned from the study of John Thomas Husman (2007). There are three sets of questions: the first set inquired about the profile of the respondents; the second set was inquired about the employees' job satisfaction as influenced by the administrative capabilities of the school administrator. The third was inquired about the organizational powers of school administrators based on the perception of employees in Higher Education Institutions.

Statistical Treatment of Data

The questionnaires were analyzed descriptively and inferentially by using SPSS *version 20* for computation of the raw data to answer the research questions.

Summary of the Results and Discussion

The finding disclosed that 43 percent of the respondents were randomly selected from SSC; 30 percent came from NDJC; 14 percent each were taken from both SCT and HBSAT. Most of the respondents were aged 41 years old and above, composed 49.7 percent; and respondents aged 30-year-old and below made-up 18.6 percent. 47.5 percent of the respondents had earned Master's Degree; 24.6 percent had only an undergraduate degree; 17.5 percent had a master's degrees and, earned doctoral units; and 10.4 percent had finished Doctoral Degree. Respondents' length of service shows that 41 percent have rendered services from 11 to 15 years; 23.5 percent have been in the service from 6 to 10 years; 18.6 percent rendered service, from 5 years and below; and 16.9 percent have long been in the service for 16 years and, above. Their Field of Specialization shows that 74.3 percent were neither English, Math, Science, Nor Soc. Science and Home economics instead can be opined as a

generalist. While 7.7 percent had a specialization in science; 7.1 percent had a specialization in Mathematics; 6.6 percent were specialized in English; 3.3 percent in Social Sciences; and 1.1 percent had discipline in Home Economics.

The Job Satisfaction of the Employees on administrators' administrative capabilities in Higher Education Institutions in Sulu **was** statistically described in this study as "Satisfied." The extent of administrator's organizational powers in Higher Education Institutions in Sulu are generally described in this study as "to High Extent."

There was no significant difference exist among the Level of Job Satisfaction of the Employees of Administrators' Administrative Capabilities in Higher Education Institutions in Sulu when classified according to educational attainment and length of service of Respondents.

There was no significant difference exist among the perception of Employees on Administrators' Administrative Capabilities in Higher Education Institutions in Sulu when classified according to age, educational attainment, and, length of service of Respondents.

There was significant relationship exist among the perception on Level of Job Satisfaction and the Administrators' Administrative Capabilities in Higher Education Institutions in Sulu when as perceived by the school employees.

Based on the summary of findings presented above, the following conclusions were drawn:

1. The respondents were randomly selected from the different Higher education institutions in Sulu. Mostly the school employees were old, and most of them had completed their master's degrees, and most of them also can be said to be generalists in terms of specializations.
2. No significant differences can be seen among the perception of Level of Job



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Satisfaction of Employees on Administrators' Administrative Capabilities in Higher Education Institutions in Sulu when classified according to educational attainment and length of service of Respondents and as well there, is no significant difference exist among the perception of the Employees on Administrators' Administrative Capabilities in Higher Education Institutions in Sulu when classified according to age, educational attainment and length of service of Respondents. As such, the null hypotheses were then accepted.

3. There was a significant relationship exist among the perception of Level of Job Satisfaction and the Administrators' Administrative Capabilities in Higher Education Institutions in Sulu when as perceived by the school employees. As such, the null hypothesis is then rejected.

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Exploring research directions on NGO accountability

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Abstract

NGOs contribute to social and environmental well-being in areas where public and private sectors fail to reach (Banks & Hulme, 2012; Hopkins, 2017; Murray & Overton, 2011). In the past decades, NGO leaders have been learning managerial concepts and practice through management training, education, interaction with business and management professionals. The adoption of business-like concepts should address not only efficiency and effectiveness but accountability issues as well. The prevailing anomalies in NGO management make a clarion call for better accountability. A review of related literature on accountability indicates that there has been an increase in research studies on the subject. The literature highlights the NGO's relational accountability to internal and external stakeholders. Multiple stakeholders challenge NGOs to manage multiple accounts. Empirical data showed that partnerships with businesses and the government harmonized upward and downward accountabilities. The paper suggests research directions on NGO accountability. Among the recommendations is to research the influence of NGO professionalization on accountability and the contribution of business-nonprofit partnerships and collaboration on the practice of NGO accountability.

Purpose – The author's purpose in writing this paper is to discover ways in which NGOs can strengthen their accountability. The paper explores related literature on NGO accountability and recommends research directions.

Design/methodology/approach – This paper is studied using pragmatism as its research philosophy. The author selected journal articles with the keywords "NGO accountability," "NPO accountability," "nonprofit accountability" 'non-government AND accountability" "upward accountability," "downward accountability," "lateral accountability," and "internal accountability" using EBSCO Research Databases – Business Searching Interface, Google Scholar and De La Salle University library. The author used stakeholder theory as the theoretical framework.

Findings – The study presented the following gaps 1) theoretical gaps in the conceptualization of downward accountability, and lateral accountability; 2) substantive gaps in factors that lead to the effectiveness of accountability mechanisms and how accountability mechanisms can lead to a collaborative environment; 3) empirical gaps on the practice of accountability in NGOs geared towards policy advocacy; 4) empirical gap on how NGO professionalization affects NGO accountability; and 5) empirical gaps on NGO accountability towards mission, board, staff, and volunteers.



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Research limitations/implications – The author used only two databases as search engines. Consequently, there may be other research papers on NGO accountability released in the past five years that were not covered in the study.

Practical and social implications – The research gives practical directions for researchers. The paper behooves practitioners to reflect on their responsibilities towards stakeholders; explore the impact of accountability on leadership succession and crisis readiness; use managerial concepts and tools to carry out their accountabilities; and, optimize the partnership between the nonprofit and business sectors.

Originality/value – The novelty of the paper is a discussion on NGO accountability in the context of the professionalization of NGOs. This paper stimulates reflection and research on the effect of NGO managerialism on accountability and the effect of business-nonprofit partnerships on accountability. On the other hand, this paper pushes for an updated study on NGO accountability in the late stage of the COVID-19 crisis. It promotes research on what accountability mechanisms and support mechanisms aid NGOs to survive in a crisis, and if the crisis has encouraged a deliberate practice of NGO accountability.

Key Words: downward accountability, internal accountability, business-nonprofit partnership, NGO professionalization, CSO accountability

Relevant SDG: SDGs 1-17

Introduction

Non-government organizations (NGOs) are a badge of democracy (Lewis, 2005). NGOs serve as an avenue for citizens to take initiative and create systems that aid the marginalized. Through the decades, NGOs have contributed to social and environmental well-being in areas where public and private sectors fail to reach (Banks & Hulme, 2012; Hopkins, 2017; Murray & Overton, 2011).

Various NGOs are founded, directed, and maintained by volunteers of goodwill without necessarily possessing a management education or administrative experience (Brandtner, 2021; Hwang & Powell, 2009). Notwithstanding, globalization and eventual interaction with businesses and donors have exposed NGOs to business-like models (Roberts et al., 2005; Maier et al., 2016). Management training conducted by private

organizations, consultants and universities promote corporate management knowledge and practices among NGO practitioners (Roberts et al., 2005; Maier et al., 2016). Collaboration with businesses and management professionals has contributed to the professionalization process of NGOs (Álvarez-González et al., 2017; Hwang & Powell, 2009).

Professionalism in NGOs is construed when the organization is managed by credentialed directors and run by credentialed staff (Brandtner, 2021; Hwang & Powell, 2009). Managerial professionals bring managerial expertise, tools, and language to operating NGOs through their education, experience, and social network (Brandtner, 2021).

NGO professionals employ vision-mission development, strategic planning, metrics and assessments, and other managerial practices (Ahmed, 2013; Brandtner, 2021). Aside from leading their organizations toward efficiency and



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effectiveness, NGO managers also need to address accountability issues (Ahmed, 2013). They need to hold responsibility for their behavior and performance before their internal and external stakeholders. The prevalence of fraud reporting (Khadra & Delen, 2020; Songco, 2007), dummy foundations (Aceron et al., 2016), and other scandals in the nonprofit world (Ahmed, 2013) make a clarion call for better NGO accountability. Accountability ensures the NGO's legitimacy, justifies the tax benefits afforded to accredited NGOs, and gains the trust of the public (Ahmed, 2013; Ye, 2021). Without accountability, donors shall cease financial contributions which will consequently weaken the NGO's chance for survival. Without accountability, the public shall cast doubt on the NGO's authenticity which shall besmirch the NGO's reputation. Without accountability, the NGO will be irrelevant in society.

This paper aims to present a review of related literature on NGO accountability, and recommend research directions on this topic.

Literature Review

Research on the governance and management of NGOs is not as prolific as studies on the for-profit sector. Thus, this section presents research on topics that will help understand the nature of NGOs and the corresponding demand for accountability. The first subtopic is the significance of NGOs. The second subtopic is the development of NGOs. The third subtopic is accountability in NGOs.

Significance of NGOs

Non-government organizations earned their name in the United Nations (UN) forum back in the 1940s (Fowler, 2011). The UN granted religious and charitable institutions to participate in a discussion on economic and social problems engendered by World War II, as observers with the status of *non-government organizations* (Fowler, 2011). Initially, the classification referred to non-state agencies working internationally. Eventually, NGOs

diversified and constituted non-government, non-private, and not-for-profit organizations working internationally or locally (Fowler, 2011).

The term "NGO" was used inconsistently through the years (Vakil, 1997). It was linked with non-profit organizations (NPO) (Vakil, 1997); civil service organizations (Fowler, 2011), the third sector (Lewis, 2005), and the voluntary sector (Hopkins, 2017). Some take NGOs to be interchangeable with nonprofits (Banks & Hulme, 2012; Lecy et al., 2012; Lewis, 2005). Another group adopts the definition of Salamon and Anheier (1992) on the nonprofit sector with the following characteristics: *formal in basic structure* (the organization has regular meetings), *private* (it is not organized as a government institution), *non-profit distributing* (profit does not inure to the benefit of the directors), *self-governing* (it manages its activities) and *voluntary* (volunteers exist) (Fowler, 2011; Vakil, 1997). Gordenker and Weiss (1995) cast doubt on the *voluntary* aspect considering the mounting professionalization of NGOs (Vakil, 1997; Lewis, 2005). Other scholars like Clark, Sandberg, and Sanyal (Vakil, 1997) questioned *private* and *self-governing* considering a variety of NGOs created to facilitate fund receipts (Vakil, 1997). To wit, there are government-organized NGOs (GONGOs) established by the state; quasi-nongovernmental organizations (QUANGOs) based in industrialized countries; and donor-organized NGOs (DONGOs) (Vakil, 1997). Vakil agreed with Gordenker and Weiss (Vakil, 1997) that QUANGOs and DONGOs fit the *self-governing* characteristic in Salamon and Anheier's definition. Vakil (1997), nonetheless, objected to the *non-profit distributing* element as it excludes cooperatives and similar organizations that generate and distribute profits. She proposed the use of *not-for-profit* rather than non-profit. She distinguished NGOs from NPOs, wherein NPOs include businesses and cultural and religious organizations that are not considered NGOs. Finally, Vakil (1997) expressed the need to incorporate the *development* aspect of NGOs. Realizing the complexity in the use and understanding of *development*, Vakil refined the



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structural/operational definition of NGOs as “self-governing, private, not-for-profit, that are geared to improving the quality of life of disadvantaged people ” (Vakil, 1997, p. 2060). Finally, there is another concept that NGOs are a subclassification of the NPO sector (Lewis, 2005; Werker & Ahmed, 2008). As a subclass, NGOs are perceived to reinforce the nonprofit sector.

NGOs chiefly engage in two domains: service delivery and policy advocacy (Cordery et al., 2019; Gidron, 2010; Lewis, 2005; Lewis et al., 2020). Service delivery encompasses the provision of services to persons in need (Lewis, 2005; Lewis et al., 2020). NGOs in this domain are likewise known as welfare providers (Unerman & O’Dwyer, 2006; Cordery et al., 2019). On the other hand, policy advocacy involves deliberate activities to influence authorities to decide in favor or support an issue (Lewis, 2005).

Development of NGOs

The political and social landscape has influenced the upsurge and direction of NGOs (Banks & Hulme, 2012; Fowler, 2011; Lewis, 2010; Turner, 2010). In the 1970s, when corruption and poor governance prevailed, states turned to NGOs as the magic bullet for development (Banks & Hulme, 2012). In the 1980s, NGOs intensified as donor agencies continued to mistrust governments in the disbursement of funds (Banks & Hulme, 2012; Lewis, 2010). Western agencies profusely donated to NGOs to accelerate development projects (Fowler, 2011). Towards the end of this decade, the NGOs were recognized for their groundbreaking solutions to persistent development problems (Fowler, 2011; Lewis, 2010). In the 1990s, NGOs further enjoyed a reputation and influence on international policy (Banks & Hulme, 2012; Songco, 2007). Nonetheless, towards the end of this decade, some NGOs floundered in effectiveness and commitment to their mission (Banks & Hulme, 2012; Fowler, 2011). Some NGOs were co-opted to follow donor-perceived objectives at the expense of service to beneficiaries (Cariño, 1999). Amidst this setting, donor agencies

and the public demanded NGOs for transparency, legitimacy, and performance (Songco, 2007).

The Millennium Development Goals in the 2000s promoted human welfare worldwide (Murray & Overton, 2011). The global campaign enjoined NGOs to pursue their mission and collaborate in attaining the targets (Banks & Hulme, 2012; Murray & Overton, 2011). Notwithstanding, NGOs were pressed to account for their mission, performance, and financial management (Songco, 2007). The 2010s continued to witness the NGOs’ inclination towards co-optation with international aid bodies (Fowler, 2011). The empowerment of the poor faintly progressed. Consequently, different sectors compelled NGOs to re-direct their efforts towards the grassroots and their beneficiaries (Banks & Hulme, 2012).

In the 2020s, Covid-19 jolted the world. The pandemic imperiled the lives of NGO leaders, volunteers, and beneficiaries (Yates & Difrancesco, 2021). It also increased the number of persons in need of psychosocial and material help (Chui, 2022). Social distancing prohibited NGOs from physically connecting with their beneficiaries (Chui, 2022; Yates & Difrancesco, 2021). The lockdown disrupted funding and threatened NGO survival (Chui, 2022; Tsai et al., 2021). NGOs reacted differently to the lingering outbreak. Some charitable nonprofits retrenched personnel (Fuller & Rice, 2022), while other service delivery nonprofits persevered, and still, others innovated (Chui, 2022; Fuller & Rice, 2022; Tsai et al., 2021). Some NGOs successfully adapted and attained breakthrough results because of a clear mission and charismatic leadership (Tsai et al, 2021); collaborative personnel and committed volunteers (Chui, 2022; Tsai et al., 2022; Yates & Difrancesco, 2021); disaster preparation and recovery strategies (Fuller & Rice, 2022; Tsai et al., 2022); communication with stakeholders and social networking (Chui, 2022; Fuller & Rice, 2022); and cross-sectoral partnership (Chui, 2022). The crisis challenged NGOs to discover ways to endure and carry on their social purpose (Fuller & Rice, 2022; Tsai et al., 2021).



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NGOs continue to be vital actors in responding to global and local needs. NGO leaders aid the citizenry reeling from the Covid-19 pandemic (Mohseni et al., 2022; Shigute, et al., 2021). Simultaneously, they continue contributing to the realization of Sustainable Development Goals (Besançon, S. et al., 2022; Sabirov, N., 2021).

NGO Accountability

Interest in the research on accountability in NGOs has increased in the past decades (Kaba, 2021). However, the varied definitions and approaches used in studying accountability (Andreus & Costa, 2014; Kaba, 2021) make it difficult for researchers to build knowledge on the construct. Kaba (2021), nonetheless, summarized the consensus among most scholars and practitioners across disciplines as follows:

1. NGO accountability involves relational interactions.
2. NGOs must manage multiple and sometimes competing stakeholder demands on accountability.
3. NGOs are co-opted to prioritize stakeholders who have the power to sanction.
4. NGOs use accountability mechanisms that primarily serve to satisfy institutional donors.
5. The ascendancy of these donors is detrimental to NGO goals as it could lead to mission drift and neglect of beneficiaries (Kaba, 2021).

This section presents the definition, dimensions, mechanisms, and disciplines of accountability in non-profit, and non-government organizations.

Definition of accountability

Banks & Hulme (1996, p. 967) defined accountability as “how individuals and organizations report to a recognized authority (or authorities) and are held responsible for their

actions.” Young (2002, as cited by Brandtner, 2021, p.2) expressed accountability as “the process of holding an organization for its behavior and performance.” Both definitions imply the responsibility of nonprofit organizations to align their actions to their duties and commitment. Nonetheless, scholars elaborate that accountability applies not only to authorities with position, but likewise to other stakeholders such as employees, clients, beneficiaries, and society (Albrecht, 2018; Bryan et al., 2021; Cordery et al., 2019; Grizzle & Sloan, 2016; Zhou et al., 2021). Lloyd, Oatham, and Hammer (2007, p. 11 as cited by Grizzle & Sloan, 2016) define accountability as “the processes through which an organization makes a commitment to respond to and balance the needs of stakeholders in its decision-making processes and activities, and delivers against this commitment.”

Scholars who write about NGO management explain accountability by investigating “to whom” the NGO is accountable, “for what” it is accountable, and “how” the accountability is assessed (Albrecht, 2018; Ebrahim, 2003; Grizzle & Sloan, 2016; Kingston et al., 2019; Lai & Hamilton, 2020).

Recently, Kaba (2021) undertook a systematic study on NGO accountability in the past two decades which revealed that scholars have used 113 conceptualizations of accountability. Through a concept map, he concluded that the direction of accountability is divided into external and internal accountability. He further researched the nature of this direction and he identified common accountability problems (Kaba, 2021).

Relational and directional dimension

The presence of multiple stakeholders compels NGOs to relate to different actors in the institution (Costa et al., 2019; Wellens & Jegers, 2014). Consequently, the organization is accountable to different stakeholders it relates to (Andreus & Costa, 2014; Wellens & Jegers, 2014). The subsection below typifies the relationships that NGOs manage and the corresponding



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accountability. Aside from the relational aspect, the following characterization denotes the direction to whom the NGO is accountable (Kaba, 2021).

Internal and external accountability

Ebrahim (2003) classified accountability in terms of external and internal dimensions. He explained that the *external* dimension refers to meeting the expected standards of behavior of another, while the *internal* dimension refers to the motivation to take responsibility for something “through individual action and organizational mission” (Ebrahim, 2003, p. 814). *External accountability* is associated with external stakeholder accountability (Kaba, 2021). The NGOs are held accountable by external authorities, such as donors and the state, and impelled to abide by their values and expectations (Kaba, 2021; Vaughan & Arsenault, 2014). *Internal accountability* is associated with internal stakeholder accountability (Kaba, 2021). The NGOs feel their responsibility toward their board of trustees, employees, and their organizational mission (AbouAssi & Trent, 2016; Ebrahim, 2003; Kaba, 2021). *Internal accountability* is stimulated from within, without any imposition from the outside (AbouAssi & Trent, 2016). It is analogous to what other scholars call *inward accountability* (Ebrahim, 2003 as cited by Kaba, 2021; Kingston et al., 2019).

Upward, downward, and lateral accountability

Upward accountability refers to the responsibility of NGOs to authorities such as donors, patrons, government, and partners (Andreaus & Costa, 2014; Ebrahim, 2003). The benefactors put a premium on financial governance, efficiency, and the social impact of funds they have donated (Ahmed, 2013; Andreaus & Costa, 2014; Kaba, 2021). Consequently, the NGOs have to give them an account of the use of grants and resources for the indicated purpose, required standards and expected performance and impact (AbouAssi & Trent, 2016; Andreaus & Costa, 2014; Ebrahim, 2003; Murtaza, 2012; O’Dwyer & Unerman, 2010). To achieve these,

the NGOs are tasked to comply with processes and submit various documents (Bryan et al., 2021; Chu, 2015). The NGO’s action of yielding towards an upward direction portrays the dominance of donors and the vulnerability of NGOs and beneficiaries. For one, voluminous requirements consume the time of the staff in documenting and reporting events rather than attending to the needs of beneficiaries (Chu, 2015). Moreover, the donors’ mandate to use specific tools and predetermined quantitative performance standards stifle the initiative of staff to decide on better equipment and improve work processes (Agyemang et al., 2017). In the case of an NGO in Northern Ghana, such dynamics triggered in field workers a sense of mistrust, coercion, and external control by upward stakeholders (Agyemang et al., 2017; Agyemang et al., 2019). Nonetheless, there were instances when the staff acknowledged that the requirements led them to scrutinize their actions and improve their service toward beneficiaries (Agyemang et al. 2017).

Downward accountability refers to the relationship with beneficiaries and other stakeholders affected by the organizational activities (AbouAssi & Trent, 2016; Bryan et al., 2021; Ebrahim, 2003). Studies on downward accountability unfurl the traditional notion of beneficiaries as stakeholders who gain from NGO operations (Aguiling, 2021). Beneficiaries receive goods and services produced by NGOs (Austin & Seitanidi, 2012; Trujillo, 2018). They do not enjoy the leverage to complain or comment on the goods because, unlike customers who purchase, they simply receive what is given. Contemporary scholars, however, argued that beneficiaries are prime stakeholders of NGOs (Wellens & Jegers, 2014). The organizations are designed for them and in the absence of shareholders, beneficiaries are the residual claimants (Wellens & Jegers, 2014). Alongside, scholars contend that organizations have a felt responsibility toward beneficiaries (Chu, 2015; Flint & Blyth, 2021). Various researchers highlight beneficiary participation as an instrument of downward accountability (Chu & Luke, 2018; Lai & Hamilton, 2020; Wellens & Jegers, 2014). Beneficiary participation engages beneficiaries and



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gives them a voice and a role to play in the organization, management, and/or governance of NGO projects (Aguiling, 2021; Chu & Luke, 2018; Lai & Hamilton, 2020; Kutter, 2014).

Lateral accountability refers to the accountability to lateral stakeholders which include the organization itself, its mission, staff, board, and volunteers (Bryan et al., 2021; Christensen & Ebrahim, 2006). This refers to the responsibility of internal stakeholders to preserve the organizational mission (Bryan et al., 2021; Van Zyl et al., 2019). It also involves keeping each other informed so that they - the board, managers, staff, and volunteers- know what to do, do what they must do, and be answerable for their actions (Christensen and Ebrahim, 2006). Christensen and Ebrahim (2006) gave the example of a refugee resettlement agency where the staff holds weekly meetings; and where the office design and informal gatherings facilitate coordination. The agency provides volunteer training and encourages phone conversations and written communications to facilitate dialogue between staff and volunteers. These allow both staff and volunteers to account for their actions before the stakeholders. In a study of another 243 NGOs, the results gave evidence that the staff who are technologically competent to conduct evaluations are equipped to use the results of the evaluation for organizational learning and decision-making (Bryan et al., 2021). These moves allow the NGO managers and staff to be responsible for carrying out what is best for the organization (Bryan et al., 2021).

The definitions of upward, downward, and lateral accountabilities given above are in accord with the scope published in varied journal entries. However, not all scholars use the same concepts in the same way. For instance, Christensen and Ebrahim (2006) include community partners and agencies with whom they work as part of *lateral accountabilities*. Community partners and community agencies are external stakeholders yet Christensen and Ebrahim (2006) consider them closely linked to the organizational mission. AbouAssi & Trent (2016) refer to the responsibility towards other NGOs or

peer organizations as *horizontal accountability*. Kingston et al., (2019) refer to the accountability towards the staff and the board as *inwards accountability*, and towards other NPO bodies as *sideways accountability*. Some scholars include staff among the stakeholders covered by *downward accountability* (Edwards & Hulme, 1995; Hu & Kong, 2020), whereas others include staff among *lateral accountability* (Bryan et al., 2021; & Ebrahim, 2006).

Studies have shown the difficulty in balancing multiple accountabilities and the opposing direction between upward and downward accountabilities (Chu, 2015; Yang & Northcott, 2018). However, Chu (2015) contested that multiple stakeholder needs could be harmonized through dialogue and partnership (Chu, 2015). Her study on microfinance enterprises in Bangladesh and Indonesia showed that while the NGOs complied with accountability mechanisms to government and donors, the NGOs were focusing on their accountability towards their mission and beneficiaries. The research of Uddin and Belal (2019) reinforces this point. Their research presented that the donors of an international NGO in Bangladesh facilitated downward accountability by requiring the NGO to involve beneficiaries in project design and formulation (Uddin & Belal, 2019). Furthermore, the donors forged a partnership with a government agency that oversees the operations of the NGO and could determine whether the NGOs provide interest on beneficiaries' savings (Uddin & Belal, 2019). Alternatively, the study of Agyemang et al. (2017) showed that upward accountability urged the staff to pursue downward accountability. The staff would work around the requirements to ensure better service to beneficiaries. Some would invite funders to visit and peek into the effect of their stipulations on beneficiaries. The staff sought conversations with funders to express their observations, co-create requirements, and understand the funders' feedback on reports (Agyemang et al., 2017)



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Accountability mechanisms

Ebrahim (2003) proposed five broad categories of accountability mechanisms in NGOs. These are a) reports and disclosure statements; b) performance assessments and evaluations; c) participation; d) self-regulation; and e) social audits.

Reports and disclosure statements reflect transparency which aid in financial accountability (Ahmed, 2013; Kaba, 2021; Schatteman, 2013). Reports include financial reports, management accounting, customized funder reporting, and beneficiary reporting (Cordery et al., 2019). Disclosures include voluntary disclosures for external regulatory compliance, narrative disclosures, and web and social media to demonstrate the delivery of purpose (Cordery et al. 2019). The study of Agyemang et al (2017) showed that staff look for conversations with funders. The NGOs wish to better understand their donors' objectives and reasons behind the tools they require and the metrics established. Face-to-face interactions between funders and staff help the latter understand better the condition of the individuals and community, and help the funder understand the efforts of NGO staff to serve the needs of beneficiaries (Agyemang et al., 2017)

Assessments and evaluation, on the other hand, entail an evaluation of specifications on monitoring and measurement (Ebrahim, 2003). One example under this category is a mission performance assessment which is a vital tool for the board's decision-making process (Andreaus & Costa, 2014). Another assessment mechanism is a scorecard that evaluates activities, stakeholders, mission, and other criteria used for organizational governance and management (Cordery et al., 2019). Recent research shows, however, that evaluation alone does not necessarily lead to effectiveness or efficiency. Performance measurements that are accompanied by close interactions between the upward stakeholders and the NGO pave the way for a better relationship of trust and collaboration, and facilitate accountability (Carnochan et al., 2019). NGO staff

also appreciate that they co-participate in establishing metrics and assessment before it is finalized (Carnochan et al., 2019; Agyemang et al., 2017).

Reports and disclosure statements together with performance assessments and evaluations correspond to *procedural accountability*, which suggests that the organization must meet guidelines to operate (Schatteman, 2013). These mechanisms are customarily used with upward accountability (Ebrahim, 2003). Funders and government agencies (Ebrahim, 2003; Cordery et al., 2019) mandate NGOs to employ these tools to ascertain that their donations are well spent. NGO accreditors, like the Philippine Council for NGO Certification (2021), require formal accountability mechanisms to discern their identity and legitimacy before giving a badge of recognition. Notwithstanding, evaluations can also be used as a mechanism for downward accountability. The study of Kingston et al. (2019) showed that an evaluation provides an avenue for the NGO and the beneficiaries to interact and strengthen their relationship. In so doing, the organization can build its transactional and relational accountability (Kingstone et al., 2019). When NGOs engage beneficiaries while conducting evaluation, then they reap results that are transformative to beneficiaries and the NGO as well (Kingston et al., 2020). Alongside, research also shows that NGO leaders should train the personnel not just to accomplish the evaluation forms evaluation but also to analyze and interpret the data, and apply the results for decision-making (Bryan et al., 2021). When NGOs learn from the data then they are able to build a learning climate in the organization. This in turn empowers the staff to be answerable for their actions which represent *lateral accountability* (Byran et al., 2021), *internal accountability* (AbouAssi & Trent, 2016), and *inward accountability* (Kingston et al., 2019, 2020).

The third mechanism is participation. Participation is a process that engages stakeholders to different degrees. Scholars have designed different typologies for the degrees of participation. Arnstein designed



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an eight-rung ladder of citizen participation which is used in studies on beneficiary participation (Arnstein, 2019; Ebrahim, 2003; Slotterback & Lauria, 2019). Ebrahim (2003) identified four levels of participation: a) when beneficiaries are invited to provide information and when they are consulted; b) beneficiaries are involved in the project; c) beneficiaries are empowered to negotiate and bargain; d) beneficiaries take initiatives independent of the NGO. Participation of beneficiaries is a common mechanism mentioned in promoting downward accountability. International bodies and western countries have pressed the need for NGOs to know the situation of the locals and engage them to participate in matters that affect them (Luyet et al., 2012, Mercelis et al., 2016; Mubita et al., 2017). Studies have shown NGOs' efforts towards beneficiary participation, the factors that surround it, and its effects. Nonetheless, contemporary scholars reiterate the need for beneficiary participation to be genuine -and not just a symbolic or 'sham-ritual'- to perform downward accountability (Chu & Luke, 2018; Ebrahim, 2003; Flint & Blyth, 2021; Kingston et al., 2020). Participation is genuine when beneficiaries participate in key decision-making (Aga et al., 2018; Flint & Blyth, 2021). Using the typology designed by Ebrahim, genuine participation takes place only in the third level where beneficiaries are empowered to negotiate and bargain, and in the fourth level where they take initiatives independently of the organization (Ebrahim, 2003). The participation of beneficiaries in decisions that concern them assists the NGOs to better understand, meet and service beneficiaries' needs and helps beneficiaries obtain their own exigencies (Chu, 2015; Lai & Hamilton, 2020; Mooketsane et al., 2018; Noor, 2015; Wellens & Jegers, 2011, 2016). In this way, the NGOs fulfill their accountability to beneficiaries. For instance, Chu and Luke (2020) showcased an NGO that operates microenterprise development programs in Indonesia and Bangladesh to obtain sustainable poverty alleviation for the poor who are the beneficiaries. The NGO facilitated the participation of their beneficiaries in forming partnerships among themselves. This move empowered the beneficiaries

to support each other in sales, purchases and managing credit (Chu & Luke, 2020). Furthermore, the NGO promoted the partnership of beneficiaries with the business sector which led the poor to expand business contacts, establish networks, and replicate their success in other communities (Chu & Luke, 2020).

Self-regulation refers to the NGOs' effort to establish standards and code for themselves (Ebrahim, 2003). In the Philippines, the Philippine Council for NGO Certification recently updated the standards for accredited NGOs (PCNC, 2021). Furthermore, a strong network of nonprofit organizations called the Association of Foundations (AF), released a competency framework for the guidance of NGOs (Abot-Camelon, 2021). Business, human resource, and NGO professionals gathered to develop the framework primarily to help NGOs address the problem of leadership succession (Abot-Camelon, 2021). The self-regulatory accountability mechanism is customarily used to address horizontal or lateral accountability (AbouAssi & Trent, 2016)

Social audits refer to a process where the NGO "assesses, reports, and improves upon its social performance and ethical behavior, especially through stakeholder dialogue" (Ebrahim, 2003, p. 822). It involves a complex process of incorporating disclosures, evaluations, and standards of behavior (Ebrahim, 2003). The study by Carnochan et al. (2019) disclosed the importance of communication between the public office and nonprofit organizations in human service delivery for an effective contract monitoring. Costa & Goulart da Silva (2019), on the other hand, shared that the use of social reporting of a cooperative bank substantiated value creation in the community and boosted the trust of stakeholders.

Disciplines

Kaba (2021) systematically studied and analyzed 217 journal articles on accountability across five disciplines. Table 1 presents the top 10 topics on



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accountability that appear in the disciplines of accounting; development studies; international relations and political science organization studies and management; and public administration.

Table 1

Top 10 accountability concepts: usage in many articles per discipline (column percent)

Concept/discipline	Accounting	Development Studies	IR and Political Science	Organization Studies and Management	Public Administration
1. Downward accountability	41.18%	39.64%	36.84%	17.24%	20.83%
2. Upward accountability	41.18%	30.63%	15.79%	17.24%	16.67%
3. Internal accountability	32.35%	17.12%	21.05%	3.45%	12.5%
4. Social accountability	29.41%	16.22%	26.32%	6.9%	4.17%
5. Public accountability	8.82%	15.32%	21.05%	13.79%	16.67%
6. Formal accountability	44.12%	7.21%	21.05%	0%	12.5%
7. External accountability	23.53%	9.01%	31.58%	6.9%	12.5%
8. Hierarchical accountability	32.35%	7.21%	10.53%	10.34%	12.5%
9. Mutual accountability	23.53%	7.21%	15.79%	3.45%	16.67%
10. Financial Accountability	11.76%	10.81%	10.53%	6.9%	8.33%

Source: Kaba, M. (2021). NGO accountability: a conceptual review across the engaged disciplines. *International Studies Review*, 23(3), p. 976

Kaba (2021) concluded that these conceptualizations are the most impactful while the other 93 concepts are studied much less. The concept of downward accountability ranks first among topics written about and mentioned in articles, across the five disciplines.

The discipline of Development Studies possesses the greatest number of articles and mentions of accountability. On the contrary, Organization Studies and Management account for the least number of articles. Moreover, this discipline used only 35 out of 113 conceptualizations of accountability (31%) whereas the Development Studies used 73%, both IR and Political Science and Accounting use 50% of the conceptualizations, and Public Administration used 41%. His study showed that there were no accountability-themed articles that appeared in the *Academy of Management Review*, *Journal of Economic Behavior and Organization*, *Journal of Organizational Behavior*, *Organization Science*, *Organization Studies*,

Organization Behavior, and *Human Decision Processes*, and *The Leadership Quarterly*, in the past 20 years.

Research gaps

Based on literature, researchers pay more attention to studies on upward accountability than downward accountability (Agyemang et al., 2017; Cordery et al., 2019; Ebrahim, 2003; Uddin & Belal, 2019). On the other hand, Kaba (2021) stipulates that downward *accountability* is the top-ranking accountability research topic. There is a theoretical gap in the top accountability concept researched.

Differences in the categorization of accountability to the staff evince a theoretical gap in the conceptualization of *downward accountability*. Likewise, differences in the categorization of community partners or NGO peers reveal a theoretical gap in the conceptualization of *lateral accountability*.

Studies demonstrated the importance of accompanying accountability mechanisms with socialization and communication among stakeholders (Agyemang et al., 2017; Carnochan et al., 2019; Kingston et al., 2019, 2020). There are substantive gaps in factors that lead to the effectiveness of accountability mechanisms, and how accountability mechanisms can lead to a collaborative environment.

Various studies on NGO accountability involve organizations in human service delivery. There is an empirical gap in the practice of accountability in NGOs geared toward policy advocacy (Cordery et al., 2019).

NGO accountability is a relevant aspect of NGO management. Yet, there is an empirical gap on how NGO professionalization affects NGO accountability. On another note, *internal accountability* accounts for only 3.45% of the accountability-related research papers on *Organization Studies and Management* (Kaba,



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2021). Simultaneously, there is an absence of accountability-themed publications in journals like the *Journal of Organizational Behavior*, *Organization Behavior*, and *Human Decision Processes* and *The Leadership Quarterly* in the past 20 years (Kaba, 2021). These exhibit empirical gaps in studies on NGO accountability towards mission, board, staff, and volunteers.

Research Philosophy, Framework, Design, and Methodology

This section presents how the author conducted the research.

Research Philosophy

The author used Pragmatism as her research philosophy. Pragmatism affirms that the concepts are relevant insofar that they support action (Saunders, 2016). The author perceives reality as rich and a combination of processes, experiences, and practices. She initiated the study to address the demand for accountability of NGOs as she values the NGO's responsibility and commitment to the organizational mission and stakeholders. The author believes the findings and conclusions of the scholars from the related literature will enable her to know the theories and knowledge built on accountability, and how scholars and practitioners can improve the NGOs' accountability.

Framework

The author used Stakeholder Theory as the theoretical framework in this research. Stakeholder theory conveys that the organizational manager's actions affect others who have a stake in the organization (Freeman et al., 2010). It promotes proper management of the needs and demands of multiple stakeholders (Westermann-Behaylo et al., 2016). NGOs have multiple stakeholders that translate to different stakeholder needs and demands (Wellens & Jegers, 2014). The identification of stakeholders and their demands is key to the organization's accountability (Andreaus &

Coste, 2014). The focus on stakeholders allowed the author to examine the different stakeholders of NGOs in the light of the related literature, and recommend research directions related to the accountability to multiple stakeholders.

Methodology

The author researched the journal articles with the keyword "NGO accountability," "NPO accountability," "nonprofit accountability" 'non-government AND accountability" "upward accountability," "downward accountability," "lateral accountability," and "internal accountability" using EBSCO Research Databases – Business Searching Interface, Google Scholar and De La Salle University library. The author paid special attention to scholarly articles from 2017 to 2022. She also searched for books on the management of nonprofit organizations with a subtopic on "accountability," at the De La Salle University library.

Discussion, Conclusions, Recommendations

The increase in publications on accountability signifies a good sign in the growing interest to safeguard NGO commitment.

The prominence of studies on downward accountability may be explained by ongoing anomalies that create a crack in the accountability towards their social mission. It can also be a response to the Western states' and donor agencies' push for NGOs to focus on the grassroots and their beneficiaries. On the other hand, the NGOs' continuous need for donors may explain the number of studies on upward accountability. The visibility and significance of NGOs during the pandemic may likewise elucidate studies on accountability in the past three years.

Studies showed the negative impact of upward accountability on downward accountability. Nonetheless, the empirical evidence provided by Chu and Luke (2020) and Uddin & Belal (2019) manifested how NGO partnerships with the private



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and public sectors harmonized upward and downward accountabilities.

The scant publication of accountability articles in the discipline of Organization Studies and Management calls attention, considering the presence of managerial professionals and the adoption of business tools in NGOs. At the same time, the author's search for the topic of *lateral accountability*, *horizontal accountability*, and *internal accountability* in business databases confirms the dearth of publications on said accountability conceptualizations. This situation leads to questions such as *How do managerial professionals address NGO accountability issues with the aid of management concepts? In business-nonprofit collaborations, do businesses transfer knowledge to NGOs in managing accountability? Moreover, could deliberate accountability towards the staff facilitate succession planning?*

Finally, studies (Agyemang et al., 2017; Carnochan et al., 2019; Kingston et al., 2019, 2020) show that accountability mechanisms identified by Ebrahim (2003) are not freestanding. There may be other factors needed to moderate the mechanisms' effectiveness. Alternatively, there may be accountability mechanisms other than those described by Ebrahim (2003).

This paper aims to present a review of literature related to NGO accountability, and recommend research directions that will aid NGOs in the practice of accountability. Accordingly, the author suggests the following research directions. First, research on factors that lead to the effectiveness of accountability mechanisms in the current scenario. The pandemic has accelerated the reliance on technology for communications and work. An Insider Action Research may enable NGO professionals to learn more about the steps in undertaking accountability mechanisms, facing the challenges that the mechanisms entail, and in discovering support mechanisms to achieve accountability during trans-pandemic. Similarly, researchers could study the relationship between accountability

mechanisms and survival in crises. *How did the practice of accountability mechanisms affect the innovation and survival of NGOs during the pandemic? Alternatively, how did the pandemic influence NGOs to embed accountability mechanisms?* Second, research on the practice of accountability of NGOs on policy advocacy. Most of the NGOs studied were geared toward service delivery. Downward accountability may be challenging for advocacy-centered NGOs since they do not have direct beneficiaries. Hence, studies on policy-advocacy NGOs can revolve around social accountability, financial accountability, or internal accountability. This will aid the concerned NGOs to contextualize accountability. Third, pursue studies on internal accountability. One may focus on the NGO's accountability towards its characterization, for instance, *self-governing, private, not-for-profit, geared towards improving the quality of life of disadvantaged people* (Vakil, 1997). Another strand may be to focus on the relationship of internal accountability with succession planning. This may help resolve the leadership deficit. Fourth, research on the influence of NGO professionalization on accountability. The research can determine what accountability mechanisms and business tools managerial professionals bring in, what accountability dimensions they prioritize, and how they address accountability issues. Finally, research on the benefits of business-nonprofit partnerships to accountability. This study will be an opportunity to discover how businesses share their knowledge and expertise with NGOs in practicing upward, downward, internal, social, and financial accountability.

The promise to pursue a noble purpose attracts various citizens to support and trust NGOs. Failure to fulfill this promise could repulse benefactors, disillusion staff and volunteers, and deny beneficiaries. Furthermore, betrayal of the marginalized may drive them to a situation worse than how they were before participating in the organization. Accountability to the organizational mission, benefactors, employees, and beneficiaries



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guarantees the paramount contribution of NGOs in transforming society.

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Working Capital Management of Food Park Entrepreneurs in Marikina City

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Abstract

The study aimed the effectiveness of Working Capital Management of Food Park Entrepreneurs in Marikina City. Specifically, it sought to identify the profile of the respondents, assess the level of effectiveness on the aspects of cash position, receivable, payable and inventory management and determine the significant difference in the respondents' assessment of the effectiveness on the aspects of the Working Capital Management of Food Park Entrepreneurs in Marikina City when respondents were grouped by profile.

The researcher used descriptive design wherein a researcher-made questionnaire was employed. Frequency and Percentage Distribution, Weighted Mean, t-Test, ANOVA and Rank Order Correlation were utilized as statistical tools.

The respondents' assessment on the effectiveness on the aspects of the Working Capital Management of Food Park Entrepreneurs in Marikina City revealed that payable management got "Very Effective" remarks from the respondents, while cash position, receivable and inventory management interpreted as "Effective". There is no significant difference in the assessment of the respondents on the effectiveness on the aspects of the Working Capital Management of Food Park Entrepreneurs in Marikina City when they were grouped according to form of business organization, number of years in the business and number of food stalls since P-value were greater than the level of significance hence, null hypothesis was accepted. However, assessment of the respondents on the effectiveness on the aspects of the Working Capital Management of Food Park Entrepreneurs in Marikina City, when they grouped according to number of employees and capitalization were both significantly different since P-value were less than the level of significant of 0.05. Therefore, null hypothesis was rejected.

The study covers respondents who were into food park business who are the owners or the managers of the operation in the food park business. The study's coverage area was limited to Marikina City with a population of food park owners/handlers of 85 based on the record of Business Permit and Licensing Office (BPLO) of Marikina City as of December 2017. The study targeted 2 respondents per food stalls to be the respondent. The reason why the city is chosen as the target location because it is known for numerous food park businesses scattered across different districts to cater different people, of any status, to experience the wide selection of cuisines and street foods an entrepreneur can offer. Marikina City is also accessible to nearby cities and universities. Because of this, subject location is considered as a suitable place to conduct a survey. The SMEs (Small-Medium Enterprises). The study will give knowledge to aspiring small-medium entrepreneurs on how to manage their businesses in



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order to sustain its operations and possible expansion in the future. The DTI (Department of Trade and Industry). The study will give them enough information on how they can help aspiring businessman in guiding them in preparation to their chosen businesses to be putting up. They can assist in ensuring they can give enough background and support to make sure proper guidelines to be pass on to the new players of the market. The Marikina City Government. The city government of Marikina will also benefit from this study by providing them beneficial information on how current food park entrepreneurs handle their food park businesses. The government can provide additional help by providing seminars and extensive trainings for them to effectively manage their business to achieve its full potential. The Researcher. As finance major, the researcher may also profit from this study through attainment of additional knowledge, perceptions, experience, and professional development. It will give the researcher an opportunity to contribute to a continuous development of the effectiveness of working capital management. Other Researchers. Working Capital Management is a very prolific subject; hence this study will aid as a reference material for other researchers like business and management scholars who will conduct similar studies. It will also open another path in the field of food park industry which can be used to explore more ideas and concepts in the future.

Key Words: Working Capital Management, Food Park Entrepreneurs

Relevant SDGs: SDG 1 No Poverty, SDG 3 Good Health and Well-Being, SDG 8 Decent Work and Economic Growth, SDG 17 Partnership for the Goals

Introduction

Every business needs money to allocate for its daily operations in order to provide goods and services. The money that circulates through buyer and seller involvement represents the transaction to determine a sale of goods or service. Profit or loss may or may not occur depending on how a business owner manage its resources. This profit or loss arising from daily operations can be use as the basis of the success or failure of the business. There are a lot of things that are needed in order to sustain the operation of the business. Well managed working capital management is one of the keys that greatly affects the over-all performance of the business.

According to Association of Chartered Certified Accountants (ACCA) (2017), management of working capital refers to the practices and techniques designed to control all the items of current assets and current liabilities. In the

ordinary sense, working capital management is the function that involves effective and efficient use of all the components of current assets and current liabilities in order to minimize total cost. Working capital management, in a simple manner, is how a business owner manages its money for day-to-day operations as well as its debt obligations. The goal of working capital management is to have adequate cash flow for continued operations and have the most productive usage of resources. Efficient working capital management ensures that any business or company can run smoothly while being able to repay maturing short-term debt and expenses that might rise in the near future. In working capital management, the most basic tasks revolve around managing inventories, accounts receivable and payable and cash. Working capital in common parlance is the difference between current assets and current liabilities.

Different food park locations are sprouting in different location in Metro Manila. Even industry



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experts have noted the impact of the food park trend recorded that surge a popularity in the country. A food park is similar in layout to your school canteen or even a food court – admittedly hipper and cooler – with different stores and stalls providing diverse food choices. Whatever you are craving, you surely will find it here. According to Aure (2018), on his article on The Manila Times, building on the ever-growing food categories, one format is what people may classify as #trending, especially in metropolitan areas: food parks.

This type of new offering to the market appeals to both newbies and foodpreneurs. Customers looking to try new food service and bond with a group of family, friends and loved ones appreciate the ambience and variety offered by the format, while starting entrepreneurs appreciate the incubator-like nature of the food parks in terms of testing novel concepts with minimal capital. Aure (2018) noted that the food park concept itself is novel and the variety of selection can encourage customers to try it at least once. However, operators and foodpreneurs must be compelled to deliver innovative value that not only encourages first trial, but rather repeated consumption and visits. Food parks and their tenants should not fall into the trap of thinking that novelty can sustain customers, or else one runs the risk of food parks becoming similar to food fads that rise exponentially fast yet fall harder. For the sake of food enthusiasts and the benefits of increased entrepreneurship, one should not let this happen.

Aside from the novel food concepts, one unique offering of food parks is the creative ambience – making use of themes or other props that make the experience transcend flavors. However, my friends and I have personally experienced many barriers that ruin the food park experience: traffic jams around the vicinity, very limited parking (even for some newly opened parks), and the discomfort of rising summer temperature even during nighttime. To increase the odds of attaining success, food parks and foodpreneurs should collaborate on offering not only food for the taste buds but the total quality experience for groups of buddies and communities.

Some operators are already inviting live bands and hosting events that could contribute to a better food-park experience. (Aure, P.A. (2018).

This study was brought up to the researcher due to the emergence of the food park businesses in Metro Manila, specifically in Marikina City.

Statement of the Problem

This determined the effectiveness of working capital management of food park entrepreneurs in Marikina City. Specifically, it sought to answers the following questions.

1. What is the profile of the respondents in terms of the following:
 - 1.1 Form of business ownership;
 - 1.2 Number of years in the business;
 - 1.3 Number of employees;
 - 1.4 Capitalization;
 - 1.5 Number of food stalls?
2. How do the respondents rate their effectiveness on the aspects of working capital management of food park entrepreneurs in Marikina City:
 - 2.1 Cash position;
 - 2.2 Receivable management;
 - 2.3 Payable management;
 - 2.4 Inventory management?
3. Is there a significant difference in the respondents' assessment of the level of effectiveness on the working capital management of food park entrepreneurs in Marikina City when they are grouped according to profile?

Significance of the Study

The following individuals and organizations will benefit from this study.

The SMEs (Small-Medium Enterprises). The study will give knowledge to aspiring small-medium entrepreneurs on how to manage their businesses in order to sustain its operations and possible expansion in the future.

The DTI (Department of Trade and Industry). The study will give them enough information on how



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The Marikina City Government. The city government of Marikina will also benefit from this study by providing them beneficial information on how current food park entrepreneurs handle their food park businesses. The government can provide additional help by providing seminars and extensive trainings for them to effectively manage their business to achieve its full potential.

The Researcher. As finance major, the researcher may also profit from this study through attainment of additional knowledge, perceptions, experience, and professional development. It will give the researcher an opportunity to contribute to a continuous development of the effectiveness of working capital management.

Other Researchers. Working Capital Management is a very prolific subject; hence this study will aid as a reference material for other researchers like business and management scholars who will conduct similar studies. It will also open up another path in the field of food park industry which can be used to explore more ideas and concepts in the future.

Scope and Limitation of the Study

The study covers respondents who were into food park business who are the owners or the managers of the operation in the food park business. The study's coverage area was limited to Marikina City with a population of food park owners/handlers of 85 based on the record of Business Permit and Licensing Office (BPLO) of Marikina City as of December 2017. The study targeted 2 respondents per food stalls to be the respondent. The reason why the city is chosen as the target location because it is known for numerous food park businesses scattered across different districts to cater different people, of

any status, to experience the wide selection of cuisines and street foods an entrepreneur can offer. Marikina City is also accessible to nearby cities and universities. Because of this, subject location is considered as a suitable place to conduct a survey.

Literature Review

This section presents reviews of conceptual literature and empirical studies related to the present research. It discusses several related foreign and local literature and studies which provides the researcher with significant insights on the effectiveness of the working capital management of food park entrepreneurs in the city of Marikina. It also tackles some important aspects and problems which will help the researcher in dealing some of the questions that needs some clarifications to various problems.

Food Park

Jose (2017) on her article on Looloo Insights, she tracks down the emergence of the food park concept in Metro Manila and how it affects the purchasing power of the millennials. The food park craze blew up on us like nobody's business and now it has created an overwhelming response in Metro Manila. Before any more food parks crop up, she back tracks a little bit and figure some stuff out. Like who can really take credit for starting the trend, why people love food parks so much, and if it's safe to say that food parks are here to stay for good. The narration are as follows:

2011 Mercato Centrale and Banchetto Foodie destinations

2011 was the year of night markets. Our Awesome Planet joined forces with BGC and a bunch of other organizations to create two concepts—Mercato Centrale and Midnight Mercato. People loved that they could walk around, discover different kinds of things to eat, buy from as many stalls as they wanted, and settle down on the provided tables and chairs to enjoy their picks. Another popular food



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market back in the day was Banchetto in Ortigas, dubbed as an overnight street food fiesta because it was open from Friday night until the wee hours of Saturday morning. They would close the entire street to allow the merchants to set up shop and sell affordable goodies like burgers, all kinds of meat on a stick, and desserts. Employees working the night shift were the usual visitors chowing down at Banchetto.

2012 The Food Truck Craze Begins

Food trucks shines in 2012. The first ever ‘designer’ food truck to open was Guactruck serving up burrito bowls at Mercato Centrale. Several other gourmet food trucks opened shortly after and they all parked together in Makati to form Cucina Andare, the first ever food truck market in the metro! The selection of munchable ran the gamut from hot dogs to chicken wings and shawarma.

2013 The Food Truck Craze Continues + The First Food Park Opens

Adding to the food truck craze, The Backyard Food Truck Park opened in 2013 with its own fleet of food trucks parked in Capitol Commons. In November of 2013, the first sighting of a food park called Z Compound appeared along Malingap St. near Maginhawa. Designed to be an incubator for young restaurant entrepreneurs, it quickly became a destination not just for some good grub but also for events like poetry readings or book launches. Some of their popular food stalls included Me Love You Long You Time (Southeast Asian) and Meshwe (Lebanese).

2015 Hole in The Wall jump starts the food hall trend

In 2015, the new trend was upscale food courts with concepts like Todd English Food Hall (TEFH) in SM Aura, Hole In The Wall (HITW) in Century City, and SM Mega Food Hall in SM Megamall rising to popularity. TEFH debuted with nine food stations including sushi, pizza, pasta, and grill sections,

while HITW became famous for stalls like Bad Bird, The Beef, and Scout’s Honor. As for SM Mega Food Hall, people came for Frankie’s New York Buffalo Wings, The Halal Guys, and Dojo Dairy! while that was happening in Makati and Ortigas, StrEat: Maginhawa Food Park in Quezon City was gaining steam and bringing in tons of customers (including heavy traffic) to the North. Shortly after, Box Park MNL opens along Congressional Avenue – also in Quezon City. Makansutra, a hawker-style food court in SM Megamall was the most recent addition to the trend, featuring stalls that serve street food from all over the world.

2016 The Food Park Fever

The food park craze finally went into full swing in 2016 and one of the most enduring of all the previous trends. This maybe attributed because food parks combine everything one loves about the concepts that came before. Food Park have the outdoor setting of night markets where one can sit down and enjoy his/her meal, the unique, conceptualized merchants one finds in food truck parks, and the wide variety of food one gets when you’re in a food court. When asked what they like about food parks, looloo reviewer Angela Marie C. said: “Mainly the food because you can have a variety of cuisines and they tend to be more affordable. Plus, the quality of food is not compromised either.” Nikki C. shared the same sentiments: The uniqueness and variety of food offers. And for me, the location and accessibility play a big reason to visit again and again. As for Sandra Y., it’s the look and vibe of food parks that draw her in. She said: “What keeps me coming back, is the nice ambiance. I love taking pics.” Midz S. is also partial to food parks that are interesting to look at and said that she would choose to go to the ones that are Insta-worthy and where she’ll feel comfortable. She also added: “I’d also go to food parks with lots of interesting food choices.”

Metro Manila’s most memorable food parks to date

The OG food parks must make it to the most-memorable list because if it weren’t for these



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pioneers, the food park trend in the metro might not have even taken off. One of the oldest ones is Z Compound along Malingap Street, the alternative foodie haven for whenever the restaurants in Maginhawa are too packed. StrEat: Maginhawa Food Park has also been around for quite a while (it recently got a makeover ICYMI) and so has Boxpark MNL along Congressional. Then there are those who have really set the bar when it comes to food and ambiance. People love Grub Hub along Congressional for its spaciousness, the themed, IG-worthy dining areas, and the wide variety of food choices (Mang Larry's and Wicked Kitchen are just some of the sellers you'll find here). Another popular one is The Yard in Xavierville, raved about for its unique design (the stalls are housed inside container vans) and the fact that you get to choose from thirty unique concepts! Merkanto: International Street Food Fair in UP Village has also earned a good amount of loloo stars for its international street food, featuring goodies from Vietnam, Morocco, and Brazil! And then we have the food parks that are memorable simply because of how downright creative they are! Kantorini Food Park, inspired by the whitewashed houses of Santorini, looks like no other. It doesn't hurt that they have a clever name to go with their unique look too! Carnival Food Park, reminiscent of a perya, is another one with a fun concept. They even have game booths like how it is in real carnivals!

According to Iglesias (2017), Filipinos are foodies in general. Their perpetual love affair with food is evident from the rows of dishes served at town fiestas to the constant proliferation of restaurants, food chains and kiosks across the country. Everywhere and anywhere, one goes to the Philippines, there will always be a spot to satisfy one's cravings. And because we are a people fond of flavors, food is always a go-to business from small to medium to big time entrepreneurs, who wisely keep an eye out—and their palates—for the latest trends in dining.

In 2017, the ever-outspoken millennials have made it clear they would rather fill their bellies with food

that is “unique, exciting and extraordinary,” rather than tried and tested flavors from the big-name chains and established restaurants of commercial destinations. As such, a concept that started out in 2016—the food park—has conquered the food and beverage scene this year. Throughout 2017, food parks and food trucks alike have sprouted in every corner of the metro, especially, and continue to do so.

Yu (2017) said the demand for sites for building food parks saw a significant rise in the country, mainly driven by the millennial market. “With its surge in popularity, more and more vacant lots [are] obtained or leased out for the purpose of food parks. We may project this trend [as] similar to the trend of food markets like Mercato, which had a boom in 2011 in terms of new food markets established and set up,” Yu said. Indeed, more and more establishments took off from Mercato's concept with themes more creative than ever throughout 2017.

King (2017) mentioned that millennials today, they're very outgoing. And then aside from that, a lot of them are actually working so they look for an outlet for stress. Usually, the first outlet they go to is food; second is a place where they can socialize with friends since they enjoy eating with others and not alone. That's why food parks and food trucks are trending. With that, there is solid proof that food parks will continue to be a craze in the coming year.

Iglesias (2017) set criteria's that most millennials consider in order to affect their decisions in choosing the Food Park they want to be into:

Variety. Millennials continue to demand choices and variety to be able to personalize their food experience. They are eating out more and more than in their homes. And while the young generation is cautious about their spending, they want something new, hassle-free and unique. In food parks, there are many kinds of cuisines and unique eating concepts to choose from under one roof. There are usually budget-friendly gastronomic finds that were



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previously only available in high-end restaurants like Wagyu steak cubes for example. From seafood, street food, ribs and steaks, a full meal, finger foods, and cuisines from different parts of the world, fancy types of desserts and overflowing of alcohol to bizarre new dishes, the food parks have them and will keep offering them through the New Year.

Steppingstone. Food parks also allow chefs both professional and amateur to test out their culinary ideas no matter how unimaginable they may be. Running a less expensive stall allows low-pressure and low-risk investments before they take that huge leap in opening a restaurant. A good example of this stepping-stone-for-the-chef component of food parks is The Lost Bread at StrEAT Maginhawa, which branched out in a major mall this year.

Instagrammable. Social media has changed the game even in dining. Food parks are all the more popular because of all the buzz they make on social media, which attract attention and consequent crowds to the sites. Because food park dishes are very “Instagrammable,” the millennials’ obsession with food is ever present online. Using the tags #foodporn and #onthetable, pictures of food with exquisite plating appear almost every single day on all the major social media sites.

Music. With their inviting outdoor settings, food parks also bank on music to get hungry crowds into their domain. Come night fall, food parks turn into party places with DJs, live bands and artists providing topnotch entertainment for which Filipinos are also known. As such the food park gives the millennial what it wants—a place to eat, hang out in a casual vibe. New musicians, meanwhile, get to try out their sounds on a wider audience just as the chefs with their

food concoctions. And of course, there will always be that food park that has KTV booths. We are in the Philippines after all.

Working Capital Management

According to McInnes (2000), the theory of working capital management contends that if working capital is managed according to prescriptive theory, then, it would be expected that businesses would invest in working capital, finance working capital, monitor factors that influence working capital, manage cash, accounts receivable, inventory, accounts payable, the cash conversion cycle (aggregative approach), and measure and analyze performance to ensure that the long term (fixed) assets are utilized effectively and efficiently.

Working capital management is the management of the investment in current assets and the financing of the current assets and involves setting working capital management policy and carrying out that policy in a business's daily operations, (Brigham et al., 1999) it achieves its goals and objectives, such as shareholder wealth maximization, competitive advantage, and growth, (Cooper et al., 1998). As already discussed, the purpose of working capital is to ensure the effective and efficient utilization of the business's investment in fixed assets, (Smidt et al., 1988). More specifically, if performance criteria such as liquidity, solvency/ bankruptcy, efficiency, profitability and Economic Value Added ® (henceforth EVA ®) are considered, it will be clearly apparent that the business must hold and manage the different levels of working capital which are appropriate to its performance criteria (Gapenski et al., 1994),

The purpose of working capital is to ensure that the investment in fixed assets is utilized effectively and efficiently, (Healey et al., 1987). If sales are increasing and capacity utilization is being increased, additional investment in current assets will be required, (Cheatham, 1989). A possible exception may be a fixed asset such as computers where technology may decrease the need because of



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the impact of technology on efficiency and productivity (Bierman and Smidt, 1988). The function of working capital may be illustrated by considering a business's operating cycle. Working capital finances, the day to day (short-term) operations of the business from a cash pool or reservoir of liquidity (Cooper et al., 1998).

As a result of the unsynchronized nature of business activities and cash flows, already discussed, (Weston and Brigham, et al., 1992), and the effluxion of time in converting assets into cash, a financing requirement is created. The financing of working capital contributes to the composition and structure of long-term and short-term financing of a business, (Gitman et al., 1997). The forms of finance, which can be used to fund working capital, namely long-term finance and short-term finance, are presented and discussed.

Cash Position

The purpose of cash management is to determine and achieve the appropriate level and structure of cash, and marketable securities, consistent with the nature of the business's operations and objectives, (Schilling et al., 1996). Cash and marketable securities should be managed so as to achieve a balance between the risk of insufficient liquid or near liquid resources, and the cost of holding excessively high levels of these resources. In order to achieve and maintain this balance, which is subject to continual dynamic processes, both the motive and the appropriate level of cash needs to be established and monitored, (Phillips et al., 1997). In order to do this a variety of activities need to be undertaken, because of the integrative nature of cash to the operation of the business. For example, since all the business's assets are paid for with cash and are converted through time back into cash activities by means of improving cash forecasts, synchronizing cash flows, using float, investing excess cash, speeding up cash receipts, and delaying cash payments. this will have a considerable impact on the minimum level of cash necessary to maintain a particular level of liquidity. If a business improves

its forecasts and arranges its affairs so that cash inflows are synchronized with cash outflows, and transaction balances can be reduced, the level of working capital can also be reduced. If working capital is financed from debt, the reduction in the magnitude of working capital will result in lower interest payments which in turn will give rise to improved profit, greater efficiency and productivity, and enhanced return on assets and return on equity, (Brigham et al., 1999).

There are several approaches to assist with the management of cash. The cash budget ratio approach, cash budget, (Gallinger et al., 1987), cash forecasting (Barney, et al., 1991), Baumol, Miller Orr, and Stone models (Hill et al., 1992) are some of the more popular approaches. The cash budget ratio approach sets a performance target in terms of the ratio of cash to the number of days' worth of payables or, the ratio of cash as a percentage of sales. These target ratios are compared to the industry average. This approach is subject to the well documented limitations of ratio analysis, (Gallinger and Healey et al., 1987).

Cash budgeting or a receipts/disbursements approach focuses on the management of cash flows and balances. This approach is based on the assumption that both the magnitude and the timing of cash receipts and disbursements are known with a high degree of accuracy. By means of sensitivity and scenario analysis, accuracy in the magnitude and timing of the cash flows can be factored into the analysis. The cash budget remains one of the most important tools for the financial manager in maintaining liquidity, and obtaining an indication of the impact of liquidity on profitability, (Gitman et al., 1997).

Cash forecasting is an estimate and projection of the business's cash needs on a daily, weekly, monthly, and annual basis by considering factors such as sales, fixed assets, inventory requirements, times when payments are made, and collections received. The cash forecast can be combined with the daily, weekly and monthly actual bank balances (Barney,



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1991), and forms part of the business's cash control system and cash budget enabling firms to plan for unexpected surpluses or deficits (Scherr, 1989). Apart from the above approaches, which may assist with the management of cash, models such as the Baumol, Miller-Orr, and Stone models are available (Brigham et al., 1999).

Receivable Management

Accounts receivable is an interim debt arising through credit sales and recorded as accounts receivable by the seller and accounts payable by the buyer, (Brigham 1986). Trade credit has been described as the oil of commerce and is an indispensable catalyst in stimulating production, selling and expansion in both small- and large-scale businesses existing in private and public sector. The main reason why firms sell on credit is to expand their sales and maintain the market share. Credit policy helps to retain old customers and create new customers by winning others from competitors. If a firm expands its sales as a result of credit policy, it incurs incremental production and selling costs, administration cost such as credit investigation and supervision costs and collection costs such as bad debts increase.

According to Ross (2004) optimum accounts receivable in a business is one that maximizes the value of a firm when the incremental rate of return (marginal rate of return) of an investment is equal to the incremental cost of funds (marginal cost of capital) used to finance the investment. The incremental cost of funds is the rate of return required by the suppliers of funds given the risk of investment in Debtors. As the firm liberalizes its credit policy its investment in debtors becomes riskier because of increase in slow paying and defaulting debtors.

Accounts receivable management is a very important aspect of corporate finance since it directly affects the liquidity and profitability of the company, (Pandey, 2010). It is useful to think of the decision to grant credit in terms of carrying costs

and opportunity costs. Carrying costs are the costs associated with granting credit and making investment in accounts receivable. It includes the delay in receiving cash, the losses from bad debts and the costs of managing accounts receivable. Opportunity costs are the lost sales from refusing to offer credit. In the sugar industry, this involves insufficient raw material as farmers have land but may not have the resources to develop the cane, (Rose, Westfield et al., 2008). Finance manager can vary the level of accounts receivable in keeping with the trade-offs between profitability and risk. Economic conditions and the firm's credit policies are the chief influences of the level of accounts receivable to be maintained by a firm at any given time, (Horn 2007).

Debt management requires that an organization put in place a credit policy whose main aim is to maximize shareholders wealth by increasing sales. A firm may follow a lenient or stringent credit policy. Lenient policy allows the organization to sell to customers on very liberal terms while stringent policy allows a firm to sell on credit on a highly selective basis to customers who have proven record creditworthiness. Trade credit involves receivables which the firm expects to collect in the near future and has some risks, (Pandey 2010). These include risk of bad debts where the debtor totally fails to pay. Secondly, the risk of loss of economic value of money due to inflation as a result of delayed payment. The investment in accounts receivable depends on the volume of credit sales or the objective of offering credit and the collection period, (Manasseh 1990).

According to Peel and Wilson (1996), good receivable management practice is being pivotal to the health and performance of both small and large firms alike. The key principles of accounts receivable management that a firm should adhere to are ageing of accounts receivable, evaluating the potential customers ability to pay using criteria such as integrity of the customer, financial soundness, collateral to be pledged and current economic conditions should be analyzed, establishment of



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credit terms and limits, collection of trade credit, assessment of default risk and responsibility and the financing of accounts receivable until it has been paid by the purchaser (Schaum, 1998). The goal of accounts receivables management practices is to maximize shareholders wealth. Receivables are large investments in firm's asset, which are, like capital budgeting projects, measured in terms of their net present values (Emery et al., 2004). There are three characteristics of accounts receivables include the element of risk, economic value and futurity (Laziridis & Tryfonidis, 2006). The management of receivables is basically a problem of balancing recoverability and liquidity. The costs associated with accounts receivables include capital, administrative, collection and default costs (Pandey & Parera, 1997). When the firm resorts to liberal credit policy, the asset value of the firm is not protected. However, such a policy results in increased investments in receivables and the problem of liquidity is created. On the other hand, a stringent credit policy protects the asset value and increases the liquidity of the firm. The management should consider the following factors in keeping the level of investment in receivables within the controllable limits. The effectiveness of accounts receivable management should be analyzed from time to time with the help of certain ratios such as average collection period, debtor's turnover ratio, receivable current assets ratio, (Laziridis & Tryfonidis, 2006).

Accounts receivable management results from credit sales. The purpose of credit sales is to stimulate sales in order to expand market share and if possible, enhance production capacity efficiency. If the benefits exceed the costs of credit sales, the business's performance should be enhanced, and should be reflected in key performance criteria such as efficiency, productivity, and return on equity, (Brigham, Hampton and Wagner et al., 1999).

The management of accounts receivable is largely determined by the business's credit policy. The investment in accounts receivable, debtors, as with all investment decisions, must earn a rate of return

in excess of the required rate of return. Major risks that arise from granting credit include bad debts and debtor delinquency, because they reduce the returns from the investment in accounts receivable, and if inadequately monitored can impact severely on the business's financial performance, (Brigham, Kallberg and Parkinson et al., 1999)

Credit policy and collection policy have to be actively managed because they affect the timing of cash inflows, sales, profits and accounts receivable risks, (Gitman, Schmidt, et al., 1997). Any changes in credit and collection policy have a direct impact on the average outstanding accounts receivable balance maintained relative to a business's annual sales, (Moss, Stine, et al., 1993). Thus, a business should take special efforts to monitor both credit granting and credit collection processes, (Chang, et al. 1995).

Credit policy involves three factors: the credit selection, credit standards, and credit terms. Credit selection concerns the decision of whether or not to grant credit and if so, how much credit to extend. This is done by means of categorizing customers by both risk factors, common attributes, establishing standards, evaluating risks, and selecting appropriate responsibilities, (Schmidt, Gallinger, et al., 1996). As credit decisions have an impact on cash flows the first stage is to establish credit control to assess creditworthiness of customers, prior to making a credit sale, (Back, 1988). To determine who should receive credit, granting credit requires consideration of the debtor's creditworthiness, (Gitman, Scherr, et al., 1997). Credit standards are the minimum level of creditworthiness which a potential debtor would need to score in order to qualify for the granting of credit, (Gitman, 1997). In the normal course of business credit standards are periodically modified. Key variables that need to be considered when tightening or relaxing credit standards include the impact on sales volume, the investment in account receivable, the cost of recovering monies due, and bad debts. A relaxation of credit standards would be expected to stimulate sales volumes, and vice versa if credit standards are tightened, (Gitman, 1997). The granting of more



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liberal terms has the potential to create a larger and less liquid investment in receivables, (Moss and, Stine, 1993). Unless sales increase at least proportionally to the increase in receivables, deterioration in liquidity will be reflected in lower receivables turnover and a more extended collection period, (Richards and Laughlin, 1980).

According to Cheatham (1989) tightening credit standards or introducing policies to determine which customers receive credit leads to the dilemma which are classified as Type 1 and Type 2 errors. Type 1 errors result when credit is issued to a customer that does not repay the debt. Type 2 errors occur when credit is denied a good customer who then buys on credit from a competitor and pays all the bills on schedule. The tightening of credit acceptances should aim to reduce Type 1 errors and not increase Type 2 errors.

Credit terms specify the debtor's repayment schedule and comprise issues such as the cash discount, the cash discount period, and the credit period. Any changes in these three variables may affect sales, the investment in account receivable, bad debts and profits. For example, a decision to increase the cash discount should be evaluated by comparing the profit increases attributable to the added sales, the reduction in accounts receivable investment and the reduction in bad debts to the cost of the discount. On the other hands, decision to decrease the cash discount should be evaluated by comparing the profit decreases attributable to the added sales, the increase in accounts receivable investment and the increase in bad debts to the cost of the discount, (Gitman, 1997).

Once credit has been granted, and credit sales have been made, accounts receivable ha to be collected. The goal of collection management's goal is to ensure that payments are received according to schedule, otherwise a greater investment in accounts receivable will be needed. If receipts from accounts receivable can be speeded up, without prejudicing sales or customer goodwill, less capital will be needed to fund accounts receivable, and less money

will be spent on recovery, because of administration, investigation, collection and bad debt costs, (Gitman, Miller, Kamath et al., 1997)

According to Barry (1995) in order to achieve satisfactory performance by debtors, several tactics have been suggested. These include adding finance charges for late payment, providing incentives for early payment, shortening the credit period contractually, or trading only for cash, discounting or factoring accounts receivable to speed up the cash inflows, outsourcing accounts receivable, analyzing payment patterns, Using the Markov Chain Analysis, ad hoc scoring, simple probability, linear discriminant and sequential decision system, monitoring days sales outstanding and aging schedules, using balance fractions, payment proportions and variance analysis, (Kallinger and Parkinson 984). These tactics need to be implemented carefully otherwise sales volumes could be negatively affected, (Back et al., 1997). It is important to note that accounts receivable management and inventory management is closely linked in that account receivable are inventories that have been sold yet have not generated cash inflows.

Payable Management

Accounts payable, a current liability, refers to the credit, which has been extended to a business by its suppliers (Gallinger and Healey, 1987). The decision to make use of supplier credit needs should be carefully assessed in terms of alternative sources of finance, discounts (Winkler et al., 1996), credit limits, public image with respect to its credit rating, transaction costs, administrative costs, information costs, control costs, the value of the relationship with creditors, buying power of the purchasers, the credit terms, stability and general. practices of suppliers, and risk factors, (Payne, Gentry et al, 1993). If the availability and cost of supplier credit are better than other forms and sources of finance, then supplier credit should be used. Once this decision has been taken accounts payable management will probably investigate the extent to which it can



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stretch accounts payable without jeopardizing its credit status with suppliers, (Cheatham, 1989).

The motive for stretching accounts payable is to finance the investment in current assets from trade creditors and hence reduce the need for a level of working capital (Brigham, Gitman, et al. 1999). Creditors may tolerate this practice as long as the business abides by the rules the creditor has established (Payne 1993). The decision to stretch accounts payable is a function of ethical, legal and economic considerations, (Brigham, et al. 1999, Hill and Sartoris, 1992). If management decides to stretch accounts payable, it must make an attempt to quantify the costs so as to determine the maximum stretching period consistent with value maximization, (Gallinger and Healey, 1987). If delaying the payments is impossible, because there is the possibility of damaging the firm's future, reputation and credit standing, (Gitman, 1997) then the cash outflows need to be carefully managed.

According to Williams et al., (1995) there are numerous approaches discussed in the literature that management can consider when managing accounts payable. Some of these include outsourcing accounts payable, setting up disbursement systems, scheduling accounts payable, aging accounts payable, forecasting accounts payable, budgeting, monitoring accounts payable-to-purchases ratio, evaluating the number of days purchases outstanding in payables, monitoring the aging schedule, analyzing payment patterns and variances, and sequential approach and the integer-programming approach of structuring current liabilities.

Effective accounts payable management is important to SMMEs because it ensures that their payables contribute positively to cash flow and support mutually beneficial relationships with their suppliers, (Bizfilings, 2015). Concerning cash flow, effective accounts payable practices enable SMMEs to minimize late payment costs such as penalties, interest charges, lost prompt payment discounts, payment to creditors before collecting from debtors,

(Olivier & Esker, 2012). The researcher believed that an SMME with effective, streamlined accounts payable operations ultimately saves money by avoiding these costs, and minimizing supplier invoices processing costs, all which improve cash flows, (Deloitte, 2015).

According to Mbroh and Attom (2012), accounts payable are a major source of short-term financing for businesses provided that they delay payment as long as possible without damaging their credit rating or pay on the last day when payment is due to take advantage of cash discounts. Simply put, settling payables on the last day of payment enables businesses to re-invest the funds that would have been paid to suppliers into the business, thereby securing an interest-free source of finance, provided cash discounts are not forfeited, (Taurigana & Afrifa, 2013).

As far as supplier relationships are concerned, effective accounts payable management practices aid SMMEs in building trust with their suppliers, (DBIS, 2013). If an SMME honors its agreed upon terms of payment by paying its suppliers on time, as promised, it builds its trust and strong relationships with suppliers, (Balch, 2014). Strong relationships are vital as suppliers are not only likely to extend better credit terms to an SMME they trust, but they may also share ideas for new methods, products and customer service. Managing accounts payable also effectively ensures that appropriate controls are in place to avoid errors such as duplicate payment, vendor fraud such as paying for goods not supplied, inefficient processes, late payment, all which do not only damage an SMME's reputation, but undermine its viability, (Rico, 2014).

Having appropriate controls of accounts payable also assist an SMME in detecting fraudulent or inaccurate invoices, and ensuring that all vendor invoices are accounted for, (Deloitte, 2015). These ultimately ensure that the end year financial statements are complete and accurate. How effectively accounts payables are managed by an SMME serves as a key indicator of its overall



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operational effectiveness, (Kallikkat, 2013). If the payables are too high, an SMME may soon have problems settling suppliers' invoices, (Deloitte, 2015). If the payables are too low, then an SMME may be unwisely settling suppliers' invoices early, thus foregoing the benefits of the allowed payment a period such as investing the cash into the business, (Kallikkat, 2013). The above could affect financial performance indicators such as days payable and current ratio of assets to liabilities, to the disadvantage of an SMME.

As already alluded to, prior studies in other countries have partly attributed the high failure rate of SMMEs to ineffective payables management practices (Rico, 2014; Pietersen, 2012; Tuffour, Appiagyeyi, Gyasi, Anakye & Asante, 2012). Some of the studies have revealed that most SMMEs fail to take advantage of prompt payment discounts, (Greenstreet, 2015). Worse still some delay payment beyond the credit period granted, an aspect that strains their supplier relationships, (Mazzarol 2014). This leads suppliers to demand cash on delivery, increased lead time, reluctance to rectify defects, slower response to queries or even higher charges to cater for the anticipated delays in payment (Deloitte, 2015, p. 3). By contrast some studies have revealed that SMMEs do not take advantage of the credit terms availed by suppliers, (Tuffour et al., 2012). Instead, they tend to only buy on cash basis or settle invoices earlier than necessary, and do not negotiate the credit terms, approach that strains their cash flow position and limits their growth potential, (Pietersen, 2012). Those that pay in advance to take advantage of discounts do so without calculating the cost/benefit of capital outlay (Deloitte, 2015). Yet other international studies have revealed that SMMEs do not maintain accurate accounts payable records, (Amoako, 2013). This does not only lead to delays in paying suppliers, it also leads to understatement of their liabilities as they are recorded in the wrong period, (Rico, 2014). As a result, suppliers become less inclined to grant credit to these entities, and their records become questionable, an aspect that impairs their creditworthiness and access to

borrowings from financial institutions, (Amoako, 2013).

Other studies have lamented that most SMMEs do not prioritize the management of their accounts payable given that this is regarded as part of a back-office function, (Mazzarol, 2014). Accordingly, these entities do not incorporate effective management of their payables as part of building their competitive advantage. This approach often results in a cash flow crisis, particularly as the SMMEs grow in size, which can subsequently result in their closure, (Amoako, 2013). Some studies have also documented that SMMEs typically rely on error-prone manual processes with inadequate controls to approve requisitions, check supplier invoices and make payments, (Singawaza, 2013). Some of these entities even fail to issue purchase orders for each new order, fail to check whether order deliveries match contractual terms, incorrectly load supplier and/or contract information into master data files (Campbell & Hartcher, 2015). Others lack processes and systems to prevent late payments, under- or over-payments, duplicate payments or missed payments (Deloitte, 2015).

Inventory Management

Inventory management for purchasing, production, and marketing purposes, should minimize the total costs of handling, carrying and financing inventory (Brigham, et al. 1999, Hampton and Wagner, 1989) to alter the absolute levels of inventory held or the manner in which it is ordered will have a direct impact on how working capital should be managed (Back, 1988). Within a Kallberg and Parkinson, 1984). The manner in which inventory is managed affects the level and structure of raw materials, work in progress, and finished goods needed to sustain efficient operations and sales, (Brigham, et al. 1999, Scherr, 1989). Any changes introduced by management business, four conflicting management views concerning the appropriate investment in inventory is apparent (Kallberg and Parkinson, 1984). The marketing manager desires plenty of finished goods on hand so that no customer is ever



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turned away or forced to wait because of lack of inventory. Large quantities of both raw materials and work in process are preferred by production managers to ensure employees can concentrate on continuous production runs so that they can spread set up, changeover, spoilage and learning costs over longer production runs. The purchasing agent often prefers to buy in large quantities in order to take advantage of quantity discounts, lower freight costs and other economies of scale. The finance manager has to take the above wants and needs into consideration in conjunctions with the risks and benefits when making any decisions regarding the investment in working capital and the financing of the working capital. It is thus important to draw up these conflicting functional objectives with inventory policy to improve EV A ®. This can be achieved by adopting appropriate purchasing, production, scheduling and distribution strategies (Madura and Veit, et al., 1988) to speed up the inventory turnover (Scanlan, Maness et al., 1995) without depleting inventory levels to the extent that it might reduce future sales (Maness et al., 1994) and slowdown production runs (Brigham, et al. 1999). A variety of approaches exist for the management of inventory to reduce the investment in inventory. These include outsourcing inventory, accurate inventory forecasting, incentive schemes, budgeting, the ABC system, Economic Order Quantity, MRP 40 (Materials Requirements Planning), MRPII (Manufacturing Resources Planning), and TIT (Just-in-time) are some of the approaches that can reduce the inventory turnover, reduce the level of inventory and improve cash flows, ((Cheatham, Corbett and Bayly et al., 1989)

Synthesis of Reviewed of Literated Literature and Studies

All of the mentioned articles, literature and studies have given research ideas, and relevant insights to his present study, giving emphasis on the working capital management of food park entrepreneurs. The review of related literature and studies provided detailed idea and background of relevant literatures and studies both local and international.

Literatures organized thematically paved the researcher to analyze and understand deeply the value, impact of effectiveness of working capital management in small businesses and other businesses. Based on the related materials found, no study has instituted out to on the same topic except for the books, web pages and articles collated that cater to its parts. Many have studied about the usefulness of working capital management, how the aspects can help small business and corporation, things to get in mind in order to become successful in the future. The literature is presented based on the outlie of the aspects enumerated on the study in order to easily corelate ideas with the root causes of the problem/s

For related studies, it connected and supported the idea of the present study of the researcher and to place the study on its proper context. All related studies mentioned in this review serve a significant inputs and bases to the researcher in conducting his study, likewise, those studies gave an immense help in formulating the questionnaire used in this study.

Theoretical Framework

Cash management is a key component in ensuring a company's financial stability and solvency. Ross, et al. (2012) said that cash management is concerned more with how to minimize cash management is concerned more with how to minimize balances by collecting and disbursing cash effectively.

Gross working capital consists of the funds invested in a company's cash and marketable securities accounts, accounts receivable, inventories and other current assets. These are the composition of working capital, (Moles, et al, 2011).



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Figure 1

The Working Capital Management Cycle



The basic elements of net working capital management such as carrying, shortage, and opportunity costs are important also for cash management. (Ross et al., 2008). Chen (2009) define cash management is the most important part of WCM. Cash management purpose is to control a company's cash outflows and inflows so that solvency is ensured all the time (Hofmann et al. 2011). Cash management is also about how to minimize cash balances by collecting and disbursing cash effectively (Ross et al. 2008, p. 771). WCM have a significant effect on company's liquidity and profitability. There must be made important trade-off between decisions that add liquidity and decisions that add profitability.

Figure 2

The Cash Conversion Cycle



The cash conversion cycle refers to the number of days between the expenditure of purchase of firm's raw materials and the cash collection from the product sales (Sathyamoorthi & Wally-Dima, 2008). Furthermore, cash conversion cycle is a fundamental tool that is applied in the assessment of the efficiency of working capital management (Richard & Laughlin, 1980). Bieniasz and Golas (2011) posited that the cash conversion cycle is based on the three partial cycles. These are length of operational cycle and the accounts payable cycle. The three forming one synthetic tool or measure, called the cash conversion cycle. Similarly, Alipour (2011) asserted that the major yardstick of effective working capital management has been introduced by eminent researchers on working capital such as Shin and Soenen (1998), Lazaridis and Tryfonidis (2006) and Garcia-Teraul and Martinez Solano (2007) as cash conversion cycle. Undoubtedly, the different parts of working capital are the receivable accounts, the payable accounts, and the inventory. It is vital that these Concentration for too much only the liquidity will affect harmfully on the profitability and vice versa. (Shin and Soenen 2000; Shin and Soenen 1998). The liquidity ratios, NWC, cash flow analysis and the CCC are the foundation for liquidity risk measurement (Tibor and Veronika 2011).

Conceptual Framework

The study adopted the 'Input-Process-Output' IPO model. The IPO model implies a chronology (left-to-right) where, in turn; resources or the inputs are made available for the work of the project. In this case, the study is executed to produce certain output through combination of processed and those outputs are then delivered to the outside world, (Zwikael and Smyrk 2011).

The input variables for this study include the respondents' profile to age, sex, civil status, highest educational attainment, form of business, number of employees, number of years in operation and source of capitalization. Other input variables were the aspects of working capital management such as cash



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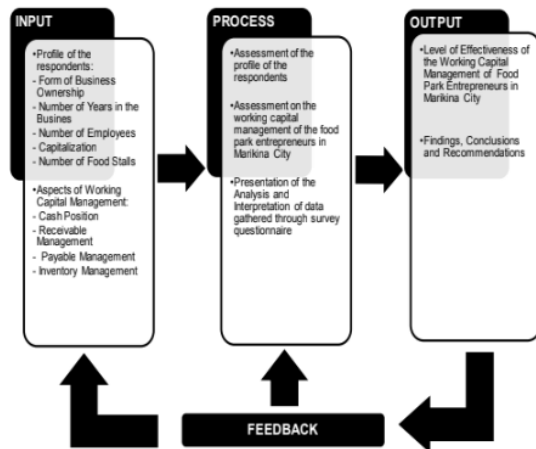
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position, accounts receivable, accounts payable and inventory management.

The process consisted of the assessments on the profile of the respondents, the level of effectiveness of food park entrepreneurs on their working capital management on through the use of survey questionnaire, presentation, analysis, and interpretation of data.

Figure 3

Conceptual Framework



Research Methodology

This study used a descriptive research method, wherein described the present conditions, events, systems or the nature of a situation at the time of the study based on impressions or reactions of respondents, (Alipio Garcia et al., 2007). Also, descriptive research method is the best to use to know the level of effectiveness of the food park entrepreneurs on the working capital management because it aims to define, gauge and evaluate the data gathered based on the respondents' reactions and impressions.

Population, Sample Size, and Sampling Technique

The total population of the study covered food park entrepreneurs located in Marikina City particularly those who were business handlers, owners and operators. Incidental or convenience sampling technique was utilized in the study. The sampling designed is applied to the samples were taken because they were most available. The researchers took the nearest individuals as the respondents of the study, (Alipio Garcia et al., 2007).

Since the population is known and defined, the study used Slovin's formula to compute for the appropriate sample size which is written as $n = N/(1+Ne^2)$ where n = number of sample size. N = total population and e = error tolerance. The researcher gathered one hundred seventy (170) food park owners and managers who were doing business on the targeted location. The researcher averages the respondents up to 2 respondents per food stall who were the owners or managers who directly managing the operation of the business. Using the Slovin's formula, it was computed a minimum of one hundred twenty (120) respondents with a .05 level of significance to participate on the survey to be conducted by the researcher.

Description of Respondents

Working capital management will greatly help food park business owners in managing the cash flow of their business hence, the study's respondents were focused on business handlers or owners with establishments in Marikina City.

The respondents of the study were categorized on their form of business ownership and the number of employees (if they have) were directly managed their business. Their number of years in the business was also indicated and clustered according to the following: less than a year, 1 - 3 years, 4 – 6 years and more than 6 years. Then, capitalization and number of stalls they operate in the business are also indicated to identify about the sufficiency of their funds to sustain their day-to-day operations.



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Research Instrument

The study used a researcher made questionnaire which was constructed to suit the purpose and content of the study and was based on different material such as books, researchers, articles and online references to obtain information related to the study. It contains Likert Scale to measure the degree of respondents' effectiveness on the aspects of working capital management. The questionnaire was also checked and validated by the University Statistician for the accuracy and veracity of the contents.

The questionnaire is composed of two parts. The first part contained the respondent's personal data particularly type of their business, number of years as businessmen, number of employees and their capitalization. The second part is consisting of the different aspects of working capital management such as cash position, accounts receivable, accounts payable and inventory management which will be utilized to evaluate the effectiveness of the respondents. Below is the opinion of the Likert scale of the respondent's level of effectiveness and It indicates interpretation and numerical descriptions.

Table 1

Likert Scale

Mean Values	Numerical Description	Verbal Interpretations
4.51 – 5.00	5	Very Effective
3.51 – 4.50	4	Effective
2.51 – 3.50	3	Somehow Effective
1.51 – 2.50	2	Less Effective
1.00 – 1.50	1	Not Effective

Data-Gathering Procedure

This study used a researcher-made questionnaire to collect data. First, the researcher made an authorization to conduct survey approved by Chairman and Dean of PUP Graduate School. Second, the researcher requested for the list of registered Food Park Businesses in Marikina City BPLO (Business Permit and Licensing Office).

Third, the researcher consulted his statistician for the proper computation of the samples to be gathered from the list provided by the Marikina City BPLO. Fourth, the researcher handed-over authorization letter to food park management per location to be visited to start the data gathering procedure. Fifth, based on the list of the registered entrepreneurs provided by the BPLO Marikina, the university statistician advised the researcher to distribute the questionnaires on all the registered food park businesses to not less than 120 respondents. The researcher disseminated the questionnaire to food park entrepreneurs, owners, and handlers. The researcher sees to it that the respondents understand the questions stated on the survey. The researcher has provided a translated version of the survey for easy answering. Accordingly, distributed survey-questionnaire were retrieved and collected from the respondents after a period of time. Lastly, after the retrieval and collection of questionnaires, all the answers of the respondents are tabulated based on the required format of the problems of the study and started the processing of data using appropriate statistical tools.

Statistical Treatment of Data

The study utilized the use of descriptive statistical tool such as frequency and percentage distribution, weighted mean, analysis of Variance (ANOVA) and rank order correlation which are described as follow.

- 1 **Frequency and Percentage Distribution.** By using frequency, it determined the number respondents who favored a particular item over the given set of items while in percentage, it expresses the size of one item whether large or small relative to other items.
- 2 **Weighted Mean.** The Weighted Mean is a measure of central tendency wherein it points out to where the majority of the respondents are to a question cluster and reveals the reaction of the majority of the respondents (Alipio Garcia, et al. 2007).
- 3 **T-Test.** A t-test is an analysis of two populations



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means through the use of statistical examination; a t-test with two samples is commonly used with small sample sizes, testing the difference between the samples when the variances of two normal distributions are not known.

- 4 **Analysis of Variance (ANOVA).** The analysis of variance (ANOVA) is used to test the significant difference between two or more groups in the study by comparing the mean scores of the groups on a continuous variable (Alipio Garcia, et. al. 2007).
- 5 **Rank Order Correlation.** Rank order correlation is a non-parametric technique used to calculate the strength of the relationship between two continuous variables (Alipio Garcia, et. al., 2007). This was used to average the result of the data from highest to lowest based on the respondents' answers.

Results and Discussions

Profile of the Respondents According to Form of Business Ownership, Number of Years in the Business, Number of Employees, Capitalization and Number of Food Stalls

1. Frequency and percentage distribution of the respondents according to forms of business ownership. Out of the 120 respondents of the study, 113 or 94.2% are in Sole Proprietorship and 7 or 5.8% are Partnership. The result may indicate that Sole Proprietorship is more dominant in food park business than Partnership.
2. Frequency and percentage distribution of the respondents according to number of years in the business. Out of the 120 respondents of the study, 102 or 85% are less than 1 year, 17 or 14.2% are from 1-3 years and 1 or .8% are more than 4-5 years. The result may illustrate that there are a lot of business owners are operating in less than a year in the Food Park Business.

3. Frequency and percentage distribution of the respondents according to number of employees. Out of the 120 respondents of the study, 86 or 71.7% are having 0-2 employees and 34 or 28.3% are having 3-5 employees. The result may show that food park stalls are having 0-2 employees in operating of their business.
4. Frequency and percentage distribution of the respondents according to capitalization. Out of the 120 respondents of the study, 63 or 52.5% has a capitalization of less than Php100,000, 26 or 21.7% has a capitalization between Php100,001-Php250,000, 30 or 25% has a capitalization of Php250,001-Php500,000 and 1 or .83% has a capitalization of Php500,001-Php750,000. The result may show that majority of the initial capitalization of the food park owners is less than Php100,000 and the least is between Php500,001-Php750,000.
5. Frequency and percentage distribution of the respondents according to number of food stalls. Out of the 120 respondents of the study, 99 or 82.5% has a 1 stall and 21 or 17.5% have 2 stalls. The result may indicate that majority of the food park owners operates 1 stall rather than 2 stalls.

Aspects of Working Capital Management in Terms of the Indicators: Cash Position, Accounts Receivable, Accounts Payable and Inventory Management

1. Weighted Mean and Verbal Interpretation of the Respondents' Assessment of the Effectiveness of the Aspects of Working Capital Management of Food Park Entrepreneurs in Marikina City in Terms of Cash Position. "Ensure availability of cash in running day-to-day operation" obtained the highest weighted mean of 4.90, verbally interpreted as "Very Effective".
2. Weighted Mean and Verbal Interpretation of the Respondents' Assessment of the Effectiveness of the Aspects of Working Capital Management of Food Park Entrepreneurs in



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Marikina City in Terms of Receivable Management. “Offering sales on credit to loyal customers” obtained the highest weighted mean of 4.70, verbally interpreted as “Very Effective”.

- 3 Weighted Mean and Verbal Interpretation of the Respondents’ Assessment of the Effectiveness of the Aspects of Working Capital Management of Food Park Entrepreneurs in Marikina City in Terms of Payable Management. “Utilizing credit terms in maximizing disbursements in order to manage the cash flow” obtained the highest weighted mean of 4.91, verbally interpreted as “Very Effective”.
- 4 Weighted Mean and Verbal Interpretation of the Respondents’ Assessment of the Effectiveness of the Aspects of Working Capital Management of Food Park Entrepreneurs in Marikina City in Terms of Inventory Management. Both “Buying supplies/materials in bulk to enjoy discounts in bulk orders and purchases” and “Buying supplies/materials in advance by overstocking inventory to avoid shortage” obtained the highest weighted mean of 4.94, verbally interpreted as “Very Effective”.
- 5 Summary of Grand Mean and Verbal Interpretation of the Respondents’ Assessment of the Effectiveness of the Aspects of Working Capital Management of Food Park Entrepreneurs in Marikina City as Assessed by Respondents. Payable management with the highest grand mean of 4.59 which is interpreted as “Very Effective”. Other aspects such as cash position and inventory management have the same grand mean at 4.2 which is interpreted as “Effective”, Aspect of receivable management have a grand mean of 4.17 which is also interpreted as “Effective”.

Significant Difference in the Respondents’ Assessments on the Effectiveness on the Working Capital Management of Food Park Entrepreneurs in Marikina City

- 1 Test of Significant Difference of the Aspects of Working Capital Management of Food Park Entrepreneurs in Marikina City When Respondents Are Grouped According to Form of

Business Ownership. Receivable management obtained a t-value of 2.406 with p-value of .018. Since the p-value is less than .05, the assumed level of significance, the null hypothesis was rejected. This means that, when the respondents are grouped according to forms of business ownership, their assessments on the effectiveness of receivable management as an aspect of working capital management differ significantly.

- 2 Test of Significant Difference of the Aspects of Working Capital Management of Food Park Entrepreneurs in Marikina City When Respondents Are Grouped According to Number of Years in the Business. There is no significant difference in the level of assessment when grouped by number of years in the business of Cash Position ($t=-1.786$, $p=.077$), Receivable Management ($t=.963$, $p=.337$), Payable Management ($t=-1.175$, $p=.242$), Inventory Management ($t=-1.371$, $p=.173$). The p-values are all greater than the assumed level of significance .05, hence the null hypothesis is accepted.
- 3 Test of Significant Difference of the Aspects of Working Capital Management of Food Park Entrepreneurs in Marikina City When Respondents Are Grouped According to the Number of Employees. Cash Position obtained a t-value of -3.484 with p-value of .001 and Inventory Management obtained a t-value of -2.390 with p-value of .018. Since the p-value is less than .05, the assumed level of significance, the null hypothesis was rejected. This means that, when the respondents are grouped according to number of employees, their assessments on the effectiveness of the aspects of working capital management differs significantly. The assessments of the respondents were statistically the same in Receivable Management ($t=-.057$, $p=.955$) and Payable Management ($t=-.601$, $p=.509$). The test of significant difference resulted to the rejection of the null hypothesis.
- 4 Test of Significant Difference of the Aspects of Working Capital Management of Food Park Entrepreneurs in Marikina City When Respondents Are Grouped According to Capitalization. Cash Position obtained a t-value of 5.170 with p-value of .007 and Inventory



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Management obtained a t-value of 6.498 with p-value of .002. Since the p-value is less than .05, the assumed level of significance, the null hypothesis was rejected. This means that, when the respondents are grouped according to their initial capitalization, their assessments on the effectiveness of the aspects of working capital management differs significantly. The assessments of the respondents were statistically the same in Receivable Management ($t=.142$, $p=.868$) and Payable Management ($t=.358$, $p=.700$). The test of significant difference resulted to the rejection of the null hypothesis.

- 5 Test of Significant Difference of the Aspects of Working Capital Management of Food Park Entrepreneurs in Marikina City When Respondents Are Grouped According to the Number of Food Stalls. Inventory management obtained a t-value of -2.278 with p-value of .025. Since the p-value is less than .05, the assumed level of significance, the null hypothesis was rejected. This means that, when the respondents are grouped according to forms of business ownership, their assessments on the effectiveness of receivable management as an aspect of working capital management differ significantly. There is no significant difference in the level of assessment when grouped by number of years in the business of Cash Position ($t=.325$, $p=.745$), Receivable Management ($t=.060$, $p=.953$) and Payable Management ($t=.862$, $p=.390$). The p-values are all greater than the assumed level of significance .05, hence the null hypothesis is accepted.

Findings

Based on the problem presented and the data gather, the following are hereby observed:

Profile of the Respondents.

Respondents encompass, 94.2% belonging to Sole Proprietorship, 85.0% operates for less than 1 year, 71.7 % has at least 0-2 employees, 52.5% own an initial capitalization with less than Php100,000 and 82.5% owns a single stall.

Aspects of Working Capital Management in terms of the indicators

Cash Position, Receivable, Payable and Inventory Management. Effectiveness of the working capital management of food park entrepreneurs in Marikina City as to cash position had a grand mean of 4.42 which is interpreted as effective. "Ensure availability of cash in running day-to-day operation" obtained the highest mean of 4.90 which is very effective. "Make use of cash deposits thru banks to keep the sales for the day and to keep what is needed on the next day operation" got the lowest mean of 8.

As to aspect of receivable management, effectiveness of working capital management of food park entrepreneurs in Marikina City obtained a grand mean of 4.17 which is interpreted as effective. "Offering sales on credit to loyal customers" obtained the highest weighted mean of 4.70 with a description of very effective. However, "Pro-active in reminding customers on their past due for efficient collection" got the lowest mean of 3.62 which is effective.

As to aspect of payable management, the effectiveness of working capital management of food park entrepreneurs in Marikina City has a grand mean of 4.59 which is very effective. "Utilizing credit terms in maximizing disbursements in order to manage the cash flow" obtained the highest mean of 4.08 with a description of very effective. "Make some delays in payment for disbursements/expenses due to lack of funds available on hand" got the lowest mean of 3.98 which is effective.

As to aspect of inventory management like advertising, effectiveness of working capital management of food park entrepreneurs in Marikina City has a grand mean of 4.42 which is effective. "Buying supplies/materials in bulk to enjoy discounts in bulk orders and purchases" and "Buying supplies/materials in advance by overstocking inventory to avoid shortage" obtained the highest mean of 4.94 which is very effective. While "Buying supplies/materials in small stores for



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immediate use in the operation” had the lowest mean of 3.17 with a description of somehow effective.

Significant Difference in the Respondents' Assessments on the Effectiveness of Working

Capital Management of Food Park Entrepreneurs in Marikina City According to Profile. When grouped according to business ownership, it obtained an t-value of .818 with p-value of .415 which made the null hypothesis to be accepted. When grouped according to number of years in the business, it obtained an t-value of -.750 with p-value of .459 which made the null hypothesis accepted. When grouped according to number of employees, it obtained an t-value of -3.448 with p-value of .001 which made the null hypothesis rejected. When grouped according to initial capitalization, it obtained an t-value of 8.503 with p-value of .000 which made the null hypothesis rejected. When grouped according to number of stalls, it obtained and F-value of -.528 with p-value of .599 which made the null hypothesis accepted.

Conclusions

Based on the findings of the study, the following conclusions were drawn:

- 1 Majority of the respondents were single proprietor, with less than 1 year in the business, with less than 2 employees, operated with a capitalization of Php100,000 and has one stall in Marikina City.
- 2 Effectiveness of the Working Capital Management of Food Park Entrepreneurs in Marikina City as to aspect of cash position, the grand mean is effective. As to receivable management, the grand mean is effective. As to payable management the verbal interpretation is very effective. As to inventory management, the verbal interpretation of the grand mean is effective.
- 3 Significant Difference in the Effectiveness of the Working Capital Management of Food Park Entrepreneurs in Marikina City by Profile.

When grouped according to business ownership, receivable management is significant which made the null hypothesis rejected. When grouped according to number of employees, cash position and inventory management is significant which made the null hypothesis rejected. When grouped according to initial capitalization, cash position and inventory management is significant which made the null hypothesis rejected. When grouped according to number of food stalls, inventory management is significant which made the null hypothesis rejected.

Recommendations

Based on the conclusions, below are suggested recommendations:

1. Majority of the food park owners are single proprietor with less than 1 year in food park business. This may cause that these entrepreneurs are still newbies on the business wherein they are still exploring their luck on the food park business. Some are still testing the waters to know if how profitable the business is since it just started to boom in Marikina City way back 2016. Newbies on this business should study first the market before entering on this kind of industry. They should conduct a market analysis or study that will help them to further assess if they can be able to sustain on this kind of this industry in terms of operation and expenses. They can also learn from the study if how vulnerable the market in terms of the ever-changing preference of the food park goers and how to cope with the changes. In the absence of the market analysis or study, new entrepreneurs on the industry can conduct a survey on the existing food park owners for them to assess the in terms the potential factors that are critical in the operation such the risks that they will carry over the course of their operation. They should educate themselves on how the business work as a whole, how to sustain the operation and how to prevent the risk of incurring losses. Making research on the market is the best way to is for your business



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and what pain points you'll need to solve for your market with your offering.

2. A capitalization of less than Php 100,000 is very low on the type of industry that newbies want to enter into. High rental cost alone will eat up a lot of portions on the capital. Newbies on the business should have a back-end funding in terms of the financial in support to their day-to-day operation. Lending institutions such as cooperative and P2P or peer-to-peer lending can help them in boosting their capitalization. They can gradually rely on this for the mean time until such they can stand alone to reduce their future obligations or debts. The government such as SSS (Social Security System) is offering business loans via Business Development Loan Facility. It aims to help in providing financial assistance to the business sector for the purpose of increasing productivity and enhancing potential earnings through expansion, diversification, and other business development projects. Loan through banks can also be used as a medium for borrowing money. For as much as a minimum of Php 1 million, newbies on the business can be able to fully start and support their business for the future growth opportunities like expansion or adding more stalls or ranches. Due to capitalization issues, the number of stalls and the employees being employed in the food park business are affected because the food park owners prioritize the immediate needs of the business such as the payment for their rentals, raw materials, and other expenses in relation in sustaining the operations. It is very crucial in managing the capital because it may result on an overstated expenses rather than gaining income. With added stalls and employees, additional expenses will be incurred that will greatly affect the capitalization.
3. New in the business should proper plan and budget their expenses to manage their cashflow in order to support operation without the use or having future borrowings to remain stand alone in the operation.
4. To increase efficiency as to receivable management, credit is not advisable on this type of industry because it is a small business that should be on a cash-to-cash basis. Immediate recoverability of the receivables should be collected in order to prevent cash deficiency and shortage of funds in funding expenses. Offering discounts and widen credit terms to attract customers to purchase what the business can offer can be added as part of the operation but should be minimized since the business is operating daily and the capitalization is not that big to cover daily expenses.
5. To increase efficiency as to payable management, proper timing of expenses will surely help the business in managing cashflow. Strict monitoring of maturing expenses by listing or creating a log sheet to ensure proper attending of maturing obligations and to lessen penalties and interests. Avoid delaying payments to suppliers to increase your credit worthiness and to avoid cash flow difficulties. Small scale businessman like this should prioritize what is immediately needed by the business.
6. To increase efficiency as to inventory management, keep a list of the items that are usually getting depleted easily to avoid losses and to keep track the business income. Take advantage of bulk purchases in order to save up and remain the stock level to its maximum. Avoid overstocking of items that can easily perish or spoil in order to save money that can be use in other important business matters. Avoid purchasing items from thrift stores to ensure the quality of the products that the business is offering to its customers. On this kind of industry, proper knowledge in how to handle and maximize inventory will greatly help the operation since most of the businesses are starting to grow.



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Vendors' Perspectives of the Modernization of The Baguio City Public Market: A Descriptive Qualitative Research

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Abstract – Public markets are at the core of our communities. However, their modernization does not promise an improvement for concerned stakeholders. Baguio's Public Market vendors have relied on the Market as a source of income. The Market has improved the lives of the Market constituents and created a unique culture and heritage for them. The results of this study reflect on the significance of public markets and the impact of the physical environment on self-concept.

Purpose – This study aims to empower the decision-makers with valuable data from the perspective of the Market vendors. Furthermore, it aims to enable them to make a balanced and holistic resolution that will benefit the community.

Design/methodology/approach – The Baguio City Public Market has long been a center of local trade and commerce, established as a tourist gem of the Summer Capital. In October 2020, a memorandum was released by the Local Government approving the unsolicited plan from SM Prime Holdings to modernize the Market. Resistance from critical stakeholders sparked. As of May 2022, the final agreement terms between SM and the LGU remain unknown. This study utilized interviews with the Market vendors and representatives of the Baguio Market Vendors Association (BAMARVA) and other cooperatives. The data collected in the study provided important information coded and analyzed to learn about the anticipated effects of modernizing Baguio's Public Market from the lens of vendors.

Findings – This study utilized interviews with the Market vendors and representatives of cooperatives. The data collected in the study provided important information coded and analyzed to learn about the anticipated effects of the proposed modernization. The results have five main themes with respective codes within. A Sense of Belongingness - The first finding discusses the connection between the vendors and the Market. The discussion follows; their vocation as vendors being more than just a livelihood, their value as a family legacy, and the Filipino values cultured in the Market. The Market is Synonymous with the City - The second is the perceived synonymy between the Market and Baguio City. The codes are; contribution to tourism, trade value to its neighboring provinces, and the diversity of people within the Market as seen throughout the City. Call for Holistic Market Improvement - The third theme expounds on the Market's needs. The Market has its ecosystem that the vendors deeply understand. The other codes include the call for a public-spirited modernization and the call to preserve the Market's heritage and to keep it as it is. Uncertainty and Trauma - The fourth theme focuses on the anticipated effects of the modernization proposal. First, there will be a loss of jobs for more than just the vendors. Second, the anticipated economic and sociocultural effects on the vendors and the city. Third, the uncertainty and trauma brought about by the situation and the Market's past. Other Important Considerations - The fifth and final finding are the other considerations mentioned



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by the vendors beyond the scope of the study. It includes the negative perception of the Local Government Unit and the assumption that SM has the most to gain from modernization.

Research limitations/implications – The study has three main limitations. First, the scope of this research is on anticipated economic and social factors. While the vendors mentioned other essential considerations, the study no longer covers this in-depth. Second, this paper provides a single perspective on the subject matter. Third, the COVID-19 pandemic posed limitations to data gathering.

The implication for future research is to provide a foundation for literature to cover the nuances of public markets and the different factors when modernizing them. However, the broader implications show how much research is required to ensure that the public spaces that the Local Government Unit looks to invest in ensure the best result for all concerned constituents.

Practical and social implications – With the value of public markets evident to our society, they must be studied in depth to maximize the potential gains to our economy while improving the lives of those around it. The paper tackles economic and sociocultural considerations that deepen our understanding of this Filipino staple through the vendors' perspective. It gives a voice to distressed members of Baguio City who face many unknowns that could put their livelihoods at stake. Finally, this paper serves as a bridge for the market vendors and the Local Government Unit to agree on the Market's modernization for everyone involved.

Originality/value – The paper's novelty is its descriptive nature of an untouched area of literature from an economic and sociocultural perspective. At the time of writing, no other literature covers the topic that has been researched thoroughly in its general perspective and locality. Moreover, it strengthens the call of the vendors' who face uncertainty in their future despite their crucial role in society.

Key Words: Public markets, stakeholdership, Baguio City, Modernization Theory

Relevant SDGs: SDG 1 No Poverty, SDG 2 Zero Hunger, SDG 8 Decent Work and Economic Growth

Introduction

Public markets in the Philippines are crucial to their communities' social, cultural, and economic well-being. They are trade centers for all cities (Senate Bill No. 2523 of the 14th Congress, 2008). However, their deteriorating status has held back their potential. The Bill introduced the need to create a policy for the national government to support local government units in developing their markets. The high quality of fresh and nutritious food at small

quantities and affordable prices is just one of the benefits that they provide to their community (Carr, 2020; Rath, 2020). For Baguio City's Public Market, modernization has been brought up before and resisted by vendors and other stakeholders (Marino, 2017; Milgram, 2018).

This qualitative study covers how Baguio City's Public Market vendors and cooperatives such as BAMARVA, perceive its modernization concerning the proposal from SM Prime Holdings. The latter



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was awarded the original proponent status (OPS) in 2020.

Their proposal was dubbed “more complete” by Mayor Magalong, overturning the decision of the Public-Private Partnership for People-Screening Committee (P4-SC) to choose Robinsons Land Corporation (RLC) (Cimatu, 2020) (see Appendix A for the full table of details). While it is subject to negotiations, competitors await the final terms of reference as they prepare under the Swiss challenge rule (Public Information Office - City of Baguio, 2021a). According to Mayor Magalong, a lot has changed since the original plan, and the project promises to deliver a new market for the City’s people (Public Information Office - City of Baguio, 2021b).

Reports have shown many perspectives regarding the modernization of the Baguio City Public Market. From opposing public officials’ views, market constituents as individuals and groups, corporations and their history, artists, and other concerned citizens of Baguio. Included in the discussion are the competition brought about by SM’s mallification (Cabreza, 2020), the disregard for the plans made by the consortium of constituents, the loss of the structure’s character (Catajan, 2020), and other similar sentiments. However, it is clear to many that there is a need to redevelop the Market.

In order to understand the concerns of the community stakeholders on the Market’s modernization, descriptive research identifies the concerns of Baguio’s citizens. To be more specific, the question treated with utmost importance in this study is:

What are the anticipated effects of the proposed modernization by SM Prime Holdings on Baguio City’s Public Market and its vendors from an economic and sociocultural perspective?

The unit of analysis has the vendors and cooperative representatives as placeholders for individual and

organizational levels, leading to overall coverage of their community in the Market.

From this point of view, the specific objectives of this study are as follows:

1. To describe the different anticipated positive effects of the proposed Market modernization on economic and sociocultural dimensions; and
2. To describe the different anticipated adverse effects of the proposed Market modernization on economic and sociocultural dimensions.

This study aims to empower the decision-makers with valuable data from the perspective of the Market’s community. It will hopefully enable them to make a balanced and holistic resolution. The data consists of the perspectives of the Market’s constituents (vendors and BAMARVA representatives) as they are affected in many profound ways, which the LGU should be concerned with in their decision-making process. It will benefit the vendors, other associated individuals that rely on the Market for income, and the Local Government Unit in assuring that the plans for the Market are well and indeed for the people.

The study also contributes significantly to more excellent knowledge, as there is a lack of academic literature on such topics. It will provide information not only for Baguio City’s Local Government Unit but also for the nationwide decision-making in infrastructure investments and development. With the presence of public markets across the country, deepening the nation’s understanding of possible rehabilitation plans and their impact on communities is significant.

With the United Nations’ Sustainable Development Goals, this study aligns with SDG 1: No Poverty, as the study expounds on the potential loss of livelihood for thousands of vendors with no other means of income. SDG 2: Zero Hunger as the Market provides for a particular income class in the City. SDG 8:



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Decent Work and Economic Growth as the vocation of vendors provides these families with a respectable job and livable wage, as the Market stimulates the City's economy.

The study has three main limitations. First, the scope of this research is on anticipated economic and social factors. At the same time, the vendors mentioned other essential considerations beyond the scope. Second, this paper provides a single perspective on the subject matter. Third, the COVID-19 pandemic posed limitations to data gathering.

The implications for future research provide a foundation for more literature to cover the nuances of public markets and the different factors when modernizing them. However, the broader implications show how much in-depth research is required to ensure that the public spaces that the Local Government Unit looks to invest in ensure the best result for all concerned constituents.

Literature Review

The related literature moves from a generalized to a more specific viewpoint. It will first discuss the Modernization Theory. Then it will review the significance of public markets and the significance of vendors to their communities—the impact of the physical environment on self-concept. Finally, different cases of modernization in other public spaces throughout Asia will be covered.

Modernization Theory

The modernization theory assisted poorer countries' economic and social development based on the Cold War's events and political developments (Gwynne, 2009). While its rise to popularity also coincided with the behavioral revolution in social sciences, it also saw great significance in the perspective of methodological analysis and social processes in social sciences (Goorha, 2010).

Gwynne highlights economic theorists and sociologists as the two main contributors to the modernization theory. The former focuses on a developmental process, while the latter argues that cultural and social variables are more significant than economic ones. Furthermore, it discusses important topics within these two theories. This includes the development of society from an economic perspective and the inequality between modern and backward societies, as well as the different social relations within tradition and new societies.

Within the local context of the paper, the modernization theory is crucial as it provides an in-depth discussion of the academic coverage of the broader topic at hand. Modernization and its impact on society has been under study. However, this paper will look at its potential impact on an untouched topic.

The Significance of Public Markets

In line with the two disciplines mentioned in the Modernization Theory, an examination of public markets for their significant role in their respective communities is about their sociocultural and economic value. With the study of Modernization Theory finding relevance once more, it is fitting to further examine public markets with this as the foundation. The Project for Public Spaces (2010) lists these as providing economic opportunities, linking urban and rural economies, and renewing communities for the latter. Meanwhile, the former promotes public health, creates active public space, and brings diverse people together.

The achievement of economic improvement of communities is only possible when the social aspect is nurtured and allowed to thrive. It is a distinct characteristic of the public Market as a public space (Project for Public Spaces, 2003). The case studies covered in the 2003 report highlight that with the exclusion of social goals for a commercially-focused operation, a public market will find it difficult to sustain itself and survive. It is because customers go



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to markets not just to buy products but for an entire experience. This non-tangible value of public markets gives meaning to the structure and operation of the Market. Therefore, the best way to govern public markets is to understand how and why these small businesses operate to meet their needs.

Table 1

Subtopics in the Significance of Public Markets

Topic	Discussion
Economic Significance	
Public markets provide economic opportunities	<ul style="list-style-type: none"> Public markets have played a historical role in economic development (business formation and economic mobility) (Morales, 2009; Project for Public Spaces, 2003). Local farmers, particularly women and small producers, depend on selling their produce in local markets (Nature Food, 2020; Rath, 2020). E.g., Maxwell Street Market in Chicago (Morales, 2009).
Public markets link urban and rural economies	<ul style="list-style-type: none"> Rural and urban linkages have a major impact on national development. "Rural areas will supply food, wood, raw materials, etc. to the urban areas, and urban areas will provide market, farm inputs, consumer goods, etc. to the rural areas" (Gebre & Gebremedhin, 2019). E.g., New Mexico, United States (Project for Public Spaces, 2008).
Public markets vitalize communities	<ul style="list-style-type: none"> Public markets allow for increased economic activity, allowing nearby establishments to develop, and attracting customers to their communities. (Project for Public Spaces, 2003). E.g., Berkeley Flea Market, Farmers Market in Lynn Market, Massachusetts (Fried, 2007). Aside from the economic and social perspective, markets are also studied for their contribution to community development. The multidimensional nature of public markets makes it an important tool for "land use, transportation, economic development, and community-oriented planners" (Morales, 2009).
Sociocultural Significance	
Public markets create active public space	<ul style="list-style-type: none"> Public markets make space alive not just by encouraging customers to visit other stores in the vicinity, but by bringing people together. By using the space for a public market, it is purposefully converted into a space for all people to get together and engage in healthy activities (Project for Public Spaces, 2003). E.g., Good Food Markets, Toronto, Ontario (Fried, 2007).
Public markets bring together diverse people	<ul style="list-style-type: none"> The number one answer for why people visited markets was because of its ability to bring people together. According to the same report, markets benefit from a strong ethnic identity (Project for Public Spaces, 2003). E.g., Lynn Market, Massachusetts (Fried, 2007).
Public markets promote public health	<ul style="list-style-type: none"> Markets offer a variety of fresh and nutritious foods at reasonable prices, many people in rural areas of developing countries cannot afford to purchase nutritious food anywhere else but wet markets (Fried, 2007; Nature Food, 2020; Project for Public Space, 2003; Rath, 2020). Good Food Markets, Lynn Market (Fried, 2007), New Mexico (Project for Public Spaces (2003)).

Importance of Vendors

Vendors in public markets can sell fresh and prepared food or non-food items, including household goods, crafts, and antiques (Project for Public Spaces, 2010). These vendors, as well as their street vendor counterparts and market porters, provide goods and services that are particularly needed by those who must purchase necessities in small quantities at an affordable cost (Carr, 2020). Roever (2014) expounds on their contributions, adding income to their respective families, creating linkages between the formal economy, wanting clean and safe spaces for the community, creating jobs for other roles such as porters, and generating revenue through taxes and the like. However, even though vendors make significant contributions, they face many challenges, are overlooked as economic agents, and are disadvantaged by municipal policies and practices more often than not.

Carr (2020) discusses informal vending during the COVID-19 pandemic. While some countries have declared informal food traders essential service providers, they have often not gone far enough to unlock the entire informal food system. However, with proper guidelines, informal vendors' trade operations may be just as safe as supermarkets. Recommendations include the urgent need to unlock the informal food system, end police harassment, provide protective equipment and water to food and non-food vendors, and provide direct income support.

Impact of Physical Environment on Self-Concept

Prince (2014) wanted to establish further research into the study of the development of self-concept and the influence of the physical environment. Interdisciplinary perspectives from environmental psychology and human geography already establish a link. Classic literature of Proshansky in the late 70s was a foundation for such a phenomenon. It was known as Place Identity, which states that their physical environment affects self-identity in many ways.



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A study (Speller & Twigger-Ross, 2009) on the relocation at Arkwright Town, an old mining village in north-east Derbyshire, United Kingdom, tested the theory of Place Identity. Similarly, they elaborated on how self-esteem and self-efficacy led to the individual’s overall sense of well-being. Conversely, losing these individual distinctions leads to adverse effects such as depression. These were critical psychological factors to consider for the study of how the physical environment of the population affected them.

They found that when a community relocates, there is a significant sociocultural break. They found a decline in the sense of community and social support. A lack of visibility to one another led to a disconnect. There was a change in behavioral patterns amongst the community members, which led to the establishment of new values, new priorities, and new lifestyles to adjust to their new environment. Overall, “the collective functioning of the community had been replaced by individual functioning” (Speller & Twigger-Ross, 2009).

Studies on Foreign Markets

In order to gain perspective on approaches to modernization, the research looked at different case studies throughout Asia. Markets of Singapore, Vietnam, Thailand, and Cebu, Philippines are included.

Market	Results
Singapore’s Wet Markets (Mele et al., 2015)	<ul style="list-style-type: none"> Wet markets are essential spaces of sociality that facilitate mutuality and reciprocity across ethnicities, generations, social statuses and class among families, friends and strangers. Interact in a public setting and foster cross-cultural understanding. The love for wet markets goes beyond the desire to preserve a traditional space from the fast-paced redevelopment of Singapore. Spatial connection between expressive attachment and commitment to wet markets and concerns over the social changes along with the need for growth and development.

Vietnam’s Traditional Marketplaces (Endres, 2013)	<ul style="list-style-type: none"> Markets carry a negative notation as objects for Western need for “an authentic oriental bazaar experience,” or as representations of a backward economy that need to be replaced with modern counterparts. On the contrary, its ability to improve and develop communities are also being used as a model for Western countries. Contrast of neoliberal and socialist ideas which are manifest in how markets are being treated. Private investment companies are tapped for development that leads to the displacement of smaller traders. For a country like Vietnam, families rely on informal trading to help financially, migrating to Hanoi to sell goods. They were subjected to a standardized model of how markets should look and how traders should behave. Which was clearly a mismatch between the existing market-society-state dynamics and the introduced plans.
Traditional Waterfront Markets in Thailand (Silapacharanan, 2013)	<ul style="list-style-type: none"> The potential to use these markets for tourism, with the national the government at the helm, combined with foreign investment and local interest paved the way. Highlights the role of local communities in conservation, in planning processes and in decision making for sustainable development. There are risks involved with outside investors, pertaining to misuse of local land.
Cebu City’s Carbon Market (Demecillo, 2019; Letigio, 2021a, 2021b; Macasero, 2021; Obejas, 2021)	<ul style="list-style-type: none"> A similar case to Baguio City has been ongoing in Cebu City. The Carbon Market will be renovated for the first time in 100 years. Displacement continued to be an issue as the proposed relocation plan was not effective (In addition to the most challenging time of this generation’s vendors because of the COVID-19 pandemic). As the market will be created as a “lifestyle village” the modernization plan is seen as a threat to the livelihood of vendors. Believes that as a heritage site, the market should be protected under the National Cultural Heritage Act of 200.

Overview of Similar Cases

Similar to the previous section, the researcher was guided to look at similar cases in which SM Prime Holdings have modernized public markets in order to validate the concerns mentioned in this paper. There were no academic papers that showed results for “modernization,” “redevelopment,” or other similar phrases for this. While currently on Google, the case in Iloilo City is shown (Yap, 2022), there is no study that covers the immediate concerns of the vendors in these cases. The study was also unable to uncover details of the case in Pangasinan as mentioned by Abratique (2022). According to Abratique, SM built a mall which displaced the market right next to it. However, this is said to have resulted in a worse situation for the market.



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Research Philosophy, Framework, Design, and Methodology

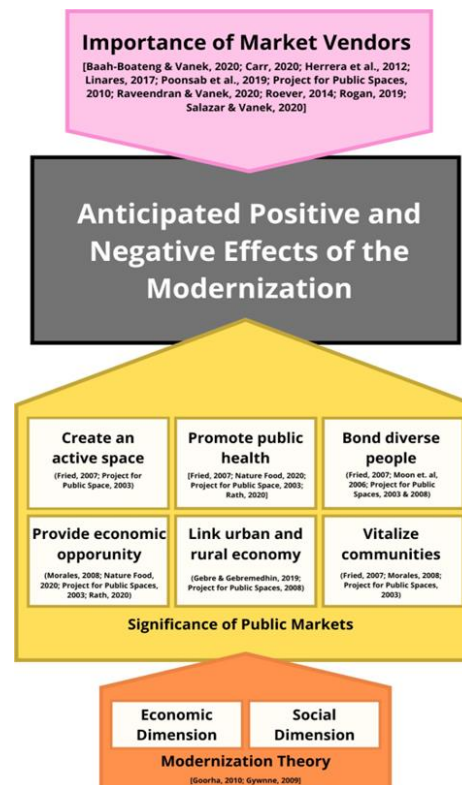
This study employed a qualitative study method that takes inspiration from ethnographic research. This study is per the characteristics of qualitative research, as stated by Creswell (2013). The qualitative research process focused on learning about the participant's view of the Market and its modernization. In addition, it utilized a qualitative positivist approach as it provides detailed and accurate knowledge (Saunders, 2016). As a result, the study has identified regularities and causal relationships from the vendors' perspectives with the planned modernization of the Market. Afterward, a deductive approach summarized and interpreted patterns. In conclusion, it captured a complex picture of the problem under investigation. It includes multiple perspectives, many factors involved, and a general sketch of the larger picture emerges.

Framework

The Modernization Theory is the foundational theory that guides the economic and social dimensions used in the research objectives. There is a division of the anticipated effects of modernization into positive and negative effects, further categorized into the six aspects of social and economic dimensions found in the significance of public markets. Meanwhile, the importance of vendors in the related literature gives a background to the research's targeted participants. They provided the data to learn about the anticipated effects of modernization on the lives of the Market's constituents.

Figure 1

The Conceptual Framework



Methodology

Participants in this qualitative study have provided data at the site where they encounter the issue or problem under study in a natural environment. The use of interviews as the mode of gathering data is due to the need to collect in-depth information on people's opinions, thoughts, experiences, and feelings (Easwaramoorthy & Zarinpoush, 2006).

The participants were gathered through purposeful sampling, wherein they relied on their judgment and discretion in selecting the necessary respondents in line with the purpose and objectives of the study. Samples were selected non-probably based on the population's characteristics and the study's objectives (Alkassim & Tram, 2016).



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In choosing the participants, the research aimed to have an inclusive group of people representing various sections concerned with the Market, the Baguio Market Vendors Association, and other cooperatives.

A peer debriefer (Creswell, 2013) from the Market reviewed the qualitative research and asked questions so that the questions would make sense to people other than the researcher. They also assisted in selecting the participants for this study based on availability and willingness. This added validity to the study as it involved interpretations beyond the research.

In summary, nine respondents were from the Vegetable Section, six from the Fruits Section, nine from the Pasalubong Section, five from the Miscellaneous Section, and six from the Old Market (Hangar Market). Five of these respondents were also members of different cooperatives, including BAMARVA. The respondents from the Miscellaneous section were from various sections, which the researcher had difficulty interviewing as very few individuals were willing to participate in this study. This number of respondents resulted in a saturation point (Baker & Edward, 2012) of the information available from the respondents.

The next stage of this study is the data management and analysis portion, which follows the works of Creswell (2013), Elliot (2018), and Linneberg & Korsgaard (2019). The processes included combining similar and relevant phrases and answers with notes to be organized. During this process, transcripts from the recorded interviews were completed and put into a cloud drive for more accessible coding. Next, the data was sorted and arranged based on the source of information. Finally, after transcription and note-taking of the recordings of the interviews, the data was coded.

The research employed a blended approach to manual coding from Linneberg and Korsgaard (2019). The first part is coding based on the answers provided by the participants of the interview. Next,

text data were segmented into categories and labeled with a term of short phrase taken directly from the interviews (Creswell, 2013; Elliot, 2018; Linneberg & Korsgaard, 2019). Then, the codes that correspond are rewritten to the predefined theme accordingly. It is the second step, known as deductive coding (Linneberg & Korsgaard, 2019). After mapping the data, the main themes were selected for analysis to generate descriptions of the situation of the vendors. The researcher based their approach on Creswell's recommendations found in Elliot (2018) of 30-50 initial codes, further refined into 20 codes. Finally, these themes and codes were all inputted into the Google Sheets platform for easier management.

Data Results and Analysis

The results of the data-gathering process of this study highlight the various anticipated effects and implications for vendors if SM modernizes the public Market of Baguio City. Moreover, it also discusses the developmental needs and other related issues of the said Market. It also contains an in-depth analysis of codes generated in the data analysis process, including interconnections and other significant information with the objectives of this study and the related literature.

Included is the interview with Atty. Zosimo Abratique, president of BAMARVA. His background in law has allowed him to participate in protecting the Market and its constituents. Despite his history as a vendor, his answers were from a different perspective. Therefore, they could not be included directly as participants' answers. However, they were supplementary to the discussion.



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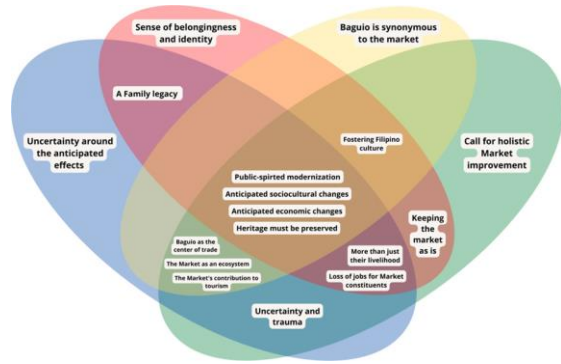
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Figure 2

A Quad Venn diagram of the resulting themes and codes.



A

Sense of Belongingness and Identity

The first theme discussed is the sense of belongingness and identity that was a collective sentiment for the community. This theme has three codes: more than just their livelihood, which discusses how aside from being their primary source of income, there is more to their vocation as vendors. A family legacy. It tackles the familial nature of the job, which deepens their connection with the Market. Lastly is the ability of the Market to foster Filipino cultures within their community.

A Sense of Belongingness and Identity	
<i>Code</i>	<i>Analysis</i>
More than just their livelihood	Vendors as customers - Not only are they vendors, but many of them are customers to the Market as well. It is another aspect that these vendors even purchase their needs from the Market as well. According to interviewee F2, "Lahat ng kailangan namin nandito na sa palengke. Yung mga basic needs, yung mga bigas, tapos yung mga ganito, yung prutas, yung gulay, ganun."

More than just their livelihood	<p>Service to the City - The market helps them in their daily lives and they are able to help other people and the community as well. "Sinisilbihan mo ang tao, nagsisilbi din ang tao sa inyo." This is how participant V5 put it. In more detail, F2 puts that "Syempre naman importante kasi nandito yung mga basic necessities eh, mga kailangan ng community. Tapos kami naman, syempre nakikinabang dahil nagkaroon kami ng profit from here."</p> <p>The Market is where they belong - When people ask the vendors why they are still selling in the market, despite their children being professionals, family members making a living abroad, it is because the vendors feel that this is truly where they belong.</p>
A Family Legacy	<p>Continuing the legacy - These families have been in these stalls for so long and have helped their lives so much which makes it hard for these families to let go of something they hold so dear. With many having the sentiment of wanting to pass it on. "And we want to own it para sa aming mga anak, apo-apohan. And the legacy. We want them, us parin na we would be owning the rights." This was taken from the interview with O1.</p> <p>Teaching children valuable knowledge and skills - As participant P5 put it, it is a training ground for children to become independent. There is a distinct skill to be learned here. This aspect of imparting knowledge and skills to children is not replicable in a mall-like setting. There is an aspect of sustainability as the market provides a place for people to learn how to make a living, and interact with each other while preserving the culture market itself.</p> <p>Commitment to their investment - The legacy of family businesses are important factors to consider as they have relied on the market for a majority of their lives and have also served the market and community in a similar way. But its value as an investment to vendors is not only tied to their legacy. In general, the commitment, not just financially, makes it difficult for them in the position that the Local Government placed them with the deal with SM.</p>
Fostering Filipino Culture	<p>Indebtedness to the Market - This <i>utang na loob</i> is also seen in their sense of service to the community, in their act of giving back to the community. Some even choose to stay in the market in spite of other opportunities as they find happiness in the market and have been used to this ever since. According to participant V8, they are molded by the market. "What I am now, it is because of this. Kaya malaking utang na loob ko dito sa palengke to. Undergraduate, but because of this market, he was able to send his kids to college. Dito ko kinukuha lahat. My age now, I am 71, but still I am here."</p>



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Fostering Filipino Culture	<p>Unity within the Market - The second Filipino culture that is nurtured in the Market is <i>pagkakaisa</i> or <i>bayanihan</i>. According to participant F1, this is something that will not change. "Kasi ano na natin yang mga filipino eh. Hindi naman maalis yun. Meron at meron." Throughout the interviews, vendors have treated and helped each other as if they were family. Although there are some caveats pointed out with regards to the unity present in the Market. While the cooperatives are a sign of community growth and long term relationships within the market for some, it is also a dividing factor for others.</p>
	<p>Bargaining culture of public markets - The last point of culture that was evident in the Market is the <i>reswat</i> or bargaining practice in the transactions between vendors and their customers. This was a major concern for our respondents when asked about the changes of modernization.</p>

The Market is Synonymous with Baguio City

The next theme is that the Market is synonymous with Baguio City. It encompasses the community values of the Market beyond the vendors. The *Market's contribution to tourism* is the first code, a significant industry for the city. The second code is the *historical role it plays as the center of trade* up to today. Lastly, its ability to *welcome everybody without discrimination* is the code, offering a place for socialization and access to cheap healthy foods.

The Market is Synonymous with Baguio City	
Code	Analysis
The Market's Contribution to Tourism	<p>Market identity tied with tourism - The vendors' identity becomes a factor that ties them to the City, especially to tourists. BAMARVA President Abratique also sides with the vendors in the sentiment that the Market has a big impact on the tourism industry of Baguio.</p>
	<p>In service to everyone - Participant V1 says "Hindi lang yung mga taga-barangay ng city ang na-seserban ng market, kundi mga dayuhan din." Tourists will always go to the Market which in turn, helps the tourism industry of Baguio. People appreciate the market as it is whether they are tourists or locals. The fact that it is visited often talks to the value of the market as it is.</p>

Baguio as the Center of Trade	<p>Linking urban and rural places - Consequently, Baguio City plays an important role in connecting its status as an urban city to its more rural neighbors. This is one of the main economic significance of markets to their community (Gebre & Gebremedhin, 2019). The Market is also part of the rich history of Baguio City. "This public market, ever since, when I was here, nakita ko na maraming nabuhay." participant V5 says. The Market has a very special connection with the locals and Baguio City as a whole as it is considered the "Heart of Baguio City," mostly due to how it brings people together.</p>
	<p>There is no city without a public market - Vendors have also stressed out that having a public market in a city is essential. Respondent M1 states "Magroon bang city ano na walang palengke? Diba? Kung tatanungin dapat may market talaga every ano diba?"</p> <p>Kahit na probinsya meron at merong mapagsasabihan na palengke." Once the market becomes modernized, it is no longer a "pure" public market but rather a market with some aspects and features of a mall. They believe that such does not symbolize the traditional public market which all cities have.</p>
Diversity of People in the Market	<p>Bonds formed in Baguio's Market - Throughout the many interactions between different people, friendships and camaraderie have been formed. "Ang palengke kasi alam mo, iba kasi yung feeling mo pag pumupunta ka ng palengke eh.</p> <p>Nakikipagkaibigan ka." was stated by participant P9. People coming together also benefits the community by providing food to more people, which benefits the whole community.</p>
	<p>SM is not accessible to everyone - In an ironic fashion as opposed to the Market being open to all, other vendors point out that there are some people who have never entered SM in their whole lives as they find no reason to. There are some who cannot afford to go there and will only waste their time in doing so if they cannot even purchase anything. This is another thing they fear if the market were to be modernized by SM as less customers might go to the modernized Market. Participant P4 adds to this by saying "Compared to SM, I cannot buy their products there. Bakit? Almost the same ang product doon at dito, mas cheaper dito."</p> <p>A welcoming atmosphere - Respondent P5 pointed out that as any other person would have experienced, the researcher, being outsiders to their community, was welcomed by the vendors for the study. This is because the culture of the Market allows the time for kwentuhan.</p>

Call for Holistic Market Improvement

The following theme call for holistic Market improvement is rooted in the Market's specific needs from the vendors' perspective. First, the public-spirited modernization is the code that further elaborates on the protest against SM's proposal through the vendors' words. Second is the Market as an ecosystem. This code describes interactions



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within the Market and how a deep understanding of each aspect is needed to improve its current state. Third, the preservation of heritage is a code. It speaks for itself, given the Market's value for the City. Fourth and last, the sentiment of a part of the community to keep the Market as it is, citing its current value and appreciation as some reasons.

Call for Holistic Market Improvement	
Code	Analysis
Public-Spirited Modernization	Pro-modernization, anti-mallification - It was imperative to many that their stance was clarified. The vendors are not against modernization. After all, this is something that will ultimately be beneficial to them if done correctly. Participant M2 says, "Gusto rin namin kasi maganda. Gaganda ang market ng Baguio" However, they are against the mallification. Mallification is the term used in the call-to-action by the vendors in protesting against the proposed modernization.
	Furthering the call for vendor involvement - The stance of the vendors to be included in the planning process is rational. As key members of the Market community, integral parts of its ecosystem, it makes complete sense that they want to be a part of the planning of the modernization. Interviewee M1 said that "Alam mo, lahat naman ng nandito, hindi naman ibig sabihin na ignorante. Marami din ditong doktor, attorney, mga nurse, mga teacher, hindi naman ibig sabihin na ano." Just because they are vendors, it does not mean that they have nothing to offer in the planning for modernization.
	Sense of ownership over the Market - The act of removing the vendors from the planning process means removing their sense of ownership over the Market. "Tapos it is a big slap to our face. Kukuha ka ng outsider na magdedevelop nito? Bale ba yung bahay mo papayagan mo, papasok ang ibang hindi taga-roon. Meron namang mga banking institutions diyan na willing magpahiram satin. Why not involve also the vendors? May participation ang vendors. Why seat an outsider?"

The Market as an Ecosystem	Understanding respective section requirements - Each section has its own needs that need to be addressed in the modernization. The interviewees displayed a deep understanding of their areas needs as well the needs of others.
	Market zoning and structure - One of the common answers is improving the zoning within the Market. Interview F2 says that the zoning should cluster together those with the same goods. Moreover, the improvement of the structure of the market. Participant V2 also shares this sentiment. "Also yung structure. Talaga, aminado kami, marumi at panget na yung structure. Yung safety rin ng mga vendor at ng mga market go-ers dapat mainsure." Included in the improvement of the structure is the inclusion of better parking and drainage systems.
Heritage Must Be Preserved	Quality of life for vendors and customers - The quality of the retail experience for customers, as well as the working conditions of vendors were also reflected in specific comments by some vendors. Participant O1 added that "Dito kasi wala habang namamalengke may waiting area sana dito eh. Na ang mga nanay, tatay, kung ayaw na nila mag libot, merong waiting area sila diyan. Yun yung mga improvement na gusto." Aside from this, they suggest that "Siguro may mga garden-garden din kami sa taas." The ventilation and brightness within the Market were also mentioned by some vendors. Furthermore, improving hygiene through better access to clean water and bathrooms, waste management, and access to public transportations were among those mentioned by the vendors.
	Comparing the preservation in Vigan - Vendors V8 and P8 put the intangibles of the Market's heritage in perspective. Both mentioned the case of the preserved spanish architecture in Ilocos. The latter says that much will be lost if it is totally modernized into a mall. "Like I told you, the heart of the city lies in the city market. Identity natin. If you read about your history, this is the stone market. So diba, maganda sana." Ending their answer by pointing out how in a place like Vigan, Ilocos Sur, the initiative to preserve the old buildings was something they should aspire to replicate.
	A loss for the next generation - The vendors also discuss how this change will affect the next generation. "Wag na masyado nilang totally baguhin. Nasan pa yung sinasabi mong antiquity? Wala na. Papano yung mga next generation, di sa Facebook nalang nila makikita, sa YouTube. But in reality, wala na kasi sinira na." Finally, "Ang city market is the soul of the city. Sa kultura na yan e, yung essence ng palengke ang dapat di mabago. Modernization does not mean you put up a big building. It's not about building malls." BAMARVA President Abatique adds.
Heritage Must Be Preserved	Keeping the Market as is - While the majority of the vendors are not opposed to the general idea of modernizing the Market, there were some who wanted to keep the place as it is. Some of the vendors also acknowledge the need for some improvement, however, their answers are leaning towards keeping the market the same. According to interviewee F2, "Actually, ako kasi mas gusto ko na sana yung ganito. Since hindi naman pwede, diba kailangan ng modernization, so okay lang siguro."



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Uncertainty Around the Anticipated Effects

The fourth theme is the uncertainty around the anticipated effects of modernization on the vendors. It includes the code loss of jobs for Market constituents beyond just the vendors. The direct answers for the research objectives through anticipated economic and sociocultural effects include many factors. Lastly is the experience of uncertainty and trauma of the respondents. It is due to the confidential nature of the negotiation and past experiences.

Uncertainty Around the Anticipated Effects	
Code	Analysis
Loss of Jobs for Market Constituents	The effect of modernization on other constituents - The vendors also point out that other market constituents such as kids selling plastic bags, and even <i>kargadors</i> who help out the stall owners will also lose their jobs and will have less sources of income. Interviewee V5 specifically said that "hindi lang vendor, yung mga kargador, yung mga truckings, maraming mawalan ng trabaho." If anything, those who are not vendors that make less income will feel the impact of the modernization even more.
	No other means of livelihood - For some people in the Market without formal education, they do not think they can find work that can improve their lives as good as the Market has. Respondent O3 backs this up saying "wala naman akong pinagalaran para mag-ano ako sa opisina. Kaya palengke na lang ang ano... Palengke talaga ang pinagkukunan na namin ng ikinabubuhay, araw-araw."
	The possibility of illegal means of living - Some also point out that it is possible for other vendors to resort to illegal means of livelihood. Specifically, interviewee V4 stated "Yung iba baka kapit na sa patalim, gagawa ng masama." This is largely due to the families that need to be fed if they are deprived of their rights in the Market.

Loss of Jobs for Market Constituents	Interviewee V8 states "Syempre pag nagugutom ang pamilya mo, nag-iiyakan yung mga anak mo, wala kang mapapagkuhanan, you will resort to illegal means. Mag nanakaw ka."
Anticipated Economic Changes	Changes in management and operations - Vendors of Baguio's Market have been used to setting up very early in the morning to prepare for the day, whether this is due to the need to purchase other things for selling or awaiting customers that come in the market very early. For other businesses such as restaurants and bakeries, their supply will be affected as well. As there is no clear plan on how opening time will be managed for the vendors, many questions about their operations remain unanswered.
	Changes in the pricing of goods - The pricing of goods has always been relatively cheap in the Market. People of different classes appreciate this and come here often to purchase various wants and needs. Another big concern is that the economics of the said pricing will change, specifically changes in the prices of goods.
	Competition intensified and oversaturated - Oversaturated competition is also predicted by the vendors as competition in the market is already somewhat hectic. "What more kung pasukin ni SM?" Vendors like V8 emphasize that whatever goods they sell, SM can sell for cheaper prices as they are only small-scale sellers in comparison to what SM is capable of selling. Some vendors like P9 have always been able to plan ahead. First, she started selling fruit wines when it became popular. However, as more and more products sold in the Market, she had to rethink what new products could keep her ahead of the pack. With SM's introduction, it is unlikely that the vendors will have the capacity to be steps ahead of the competition.
	Interdependence of farmers and vendors - Farmers and vendors are interdependent on one another in the case of Baguio's Public Market. Some of the vendors are also farmers themselves. Changes in supply chain is another anticipated factor that vendors keep dwelling on. From their knowledge, SM has its own suppliers and supply chain in the grand scheme of things. That being said, the vendors are also concerned about their own suppliers, particularly farmers. Respondent V1 said "Saan nila dadalhin yung mga hindi ganun ka-ayos yung quality pero pwede pang pakinabangan. At least pag mga ganitong market, pwede pa nilang mabenta yun."



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Anticipated Economic Changes	Issue of narrow stall spaces - Another issue is the space of stalls once the modernization happens. Participant V6 mentions "Paano gun? Tumaas yung renta, tas maliit pa yung space." Although there is no official information on how big or small stalls will be in SM's plans, the vendors expect their stalls to decrease in size if the whole market is to be accommodated in addition to the establishments and businesses that SM will add to the modernized market. As a result, they are also worried about the space for their inventories.
	Issues of zoning and location - "Location is also a strategic point na i-coonsider mo. Like for me, dito, nasa front ako, so I can sell kahit during the night. Pero kung ako is napunta sa loob, wala nang tao pagdating mga 6 o'clock." Respondent P5 mentions. Their positioning in the modernized plans of SM is another point of concern as they anticipate people opting to go to other establishments, or not even noticing their stalls due to positioning, especially tourists instead of visiting the Market if they were in the basement.
Anticipated Sociocultural Changes	Different views on changing identity and culture - Meanwhile, there are different perspectives from the vendors regarding the change in identity and culture if the Market were to be modernized by SM. Some believe that these will not change regardless of what happens while others expect a big impact.
	Modernization's effect on traditional practices - The culture of buying in <i>tingit-tingit</i> has also been a consistent practice by vendors and buyers in the market. Vendors also worry that there will always be a set amount of products that customers can purchase as most of what is offered are already pre-packed. These factors of culture and identity in the market include the aforementioned opening and closing time, prices and changes of business permits, security, and the overall aura of the market will be changed as opposed to the current Market which radiates a free-spirited atmosphere for everyone.
Uncertainty and Trauma	Confidentiality of negotiations - Due to the confidential nature of the terms of negotiation by SM and the city council regarding the Market's modernization plans, there is uncertainty and anxiety in the hearts of vendors and what will become of them. Relocation during the modernization period is a big consideration especially with the Market's past experience of redevelopment.
	History with Center Mall - Their past experience of relocating to Center Mall also gives them episodes of trauma as the vendors are also anxious about getting back to the Market after its modernization. In the past, the respondents knew a lot of vendors that were not able to go back to selling in the Burned Area in spite of promises that prioritize their returns to their own stalls. It is important to note that this is tied in with the perspective of vendors having strong feelings on being involved with the planning process if the modernization were to happen.

Other Important Considerations

The following are themes from the data analysis that fall outside the scope of the study.

That said, they are still important factors that the participants mentioned.

Other Important Considerations	
Code	Analysis
SM has the most to gain	Thoughts on the 50-year lease proposed by SM - "In the first place, who will benefit? Only SM." There was a strong notion among the vendors like V8 that SM stood to gain the most from this modernization. Many respondents voiced out concerns over the taxes that would be generated from their operations benefiting a different location. "All national taxes may share dapat ang city na tinatawag nating IRA or the Internal Revenue Allotment. Where you file income tax is where your base is. SM for example is based in Cavite." This is the Madanas Ruling according to Abratique (2022). Part of SM's proposal was to lease the modernized building. The control of SM through its proposed 50-year lease was also brought up by some of the vendors. This was a stark contrast to the proposal of the vendors which would see them lessen this by 30 years.
	SM can monopolize easily - The vendors were also able to point out how the economic history of SM in Baguio City will be built on. They will be able to Monopolize Baguio further as their proposal would give them control over Lower Session Road/Magsaysay Avenue. This is a major point of concern because SM already had a similar effect when they claimed the area of Luneta Hill. According to P9, this led to many businesses on Session Road to die.
Perception of the Local Government	Relationship of the Market and politics - In this light, participant F6 also pointed out "Yung mga kandidato eh. Ginagamit na yung ibang company para lang kalimbat ng pera. So ano pa ba yung sa kurapsyon kung ganun ang nangyayari. Parating ganun. Tsaka parating issue. Parating ginagamit na pang bato sa mga kumakandidatong walang ginagawa." This gives rise to the sense of corruption culture that is perceived by some of the vendors in regards to modernization.
	Contradictions with the Cooperative Code - BAMARVA President Abratique (2022) says that the development of the market is a priority project of the city, therefore it should not be subject to unsolicited proposals. He adds, "Nasa Cooperative Code na the cooperatives here should be given priority in the management of the city market." In addition, he strongly feels that the City does not want to partner with the constituents of the Market in their efforts of modernizing it themselves as they have initially presented a feasibility study and a draft of their own design for the Market.



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Discussion, Conclusions, Recommendations

The proposed modernization of the Baguio City Public Market has generated a wide range of responses from the public. Most important are the Market's vendors, who are the main constituents relying on the Market for their primary source of livelihood and its accessible cheap goods.

Discussion

The sociological aspects of modernization further emphasize the need to understand traditional societies that have been able to coexist with modernizing surroundings. The vendors can be perceived as a hybrid society with the majority of traditional characteristics combined with some aspects of modernity. However, in its context, they are still traditional. The inequalities of modernization is what binds the sociological and economic factors (Gwyenne, 2009). The entire process of modernization can lead to inequalities within the economy of a country as there will be parts of the said country that will be given much more focus on while others do not get to be a part of the center of development.

The conflict that arises from the presence of traditional and modern societies has manifested in the form of the differing perspectives on the Market. Without bias, it is difficult to suggest in this case which perspective will ultimately be the best for the vendors. If the vendors showcase inability to accept change, it could be detrimental to them in the long run. That is why it is important for the government to play the role that counters this. With their negotiation ultimately leading to what is best for the society.

As the core of Baguio's Public Market, the researchers find that it is also important to take into account the various improvements that the vendors feel are essential, especially since they are in the Market on a daily basis and know what is going on in the market more than anyone. As Milgram (2018) discusses the people's right to a better system of

public service and planning where the benefits of urban life actually solve the needs of the people, the vendors are also willing to help and cooperate with the local government to make the Market a truly better place which will benefit the community of Baguio. The findings have shown that the vendors are more than willing to help and contribute with the modernization of the Market, on the condition that no private entity will be the one in charge of its modernization.

On the contrary, the past experience of the Market and its vendors have given so much trauma to the Market's constituents as most of them did not come back after their relocation in spite of promises prioritizing their return to their own rightful stalls which resulted in some of them resorting to becoming illegal vendors or turning to other means of livelihood. The following are primary anticipated negative effects of the proposed modernization that builds on their uncertainty and trauma.

The perceived negative impacts include reduced economic opportunities as mentioned in the modernization theory. The degradation of self-concept and community identity. Speller and Twigger-Ross (2009) and Prince (2014) highlight the role of the physical environment in creating one's self concept. Similar to the case study of the former, a disconnect between the vendors and the current Public Market will result in the loss of their identity as vendors and the culture of their community which has influenced the entire city and surrounding provinces alike. The loss of their identity as vendors, which is affected at a tangible level of business operations, and intangibles of their self-identity, will be a significant occurrence to their role in providing affordable goods to the lower-class. Last, the potential deterioration of the Market's value to Baguio City. Baguio City is recognized for its role in trade (Milgram, 2018) and tourism (Abratique, 2022), and the vendors are an essential part of the City's make and will suffer significant cultural losses from the mallification of the Market.



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The need to involve the vendors in this entire process has been made evident. The vendors' experience, insight, and knowledge justify the frustration of their exclusion from the planning process. The study showed how people must rethink modernization and how public spaces should be improved.

Conclusions and Recommendations

The results of this study have found that the Baguio City Public Market has an ecosystem that serves its community by providing affordable healthy food, decent livelihood, a sense of community, and tourist attraction, the last being a primary industry for the City. Lastly, the Market also serves as the trade center for its neighboring provinces.

The vendors anticipate sociocultural and economic changes in their lives due to modernization. The anticipated economic changes range from a change in rent, supply chain, stall size, and oversaturated competition, ultimately, a loss of jobs for all of the Market's constituents. As for the sociocultural aspect, the changes are negative, specifically in their self-identity and sense of community. In addition, the handling of the modernization and the collective experience from Center Mall worsens their trauma and uncertainty.

Moreover, it is more than just a means of livelihood. It is unique from any other modern retail experience beyond the *tawad* culture. It is firmly rooted in family history and is a trade passed on from generation to generation. The Market has become a home for those working there. They feel a sense of *utang ng loob* for what the Market has provided them. As a community, they foster bayanihan through helping one another, engaging in community activities, and their sense of service to the community.

The interviews' results show many subtopics that require further research. Such a topic has many different academic lenses that are needed to understand fully. Legal and political matters are

essential topics in this paper beyond its scope. While exploring economic and sociocultural factors, it is clear that the topic is still understudied. Employing in-depth research on critical public spaces will improve the communities' lives. With urban decay facing the country's infrastructure, studies before being placed under any refurbishment project will be beneficial. Through more in-depth work, research on market modernization, and transparency from the local government, the people of Baguio's Public Market will benefit further as there is still massive uncertainty about what will become of the Market.

This study has shown vendors' and constituents' impressive knowledge of their markets. The values are evident in the culture embedded within them, and this culture in the Market's proximity has helped shape their identities. This research argues that markets' development must be through this locality's lens. This way, the community may be holistically improved with all the crucial considerations.

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The Working Capital Management Practices of Small and Medium Enterprises Located in Metro Manila

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Abstract

This paper intended to examine and give insights on the effectiveness of the working capital management of small and medium retail enterprises located in Metro Manila.

The study showed that factors such as years of operation, number of employees, capitalization, type of ownership, and annual average training provided have a significant influence on the effectiveness of working capital management practices of SMEs in the retailing industry. The results implied that to improve the four aspects of working capital management, the companies should consider the variables priorly stated. This study recommends that companies, especially the small and medium retail industry, help improve their working capital management practices and the findings of this study could help them identify the factors that still need improvement. The importance of working capital management in the growth of the company has already been proven in various studies thus implying that company management should assure to have the best working capital management to attain the best result.

The difference of this study with its precedence is that this study will show the up to dated result of the working capital management practices of Small and Medium Retail Enterprises. The study was also conducted during pandemic thus having an impact on the result of the study.

Keywords: *working capital management, small and medium enterprises, cash management, accounts receivable management, inventory management, accounts payable management*

Introduction

Background

Working Capital Management has been proven in different studies to have a significant impact on the company's profitability. According to Al-Herwi (2019), working capital management is crucial for the company's long-term financial health. This means

that companies should look into their working capital management to measure and forecast their liquidity. According to Senthilnathan (2020), liquidity is necessary to balance the structural health of the business. He also added that working capital management can be used to devise methods to set up the timing of buying and selling products to forecast when to collect from creditors and when to pay debtors accordingly.



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On this Study, the main focus is on the working capital management of small and medium retail enterprises. The impact which small and medium enterprises (SME) contribution in one's economy is huge, based on the study by Keskin et al. (2010), SMEs have a major role in the economic development of a country. This is due to their flexibility and ability to keep up with changing conditions they have also been found to be advantageous since they are less affected by the economic crisis. They have also an advantage versus larger firms since they are working with less capital needed but are labor-intensive.

There is no doubt that small and medium retail enterprises (SMEs) are very important to a country's economy. According to World Bank (2021), SMEs play a vital role in economies, particularly in developing countries. SMEs represent 90% of businesses and have been employing 50% of the total workforce worldwide. According to Oxford (2021), SMEs contribute 33% of the Gross Domestic Product (GDP) of high

income economies and 60% of the GDP of developing economies.

Based on the data released by DTI in 2019, in the Philippines, SMEs also have a major impact on its economy. There are 87,283 small enterprises while there are 3,886 medium enterprises, and both have been employing a total of 32% of the total workforce of the country.

To further help promote MSMEs, the government has launched several projects to help their improvement. Some of the government project are (1) SME Roving Academy (SMERA), (2) *Pondo sa Pagbabago at Pag-asenso*, (3) Barangay Micro Business Enterprises (BMBE), (4) Kapatid Mentor Me, (5) Go Lokal. These project aims to encourage entrepreneurs to start their own business and to help those already have business to further improve their operations.

Statement of the Problem

This study aimed to determine the working capital management practices of small and medium retail enterprises located in Metro Manila.

Specifically, the study sought answers to the following:

1. What is the profile of the respondents in terms of the following aspects?
 - 1.1. Year of operation
 - 1.2. Number of employees
 - 1.3. Capitalization
 - 1.4. Type of ownership
 - 1.5. Annual average training provided related to financial management
2. How do respondents assess the level of effectiveness of working capital management practices of small and medium retail enterprises located in Metro Manila in terms of the following aspects:
 - 2.1. Cash Management
 - 2.2. Accounts Receivable Management
 - 2.3. Inventory Management
 - 2.4. Accounts Payable Management
3. Is there a significant difference in the respondents' assessment of the effectiveness of working capital management practices of small and medium retail enterprises in metro manila when grouped according to profile variables?

Scope and Limitations of the Study

This study largely focused on the working capital management practices of the small, medium enterprises in the industry of retailing and the assessments were gathered from the company's owners or employee representatives under the Finance and Accounting Departments. Due to COVID – 19 restrictions, the researcher mainly used online surveys, thus limiting the numbers of respondents reached and within Metro Manila only the areas limited to Quezon City, Manila City, Mandaluyong City, Pasig City and Makati City were able to gather survey results by the researcher.



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Significance of the Study

The conduct of this study will be beneficial to the following:

- **SMEs.** The results of this study will provide insight into how SMEs should emphasize their working capital management practices and recommendations to improve their working capital management.
- **Employees.** The result of the study can give recommendations to help them improve their working capital management practices.
- **Business Owners.** This study can give them insights into the importance of working capital management practices. This will also help them determine some parts of their working capital management that need to be improved.
- **Investors.** This study can give investors insight into best practices in working capital management of companies in which they intend to invest their money.
- **Government Agencies.** This study would help government agencies to come up with policies to help small and medium businesses to further enhance their support for the growing business of small entities.
- **Educational Institutions.** The study can help them formulate learning tools to prepare students to improve their working capital management skills.
- **Other Researchers.** The results and findings of this study could be a concrete evidence to support other related studies.
- **Society.** This study can help the society understand the role of working capital

management and will give them insights into its importance and how to apply it in day to-day life.

REVIEW OF LITERATURE AND STUDIES

Small and Medium Enterprises

With the undeniable impact of SMEs in the country's economy, the Philippine government enacted a law to assure the support and protection given to SMEs. This law was known to be the "Republic Act No. 9501 or The Magna Carta for Micro, Small and Medium Enterprises (MSMEs). The law was promulgated to recognize the contribution of MSMEs to employment generation and aiding economic growth. The Magna Carta for

SMEs is also established to support the MSME sector in easing their operation and for them to be more inclusive in different economic activities. It is also established to promote and encourage individuals to create their own businesses.

As defined in R.A. 9501, MSME is any business activity or enterprise whose working capital falls under the category specifically under the law. To be considered an MSME, the working capital of one's business should be, Micro, working capital should not be more than P3,000,000, while small enterprises should fall under P3,000,001.00 to P15,000,000, and for medium enterprises, working capital should fall under P15,000,001 to 100,000,000.

Working Capital Management

There are several areas under financial management, one of which is working capital management. According to Al-Herwi (2019), working capital management is crucial for the company's long-term financial health. This means that companies should look into their working capital management to measure and forecast their liquidity. According to Senthilnathan (2020),



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liquidity is necessary to balance the structural health of the business.

In the Philippines, a study was conducted by Corpuz and Bool (2021) in Ilocos Norte, they found out that working capital management has significance in obtaining economic sustainability. They have also concluded that among other variables of working capital management cash management has the most significant factor affecting the effectiveness of working capital management. They have also added that failing to implement good working capital management can cause low sustainability and in effect, the company might suffer bankruptcy.

Working capital management may also be a huge factor in the profitability of any business firm. According to Ibrahim, Usaini, and Elijah (2021), financial ratios could be guiding factors in determining the company's strengths and weaknesses thus application of the analysis of these various financial ratios could help the management improve its working capital management. They also added that the Cash Conversion Cycle, a vital tool to compute the efficacy of working capital management, has a great impact on the company's profitability. They found out that a higher Cash Conversion Cycle can lead to lower profitability, thus concluding that every firm's objective is to lower it to improve the firm's profitability.

With the countless studies conducted in the field of working capital management, it was undoubtedly that it has a significant role in the success of managing a business; however, these studies were done during ideal condition and not during pandemic. With this in mind the result of this study might vary with the result of its precedence.

Research Philosophy, Framework, Design and Methodology

Theoretical Framework

This study is based on the Working Capital Cycle or Cash Conversion Cycle as discussed in Financial Management Theory by Brigham and Ehrhardt.

As defined by Brigham and Ehrhardt, working capital refers to the current assets of the company and net working capital refers to current assets deducted from current liabilities. There are four components of working capital namely cash, inventory, accounts receivable, and accounts payable.

According to Brigham and Ehrhardt, working capital management has two primary questions – (1) How much is the working capital needed by the organization? and (2) How to finance the needed working capital? They have stated that an organization that has superior working capital management can reduce the capital necessary for operations and in turn will have larger free cash flow and greater firm value. They have also discussed that working capital management goes beyond finance since it also involves other business units to improve their working capital positions.

Brigham and Ehrhardt discussed that all firms should follow a “working capital cycle” in their operations. The working capital cycle is how an organization manages how to procure or produce their inventory, how long they hold it, and how they sell it to earn cash. The process is called Cash Conversion Cycle (CCC). Figure 3 illustrated on the next page presents the Cash Conversion Cycle Model which has three periods which are important to consider – (1) Inversion Conversion Period, (2) Average Collection Period, and (3) Payables Deferral Period.



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Figure 1

Cash Conversion Cycle Model



The objective of each company is to reduce the cash conversion cycle (CCC). Reducing the CCC will result in lower operating working capital and an increase in its free cash flow. The free cash will then be used to facilitate other ventures to increase the company's income or can be used to further improve its operations. Brigham and Ehrhardt, Han-Shin and Seonen found out in their study that a 10-day improvement in CCC can increase profit margin from 12.76% to 13.02%.

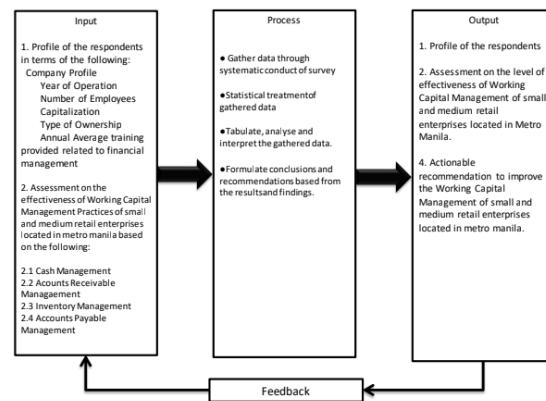
Thus, business organizations need to emphasize improving their working capital management since it greatly affects the result of their operation.

Conceptual Framework

Figure 2 illustrates the direction of the study with necessary input, process/es involved, and the expected output of the study.

Figure 2

Research Paradigm



The input contains the profile of the respondents in terms of company size, number of branches, age of the company, and number of employees and their assessment of the effectiveness of the working capital management practices of small and medium retail enterprises in terms of cash, accounts receivable, inventory, and accounts payable management.

The process includes data gathering, statistical treatment of data, analysis, and interpretation of the findings.

The output contains the determined profile of respondents, identified assessment of the company's working capital management practices of small and medium retail enterprises in metro manila, and recommendations to improve the company's working capital management practices.

Methodology

This study utilized the quantitative method in gathering the necessary information on the effectiveness of working capital management practices of small and medium retail enterprises located in Metro Manila.



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The population data was determined using the data published by the Philippine Statistics Authority as cited in the MSME Report of the Department of Trade and Industry. According to the data published by the Department of Trade and Industry (2019), there are at least 9,800 small and medium retail enterprises in Metro Manila as of 2019. Probability sampling technique was used in determining the specific respondents who represented the entire population; thus, all units of the population were given the chance to be selected.

For its respondents, the researcher considered any representative coming from the Finance and Accounting Departments including the owners of small and medium retail enterprises located in Metro Manila. For this paper, retail enterprises considered were those businesses that were involved in wholesaling, reselling, dealerships, grocery stores, or any businesses related to retailing.

The research instrument used is designed by the researcher based on the different aspects of financial management, especially in the field of working capital management practices and its contents were validated by experts in the field of Financial Management.

The questionnaire was made based on the collated data of the researcher on the different internal control procedures used in working capital management and the best practices available in the industry. The researcher conducted a reliability test before properly handed the actual survey. He selected 20 respondents to participate in the mock survey. The result of the mock survey was used to improve the questionnaire before proceeding with the actual data gathering. The questionnaire was finalized with the guidance of the researcher's adviser.

Part I of the questionnaire contained the respondents' corporate profile in terms of years of operation, number of employees, capitalization, type of ownership, and annual average training provided related to financial management. Part II of the

questionnaire covered the respondents' assessment of the effectiveness of the working capital management practices of small and medium retail enterprises in Metro Manila using the Likert Scale (5 – Always, 4 – Often, 3 – Sometimes, 2 – Seldom, 1 – Never).

The survey was conducted using the online method in the form of Google forms and was distributed using various channels such as the designated emails as indicated in the DTI's business directory, Facebook Messenger, and LinkedIn to reach target respondents.

Data Result and Analysis

Profile of the Respondents in Terms of Years of Operation, Number of Employees, Capitalization, Type of Ownership, and Average Number of Training Provided Related to Financial Management

Among respondents of the study, 56.8% have been operating for more than 20 years, followed by 5 years to 20 years of operation which consisted of 39.9%, and lastly 3.3% had less than 5 years in operation. This goes to show that majority of the companies operating are those that are already established in the industry.

According to the study published by the Asian Development Bank on their assessment of the effect of the Covid-19 about 65% of business enterprise had temporarily closed while 1.1% closed permanently during a pandemic. This might be one of the reasons why the establishment of new business has been the lowest among the other choices. It goes to show that more established companies are those that withstood the years of hardships in operating.

Based on the number of employees, 60.7% had more than 100 employees followed by 30.1% with 10 to 100 employees, and lastly less than 10 employees with 9.3%.



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Based in the type of ownership, 80.9% of the respondents were corporations, 18.6% were sole proprietors, or 0.5% was partnership. According to the survey conducted by menneapolis.org (2021), it was found out many small business owners especially sole proprietors struggled during a pandemic. The temporary or permanent closure of small businesses has affected the operation of a lot of sole proprietors which causes a smaller portion of the respondents' percentage.

Based on the Average training provided related to financial management, 50.8% of the respondents had no training related to financial management, 35.5% attended 1 to 4 trainings, and 13.7% had more than 4 trainings.

Respondents' Assessment of the Level of Effectiveness of Working Capital Management Practices of Small and Medium Retail Enterprises in Terms of Cash Management, Accounts Receivable Management, Inventory Management, and Accounts Payable Management

For cash management practices, the result mean is 4.6448 interpreted as "Often", This indicates that the majority of small and medium enterprises are somewhat good at managing their cash in their organization.

Same goes with, accounts receivable management practices got 4.5989 which interpreted too "Often". This indicates that companies give importance to managing accounts receivables.

Meanwhile, the result for inventory management practices is 4.3617 also interpreted as "Often". This indicates that the management of inventory has been given importance by the company. It also shows that automation of inventory management has already been used by the majority of these companies.

And lastly, accounts payable management practices got 4.7104 interpreted as "Often". among the variables "Paying on time to avoid penalties"

received the highest mean, this indicates that companies take priority that payable should not fall beyond their due dates.

Significant Difference in the Respondents' Assessment of the Effectiveness of the Working Capital Management Practices of Small and Medium Retail Enterprises When They are Grouped According to Profile

The result of the study conducted by the researcher shows a significant difference in the working capital management practices of small and medium retail enterprises when grouped according to years of operation. The result shows that there is a relationship between years of operations and working capital management effectiveness. This goes to show that companies who have longer years of operating

have the advantage with their working capital management. This might also be interpreted as the longer it operates the more it gains experience in building policies to further improve its working capital management.

The study also shows that there is a significant difference in the working capital management practices of small and medium retail enterprises when grouped according to the number of employees. This might indicate that companies that employ more people tend to have stronger working capital management.

Also, it has been found out on this study that there is a significant difference in the working capital management practices of small and medium retail enterprises when grouped according to capitalization. This might indicate that since the company has more assets, it has an upper hand in implementing stricter policies by making use of its more abundant resource as compared with its counterpart which has more scarce resources.

Based on the response of the respondents, it shows that there is a significant difference in the working



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capital management practices of small and medium retail enterprises when grouped according to the type of ownership. This indicates that a corporation that is to be larger than its other counterpart has already established a way to improve its working capital management practices.

This also indicates that since corporations tend to have bigger resources, they tend to have stronger policies to properly monitor their decentralized operation as compared to sole proprietors which are more hands-on and have centralized ways of managing their operations.

And lastly, the study shows that, there is a significant difference in the working capital management practices of small and medium retail enterprises when grouped according to annual average training provided related to financial management. The result signifies that if an employee has the opportunities to train, he has the advantage to improve his skills in decision making thus affecting the effectiveness of the company's working capital management.

Data Results and Analysis

Summary of Findings

This study aimed to determine the effectiveness of the working capital management practices of the small and medium retail enterprises. It used the descriptive research method wherein a survey questionnaire constructed by the researcher served as the main tool in gathering data.

Based on the survey results, the following findings were drawn:

1. Based on the profile of the respondents the researchers have observed that companies that are already operating for more than 20 got the highest number, together with companies that employed more than 100 employees. The result showed an indication that companies that were already established and got enough manpower are the ones

that are operating during the pandemic in which this study was conducted. Moreover, companies with a capitalization of more than 75 million and an ownership type of corporation also dominated the number of respondents. This is the resulting indication that companies that have a greater ability to operate even during a pandemic made them the majority of the respondents. And lastly, for the number of trainings

provided related to financial management, it is noticeable that the majority of the respondents did not provide trainings. This goes to show that companies are still lacking in terms of providing necessary steps to improve the financial management ability of their employees.

2. The researcher found out that, companies have effective working capital management practices in general. Among the four aspects of working capital management, accounts payable management got the highest mean which indicated that companies have the greatest efficacy in terms of managing their accounts payable. On the other hand, inventory management got the lowest mean, which implied that among the four aspects of working capital management, inventory management had the greater need for improvement.

3. The researcher found that there was a significant difference in the respondents' assessment of the effectiveness of working capital management practices of small and medium retail enterprises in Metro Manila when grouped according to profile variables.

Conclusions

Based on the findings, the following conclusions were derived:

1. The researcher found out that the majority of the small and medium retail enterprise located in Metro Manila do not provide or rarely conduct trainings related to financial management.



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2. The researcher determined that small and medium retail enterprises located in Metro Manila have effective working capital management in the aspect of Cash Management, Accounts Receivable Management, Inventory Management, and Accounts Payable Management.

3. The researcher determined that there is a significant difference in working capital management practices of small and medium retail enterprises located in Metro Manila in terms of years of operation, number of employees, capitalization, type of ownership, and annual average training provided related to financial management.

Recommendations

Based on the above conclusions, the researcher recommends the following:

1. Companies should not take for granted the necessity of doing bank reconciliation. They should learn to conduct bank reconciliation regularly and this should be done at least every end of the month as a way of improving their internal control for cash management.

2. Companies should make use of discounts to improve their collection period. Since shorten collection period could enhance the liquidity of the company, they should try various strategies to encourage prompt payment and discounts can be one way of doing so.

3. Companies should try to explore different methods to improve their inventory management. Since the order-to-shelf system does not apply to all retail enterprises they must look for inventory methods to help them lower their handling cost and ways to improve their inventory management practices.

4. Companies should adhere to keeping supplier records. The researcher recommends that as much as possible companies should have a supplier

registry of their entire suppliers especially those that will be supplying the company more than once.

5. Results show the significance of the number of employees in working capital management, the importance of segregation of duties is necessary for the internal control procedure in each company, with this, the researcher recommends that companies should employ enough manpower and should not compromise the segregation of duties to have proper check and balance in the firm.

6. Companies should employ enough personnel to avoid overlapping of duties and avoid overloading the task. Personnel that are overloaded with work might overlook some of the necessary internal control procedures. By having enough personnel, checking on the breaches of internal control policies will be much easier.

7. The result shows that at least half of the respondents do not provide training in financial management. As this study shows the significance of financial management training in working capital management, companies should consider offering financial management training to their employees and in return, the training could help their employees gain knowledge in financial management and in effect can improve their skills in the aspect of working capital management.

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The Life Insurance Industry: Resilient Performance Through the Pandemic

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Abstract

Businesses in the Philippines and across the globe experienced decline in performance during the pandemic years of 2020-2021. The country's GNP declined during the period after continuous years of growth from 2010 to 2019. The life insurance industry in the Philippines was one of those which was able to weather the pandemic storm based on its aggregate performance in total premium, net income and assets. This paper showed extrapolation forecast of total premium, net income and assets of the 31 life insurance companies in the Philippines during the period 2015-2021 with specific focus on the industry's performance in 2020-2021. The results of the forecast showed growth performance in the three metrics even during the pandemic. The linear trend models built to predict the three metrics also showed robust results with significant measures of correlation. The paper explained as well the reasons which contributed to the resilient performance of the industry during the pandemic years.

Key words: Pandemic, life insurance, total premium, net income, assets, extrapolation forecast, linear trend, correlation

Introduction

Businesses in the Philippines and across the globe experienced decline in performance during the pandemic years of 2020-2021. The COVID-19 global recession was the deepest since the end of World War II which saw the global economy contracting by 3.5 percent in 2020 (Yeyati & Filippini, 2021). The global economy recovered with a 6% GDP growth in 2021 (IMF, 2022) which was good news and was already ahead by 2.2% over the 2019 pre pandemic GDP figure (IMF, 2022). However, societal, government and business activities were still largely curtailed in 2021 due to Covid19.

The country's GDP declined by -9.5% in 2020 (PSA, 2022), a severe decline due to Covid19 as contrasted with continuous years of average GDP growth of 6.6% from 2015 to 2019 (Macrotrends, 2022).

Recovery was experienced by the country in 2021 with 5.6% GDP growth (Macrotrends, 2022) and just like the global trend, was already higher by 4.6% (Macrotrends, 2022) in terms of absolute GDP amount over the 2019 pre-pandemic level. But the overall societal, government and business activities were also far from normal in 2021, just like the global scenario.

The paper will focus on the performance of the life insurance industry during the pandemic years of 2020-2021 and compare the same with its performance pre-pandemic from 2015- 2019.

Life Insurance Overview

"Life insurance or life assurance is a contract between a policy owner and an insurer, where the insurer agrees to pay an insured's designated beneficiary a benefit upon the occurrence of the



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insured individual’s death or other event, covered by the policy such as terminal or critical illness occurs. In return, the policy owner agrees to pay a stipulated amount called premium, at regular intervals or in lump sums.” (PLIA, n.d.).

A life insurance policy can provide assistance during financial difficulties when an insured breadwinner suffers premature death or disabilities and health issues. It can also provide savings to the insured from policy values accumulated through the years. In addition, it can help accumulate funds for education as well as retirement needs of the insured.

The first life insurance company in the country was established in the late 19th century. As of 2022, there are 31 life insurance companies operating in the country under the direct supervision of the Insurance Commission. The life insurance industry generated a total premium income of P310B in 2021. Table 1 shows the 31 companies’ total premium performance for 2021 (Insurance Commission, n.d.).

Table 1.

2021 total premium income by company.

Name of Company	FIRST YEAR		SINGLE		RECURRING		TOTAL	SHARE TOTAL
	Traditional	Variable	Traditional	Variable	Traditional	Variable		
TOTAL	P= 143,038,020	13,774,412.00	1,078,881.78	107,469,499.30	10,285,913.20	108,788,249.00	78,884,888.00	208,545,637.00

A life insurance premium “is the amount of money paid to your life insurance company in exchange for your life insurance coverage. As long as your premiums are paid on time, your coverage will remain in place for the duration of your policy, which protects the financial security interests of you and

your designated beneficiaries. Typically, life insurance premiums are paid monthly, quarterly or annually, depending on how you set up the policy with your insurer.” (Nealon, 2022).

The 2021 total premium income of P310B contributed 1.4% to the country’s total GDP. The total premium income represented amount paid by around 2 million Filipinos covered with life insurance in its various types, which is a small penetration rate of 1.67% (PLIA,

2018) of its 110 million population. There is still a big market untapped for life insurance in the country.

The advent of the pandemic has changed many aspects of the consumer’s life, most significant of which is a natural reassessment of priorities to favor health and well-being (Beltran, 2021). The high mortality and morbidity issues experienced during the pandemic made the consuming public more predisposed towards acquisition of life insurance products to protect them in case of untimely death or to have funds to help them pay for health-related issues. This has been contributory to the general resilience of the life insurance industry in terms of being able to generate higher premium income even during the general economic downturn during the pandemic.

Framework

The paper focused on the general performance of the life insurance industry during the period 2015-2021 with specific emphasis on how its performance and growth were affected during the pandemic years of 2020-2021. It looked at three performance metrics important to the industry – total premium income, net income and assets.

The paper focused on the movement of the three metrics during the defined period which were forecasted using an extrapolation forecasting model – the linear trend model. Extrapolation forecasting is “a method of prediction which assumes that the



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patterns that existed in the past will continue on into the future, and that those patterns are regular and can be measured. In other words, the past is a good indicator of the future.” (Parker, 2003).

“The general process for extrapolation is to plot the data and observe patterns. It can be a simple, cheap and often as or more accurate than complex theoretical models. It can be a good approach for developing baseline data. Not as good however for assessing the future impacts of a policy change, unless historical data for a similar policy change is available.” (Parker, 2003).

Of the various extrapolation forecasting techniques, the linear trend model was used. “The trend forecasting method is based on the linear regression technique of time series forecasting. Trend forecasting gives the best forecasting reliability when the driving factors of your business affect your measures in a linear fashion. For example, when your historic revenue increases or decreases at a constant rate, you are seeing a linear effect.” (IBM, 2022).

In effect, our primary interest under the linear trend approach is how the metric moves over a given period of time with the defined metric as the dependent variable while time as the independent variable.

Methodology

The performance metrics in total premium income, net income and assets of the 31 life insurance companies were obtained during the period 2015-2021 (Insurance Commission, n.d.). Growth performance were determined and linear trend models were computed for each. Significance of the linear trend models were assessed based on standard error, coefficient of correlation and determination as well as Pearson hypothesis test for significance of the coefficient of correlation. QM for Windows was the software employed for the forecast determination and computations.

Results

Table 2.

Life insurance industry performance in Total premium income, Net income and Assets, 2015-2019

Year	Total premium (Billions of Pesos)	Growth rate	Net Income (Billions of Pesos)	Growth rate	Assets (Billions of Pesos)	Growth rate
2015	188.8		21.2		953.2	
2016	182.9	-3.16%	17.7	-16.59%	1066.4	11.88%
2017	202.8	10.89%	28.1	58.56%	1273.3	19.40%
2018	230.1	13.48%	26.3	-6.42%	1254.2	-1.50%
2019	234.2	1.78%	36.6	39.35%	1423.5	13.50%
2020	247.4	5.64%	29.6	-19.12%	1532.2	7.63%
2021	310.2	25.39%	39.2	32.18%	1649.3	7.64%
<i>Pre-pandemic</i>	<i>Ave growth, 15-19</i>	<i>5.75%</i>	<i>Ave growth, 15-19</i>	<i>18.72%</i>	<i>Ave growth, 15-19</i>	<i>10.82%</i>
<i>Pandemic</i>	<i>Ave growth, 20-21</i>	<i>15.51%</i>	<i>Ave growth, 20-21</i>	<i>6.53%</i>	<i>Ave growth, 20-21</i>	<i>7.64%</i>
<i>Overall</i>	<i>Ave growth, 15-21</i>	<i>9.00%</i>	<i>Ave growth, 15-21</i>	<i>14.66%</i>	<i>Ave growth, 15-21</i>	<i>9.76%</i>

Total premium income. The industry’s total premium income during the 2015-2021 grew by an average of 9% per year. It is interesting to point out that pre-pandemic year’s average growth of 5.75% was lower than the 15.51% average posted during the pandemic years. The onset of the pandemic in 2020 did not affect the total income level which still grew by 5.64%. Interestingly, the highest growth of 25.39% was posted in 2021.

Net income. The net income of the industry for the 2015-2021 period grew by an average of 14.66%. Pre-pandemic average yearly growth rate was higher among the three periods specified at 18.72% although characterized by two years of decline during the period. Average growth during the pandemic period went down to 6.53% with a steep decline of -19.12% in 2020.

Total assets. Total assets expanded by an average growth of 9.76% during the 2015-2021 period. Pre-pandemic average growth was 10.82%, highest as expected among the three periods, with pandemic growth at 7.64%.

Two (net income and assets) of the three metrics behaved as expected in terms of the pre pandemic average yearly growth being higher than the pandemic period except for total premium which posted higher growth during the pandemic.



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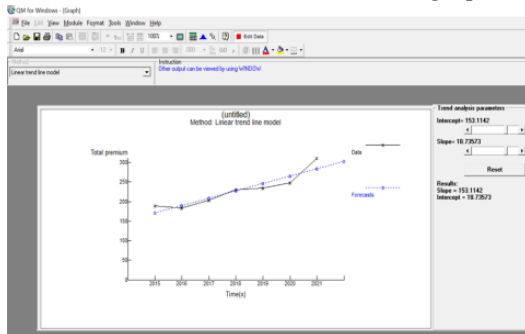
Table 3.1.1

Liner trend model for total income – statistical results

Measure	Value	Future Period	Forecast
Error Measures			
Bias (Mean Error)	0	8	303
MAD (Mean Absolute Deviation)	12.837	9	321.736
MSE (Mean Squared Error)	221.852	10	340.472
Standard Error (denom=n-2=5)	17.624	11	359.207
MAPE (Mean Absolute Percent Error)	5.478%	12	377.943
Regression line			
Total premium = 153.114 + 18.736 * Time(x)		13	396.679
Statistics		14	415.415
Correlation coefficient	0.929	15	434.15
Coefficient of determination (r ²)	0.864	16	452.886
		17	471.622
		18	490.357
		19	509.093
		20	527.829
		21	546.565

Table 3.1.2

Linear trend model for total income – graph



Linear trend for total premium. The regression line showed that total premium increased by an average of P18.7B as you increase time by one year. The standard error was 17.6. The coefficient of correlation = 0.929 (R-value) showed a very strong linear relationship between total premium and time. The Pearson test for significance with a critical value of +- 0.754 established significant relationship between total premium and time since R-value was outside the range. The coefficient of determination showed that 86.4% of the changes in total premium can be explained by time. The plot of the regression line versus the actual data showed a good fit between the two. Forecast for 2022 total premium income was P303B.

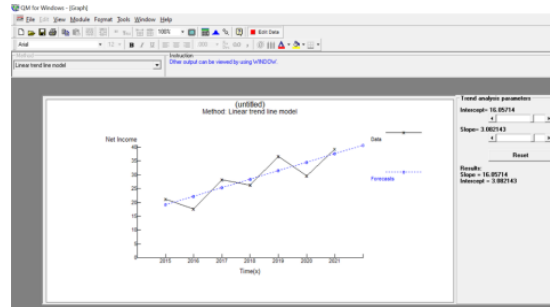
Table 3.2.1

Liner trend model for net income – statistical results

Measure	Value	Future Period	Forecast
Error Measures			
Bias (Mean Error)	0	8	40.714
MAD (Mean Absolute Deviation)	3.302	9	43.796
MSE (Mean Squared Error)	12.88	10	46.676
Standard Error (denom=n-2=5)	4.246	11	49.961
MAPE (Mean Absolute Percent Error)	12.556%	12	53.043
Regression line			
Net Income = 16.057 + 3.082 * Time(x)		13	56.125
Statistics		14	59.207
Correlation coefficient	0.864	15	62.289
Coefficient of determination (r ²)	0.747	16	65.371
		17	68.454
		18	71.536
		19	74.618
		20	77.7
		21	80.782

Table 3.1.2

Linear trend model for net income – graph



Linear trend for net income. The regression line showed that net income increased by an average of P3.1B as you increased time by one year. The standard error was 4.2. The coefficient of correlation = 0.864 revealed a strong linear relationship between net income and time. The Pearson test for significance with a critical value of +- 0.754 established significant relationship between net premium and time with R-value outside of the range. The coefficient of determination showed that 74.7% of the changes in net income can be explained by time. The plot of the regression line versus the actual data showed a good fit between the two although actual data was not as flat as the one depicted in total premium. Forecast for 2022 net income was P40.7B.



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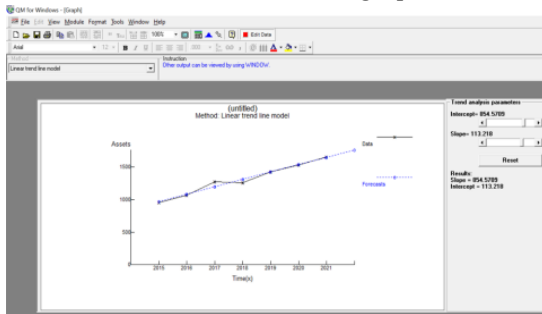
Table 3.3.1

Linear trend model for assets – statistical results

Measure	Value	Future Period	(untitled) Summa Forecast
Forecast		8	1760.315
Bias (Mean Error)	0	9	1873.533
MAD (Mean Absolute Deviation)	24.034	10	1995.751
MSE (Mean Squared Error)	1361.373	11	2099.989
Standard Error (Standard-2σ)	43.697	12	2213.187
MAPE (Mean Absolute Percent Error)	1.971%	13	2326.405
Standard Error		14	2439.629
Assets = 854.571 + 113.218 * Time(x)		15	2552.84
Correlation coefficient	0.987	16	2666.058
Coefficient of determination (r ²)	0.974	17	2779.276
		18	2892.494
		19	3005.712
		20	3118.93
		21	3232.148

Table 3.3.2

Linear trend model for assets – graph



Linear trend for assets. The regression line revealed that net income increased by an average of P113.2B as you increased time by one year. The standard error was 43.6. The coefficient of correlation = 0.987 showed a very strong linear relationship between assets and time. The Pearson test for significance with a critical value of +/- 0.754 established significant relationship between assets and time since r-value was outside of the range. The coefficient of determination showed that 97.4% of the changes in assets can be explained by time. The plot of the regression line versus the actual data showed a very good fit between the two. Forecast for 2022 assets was P1,760B.

Conclusion

Both the average growth rates for the period 2015-2021 and the annual growths for 2020- 2021 showed the life insurance industry in all the three metrics – total premium, net income and assets, posting

growths higher than the economic growth of the country. Its resilient performance during the pandemic was mirrored by its higher growth posted in total premium income versus the pre-pandemic period. Even when net income and assets had lower growths during the pandemic versus pre-pandemic, they nevertheless expanded during the period.

The increase in net income was influenced by the industry’s ability to increase their top line as represented by total premium as well all the activities implemented to manage expenses of the business. The growth in assets were realized from the higher total premiums generated which helped the company contribute to their asset base.

The linear trend models for the three metrics showed they were appropriate to use in terms of forecasting expected future trend of the three with their low standard errors, highly significant correlation coefficients and coefficients of determination with the linear trend graphs consistent in movement with the actual data set.

The uncertainty of the pandemic period with high mortality and morbidity experience among the population contributed to the openness of the buying public to purchase insurance. This resulted to the resilient growth performance of the industry.

Several industries retrenched their manpower during the pandemic period. This worked in favor of the industry as it continued its recruitment effort among the Filipinos, especially those who lost their jobs, to join the industry as life insurance agents.

The adoption of technology intervention in terms of recruitment, training and licensing activities which enabled non-face-to-face (NFTF) interactions facilitated the appointment of life insurance agents without going through the lengthier face-to-face engagement.

Technology adoption was also critical since a lot of NFTF training via Zoom and other video platforms for acquisition of necessary skills and competencies



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helped engage the agents and the management team in continuing prospecting and sales activities.

The millennials and Gen Z were focused on as target for recruitment as they are technology-oriented with higher capacities to adopt to the changing landscape as well as the desire to make themselves successful and earn good income from their efforts for themselves and their families.

Allowing the agents to sell thru NFTF also helped the agents reach out to a lot of clients not only in their natural geographical markets but also all over the Philippines as long as they have the gadget and connectivity to engage their clients.

The life insurance industry facilitated both the acquisition of technology gadgets through sales drives and gadget loans as well as training in their use to equip the agents with technology competence to function in a NFTF environment.

The industry also developed and rolled out IT-based platforms to make it easier for both the agency and the clients to interact with the company in terms of payment of premiums and all other policy-related concerns.

Communication facilities were made available to both agents and clients so they can reach out to the company specially in times of policy claims and servicing.

The industry's mantra was work anytime, anywhere and earn unlimited income while helping secure the lives of Filipino families through life insurance and financial planning.

Truly, the pandemic was a difficult period in the history of mankind but opportunities were presented to the life insurance industry to continue to move forward with its job of securing the future of the Filipinos. Fortune favors the brave.

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Organizational Resilience among Private Corporations in the National Capital Region: Leadership and Culture, Networks and Relationships, Change readiness, and Rapidity of Response

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Abstract

Purpose – The COVID-19 pandemic severely affected most business operations in the Philippines. This paper aims to help organizations increase their resilience by determining which among the factors of organizational resilience (OR) affect rapidity of response (RR)

Design/methodology/approach – The quantitative approach was used in which a causal research design was employed to determine if a relationship exists between the factors of OR, and RR, a dimension of OR. A purposive sampling of 175 private corporations in the National Capital Region (NCR) of the Philippines was used to gather data. Following a positivist philosophy, the study used a self-constructed survey questionnaire consisting of 33 questions and was administered online.

Findings – The three factors of OR were found to have a significant relationship with RR. Specifically, change readiness, as a predictor, could best explain the relationship with the outcome variable.

Research limitations/implications – The study investigated only one outcome variable and is limited to private corporations in the NCR. Future studies can look at the relationship of the same factors with all the dimensions of OR, such as robustness, redundancy, resourcefulness, and rapidity, to determine if there is a significant relationship for corporations in NCR. Likewise, further studies can also focus on a different set of predictor variables.

Practical and social implications – The study will help business leaders and managers of various organizations determine which among the factors of OR should their management should focus on to increase the level of OR.

Originality/value – This study is distinct as it helps private corporations located in NCR to future-proof their business processes and avoid operational paralysis in the event of another pandemic.

Key Words: Organizational resilience, rapidity of response, COVID-19 pandemic

Relevant S.D.G.s: S.D.G. 9: Industry, Innovation, and Infrastructure



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Introduction

Background of the study

The complex nature of the business environment brings many uncertainties to various business organizations and these uncertainties may lead to operational paralysis.

The COVID-19 pandemic is the latest crisis that hit most, if not all, organizations in the year 2020 (Bailey & Breslin, 2021). With this and other crises in mind, organizations are determined to future-proof their vital operations by increasing resiliency. In the Philippines alone, the Department of Labor and Employment reported in June 2020 that around 3,000 establishments have permanently closed due to the pandemic.

To protect businesses from the adverse effects of crises, business owners have focused on improving their organizational resiliency levels. OR has been defined by various scholars differently. Over the years, different models have emerged. Because of this, there have been different conceptualizations such as dimensions (Jung & Song, 2014), properties (Tierney, 2003), attributes (Brown et al., 2017; Ruiz-Martin et al., 2018), indicators (Samsuddin et al., 2018), and factors (Kantur & Iseri-Say, 2012; Lee et al., 2013; Whitman et al. 2013) of OR.

Organizations will develop resiliency if they know what comprises it and the factors that contribute to it. If this remains unclear, this can lead to either confusion or addressing factors that have no impact on improving OR. Even a few empirical studies show that not all factors are significantly related to the dimensions of OR. In the conference paper of Sarreal et al. (2021), it was concluded that the independent and moderating variables directly affect the dimensions except for rapidity. Very few studies, which include that of Bento et al. (2021), view OR in the dimension of rapidity.

Some professional and government organizations have also introduced several factors that businesses can harness to improve their OR. According to Resilient Organizations, a social enterprise based in New Zealand, and the Australian Government, Department of Home Affairs, factors such as leadership and culture (LC), networks and relationships (NR), and change readiness (CR) help organizations improve OR. The basis of these constructs can be traced in the study of Lee et al. (2013) and was further developed by Whitman et al. (2013). Brown et al. (2017) used these factors in measuring the OR of critical infrastructure providers in New Zealand.

Statement of the Problem

This study aims to answer the following research questions:

- 1 What is the extent of influence of leadership and culture on RR?
- 2 What is the extent of the influence of networks and relationships on RR?
- 3 What is the extent of influence of change readiness on RR?
- 4 What is the extent of influence of all the factors of OR on RR?

Objectives

The aim of the study is to determine if there is significant relationship between the factors, i.e., LC, NR, and CR, and rapidity of response, a dimension of OR.

Significance of the Study

Establishing a relationship between the factors and dimension may help organizations increase resiliency to crises. This paper provides implications to 1) business leaders and managers; 2) researchers; and 3) the government.

Business leaders and managers of various organizations can now be informed about which among LC, NR, and CR will increase their level of



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resilience and help them survive another pandemic or a crisis. Considering the research gaps this research was able to unearth, researchers can now determine if there is a need to explore other factors or dimensions that may significantly affect OR.

The importance of this study to the government is two-fold. First, this study would also allow them to improve their response to crisis because the government also operates similar to organizations except that it works on a national level. Second, through their policy-making bodies, the government can create frameworks, guidelines, policies, and procedures, which the business sector may follow to survive organizational crises.

Lastly, this paper supports the Sustainable Development Goal 9: Industry, innovation, and infrastructure, which focuses on building resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering innovation. The results of this paper will help organizations become resilient and face crises without the threat of operational paralysis.

Scope and Limitation

The research focused on the factors and one dimension of OR among Philippine-based private corporations in the NCR. The respondents have position titles of middle managers or higher, including senior and executive management.

The research covers the three factors of OR: LC, NR, and CR. The 13 indicators are leadership, staff engagement, situation awareness, decision making, innovation and creativity, effective partnerships, leverage knowledge, breaking silos, internal resources, unity of purpose, proactive posture, planning strategies, and stress testing plans, were used to measure the factors. The relationship of these factors will be assessed based on only one dimension of OR, the RR

Various models of OR appear in the literature review, but the research will focus on the models proposed by Brown et al. (2017).

Literature Review

This section will focus on the essential elements of OR, such as the definition, dimensions, factors, and indicators and their relationships with each other. It will also discuss the different terms used in various studies and attempt to untangle the confusion based on the scope of this research. It will also present the other models of OR that evolved through the years and the commonly used scales to measure OR.

The Definition of OR

The concept of OR varies across literature, and the definition of OR is different per scholar. Bell; Brand and Jax; and Comfort; (2002, 2007, 1994, as cited in Whitman et al., 2013, p.3) defined OR as "an organization's ability to plan for, respond to and recover from emergencies and crises." A more recent definition of OR, as defined by Ruiz-Martin et al. (2018, p. 21), "is the measurable combination of characteristics or capabilities that allows an organization to withstand known and unknown disturbances and still survive." Barasa et al. (2018) defined the concept as behavioral indicators. The idea, according to their study, is "to adapt and transform" aside from the "capacity to withstand shocks" (Barasa et al., 2018, p. 1). Other scholars defined OR in terms of phases, such as in the case of Duchek (2020), who described OR as the anticipation before the unexpected event, coping during the unexpected event, and adaptation after the unexpected event. After the thematic review of selected papers conducted by Barasa et al. (2018, p. 496), OR was defined as "a system's ability to continue to perform and meet its objectives in the face of challenges."

Literature on resilience has defined this concept in many ways (Duchek, 2020). One popular theme about OR is the ability to bounce back and move forward after experiencing a crisis. This notion was



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further built on by Barasa et al. (2018, p. 497) when they said that OR is no longer about “bouncing back from shock” but instead “is achieved by a combination of absorbing the challenges faced, and changing by adapting and transforming to continue to thrive in the face of challenges.”

The study by Chen et al. (2021) identified 17 definitions from various scholars and classified the definitions of OR according to four perspectives. According to Chen et al. (2021), the four perspectives are capability, process, functional, and results. Capability perspective refers to the ability of organizations to predict, survive, adapt, cope, and learn as a response to crises (Chen et al., 2021). Process perspective looks at OR as a “dynamic and progressive process” undertaken by organizations when faced with crises (Chen et al., 2021, p. 3). The functional perspectives define OR as the organization's ability to adapt to dynamic and complex environments (Chen et al., 2021, p. 3). Lastly, the results perspective refers to the organizational capacity to maintain a positive stance when faced with a crisis (Chen et al., 2021). After the analysis made by Chen et al. (2021) of the different definitions of OR, they concluded that the definition of OR is “the ability of an organization to reconfigure organizational resources, optimize organizational processes, reshape organizational relationships in a crisis, recover quickly from the crisis, and use the crisis to achieve counter-trend growth” (Chen et al., 2021, p. 5).

The definition of Chen et al. (2021) is so far the most recent and most encompassing definition of OR because it covers the three main elements of OR, which are 1) operating in a dynamic environment; 2) responding to crises by “reconfiguring organizational resources, reshaping organizational relationships, and optimizing organizational process in an adverse situation” (Chen et al., 2021, p. 5); 3) recovering and achieving growth.

Mixed Conceptions of OR

Aside from the different definitions of OR, scholars viewed the dimensions, properties, attributes, indicators, and factors differently.

Tierney (2003) and Jung and Song (2014) referred to robustness, redundancy, resourcefulness, and rapidity as the dimensions or properties of OR. However, Samsuddin et al. (2018) referred to the same concepts as indicators of OR. According to Ruiz-Martin et al. (2018), robustness and redundancy are attributes of OR.

Contrary to Samsuddin et al. (2018), Brown et al. (2017) and Whitman et al. (2013) referred to leadership, situation awareness, innovation and creativity, staff engagement, decision-making, proactive posture, stress testing plans, planning strategies, unity of purpose, effective partnerships, internal resources, leveraging knowledge, and breaking silos as indicators of OR. Brown et al. (2017) added that these indicators are attributes of LC, NR, and CR.

In addition to robustness and redundancy, Ruiz-Martin et al. (2018) included building situation awareness, managing organizational vulnerabilities, having resources, improvisation capacity, ability to anticipate events, agility, learning capacity, collaboration, resiliency of individuals, and flexibility as attributes of OR. In their study, Lee et al. (2013) thought of situation awareness and management of vulnerabilities as factors of OR, together with adaptive capacity and resilience ethos.

No scholar has attempted to study the appropriateness of the terms dimension, property, attribute, indicator, and factor. For this study and based on the etymology of these words, robustness, redundancy, resourcefulness, and rapidity will be referred to as dimension or property, similar to how Tierney (2003) and June and Song (2014) used it. In addition, LC, NR, and CR are referred to as factors of OR because a factor is “one that actively



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contributes to the production of a result" (Merriam-Webster, n.d.). Also, several indicators are identified under each factor. The indicators of LC are leadership, situation awareness, innovation and creativity, staff engagement, and decision-making. In contrast, the indicators of NR are effective partnerships, internal resources, leveraging knowledge, and breaking silos. The indicators of CR are proactive posture, stress-testing plans, planning strategies, and unity of purpose (Brown et al., 2017).

Dimensions of OR

According to Tierney (2003), OR has four dimensions: robustness, redundancy, resourcefulness, and rapidity. Robustness is the "ability of elements, systems, and other units of analysis to withstand stresses and demands without suffering damage, degradation, or loss of function" (Tierney, 2003, p. 3). Redundancy is "the extent to which elements, systems, or other units of analysis exist that meet functional requirements in the event of a disruption, degradation, or loss of functionality of primary systems" (Tierney, 2003, p. 3). Resourcefulness is "the capacity to identify problems, establish priorities, and mobilize resources to avoid or cope with damage or disruption; the ability to apply human and material resources to meet priorities and achieve goals" (Tierney, 2003, p. 3). Lastly, rapidity is "the capacity to meet priorities and achieve goals in a timely manner" (Tierney, 2003, p. 3). Jung and Song (2014) called these aspects the four dimensions and are used to measure OR. In a study by Samsuddin et al. (2018), they conducted a correlational study of the four dimensions concerning preparedness and concluded a strong positive relationship between the two constructs.

Chen et al. (2021) presented the different dimensions of OR, which they classified according to two, three, and four factors. However, the most often-quoted dimensions in the reviewed literature are the four dimensions presented by Tierney (2003).

Models of OR

Existing literature on OR presents different models, which is attributable to the fact that there were different definitions of OR before Chen et al. (2021) standardized the definition. Several models are discussed in this section.

The earliest known model of OR was presented in the study of Kantur & Iseri-Say (2012), where they identified perceptual stance, contextual stance, strategic capacity, and strategic acting as factors that affect OR. Each factor has three indicators.

Lee et al. (2013) presented a new model of OR in 2013. The model only contains two factors as opposed to Kantur and Iseri-Say's four factors. The two factors in their model are adaptive capacity and planning. Eight indicators are under adaptive capacity, while five are under planning.

Brown et al. (2017) used the same 13 indicators presented by Lee et al. (2013), but they further expanded the factors into three: LC, NR, and CR. Five indicators are under LC, and four each are under NR and CR.

A more recent model was the integrated OR model by Ma et al. (2018). The model shows OR in terms of 1) levels such as individual, group, and organizational, and 2) dimensions such as cognitive resilience, behavioral resilience, and contextual resilience.

The latest model of OR came from Chen et al. (2021). The study of Chen et al. (2021) presented the different models of OR. They provided three structure types and classified them into two-factors, three-factors, and four-factors. As a result of their study, it presented five factors with four indicators each. This model was presented as a process where each indicator must be satisfied before continuous growth can be achieved.

Four of the five models presented by different scholars are almost similar in terms of indicators.



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Kantur & Iseri-Say (2012) have 12 sets of indicators. Both Lee et al. (2013) and Brown et al. have 13 indicators, and Chen et al. (2021) have 20 indicators. The terms were not presented precisely the same, but the operational definitions of the indicators reveal that most, if not all, indicators are the same. One example is the sense of reality and wisdom of Kantur & Iseri-Say (2012) is similar to the information and knowledge of Lee et al. (2013), the situation awareness of Brown et al. (2017), and the positive awareness of Chen et al. (2021).

Synthesis of the Literature

OR is a topic that is continuously evolving. Chen et al. (2021) saw the need to standardize the definition and measurement because each scholar defines the concept differently. Although the definition has been standardized, Hillmann and Hillmann (2021) still believe there is a knowledge gap in identifying the factors that affect the dimensions of OR.

Kantur & Iseri-Say (2012), Lee et al. (2013), and Brown et al. (2017) presented different factors that significantly affect the dimensions of OR. Kantur & Iseri-Say (2012) mentioned that factors like perceptual stance, contextual integrity, strategic capacity, and strategic acting “*lead to resilience of organizations.*” In the study of Sarreal (2021), perpetual stance, contextual integrity, strategic capacity, strategic acting, and flooding experience, as moderating variables, have contributed to OR’s resourcefulness, redundancy, and robustness but not to rapidity. The factors mentioned in the study of Kantur & Iseri-Say (2012) and Sarreal (2021) have evolved in recent years. New factors of OR have emerged, such as adaptive capacity and planning, according to Lee et al. (2013), and then LC, NR, and

The principles of positivism guided the researcher in doing the study. This philosophy aims to collect and evaluate empirical data through external tools and methods. Following the research of Lee et al. (2013), this study used an instrument to gather credible data that will help the researcher understand causal relationships. This means that the researcher

CR, as mentioned by Whitman et al. (2013) and Brown et al. (2017).

The dimensions and factors of OR appear to have similarities across models. Specific terms may be different, but operational definitions are almost synonymous with closely related ones.

Burnard & Bhamra (2011), Barasa et al. (2018), and Duchek (2020) have suggested that further studies can focus on the relationships of OR constructs, while Kantur & Iseri-Say (2012) recommended that future research focus on the empirical measurement of the proposed model.

Lastly, studies concerning the RR as a dimension can also be explored even if empirical studies show a low significant relationship between the factors of OR and RR because Koronis and Ponis (2018) stressed the importance of responding to crises in a timely manner and that this is as important as developing culture.

The model used by Brown et al. (2017) has great potential to be used for future research considering this is the result of an evolution of different models since the study of Kantur & Iseri-Say (2012). The use of the model was even corroborated by a scale development study by Whitman et al. (2013), and the same model is used by professional and government organizations in Australia and New Zealand.

Research Philosophy, Framework, Design, and Methodology

Research Philosophy

believes that phenomena can exist outside the people who experience them. Instead of allowing the researcher to observe the various factors involved in the study subjectively, the methods should rely on observations that can be verified. Similar to the study of Brown et al. (2017), they studied OR using the Benchmark Resilience Tool to look at reliable and valid data.



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Theoretical Foundation

The theory that is central to this research is the Resilience Theory. This theory has been an area of interest in different levels, like the individual, organizational, and societal, and in diverse fields such as "ecology, engineering, psychology, and organization management" (Xiao & Cao, 2017, p. 1). In the field of organization management, scholars studied how organizations recover from the effects of stress, and together with this interest of several scholars to understand this phenomenon is the birth of the OR Theory. Aside from Xiao & Cao (2017), Vogus & Sutcliffe (2007), and Mallak (1999), were some of the scholars who mentioned resilience in the organizational setting.

Conceptual Framework

The researcher delved into two overarching concepts of OR. The first concept is the factors of OR,

composed of the indicators. The three main factors of OR are LC, NR, and CR (Brown et al., 2017; Whitman et al., 2013). Each factor has a set of indicators. Refer to Figure 1 for the set of indicators for each factor. The second concept is the dimension of OR, which includes RR.

Based on existing literature, the factors can influence the dimensions which can positively affect the overall resilience of the organization.

The left side of the framework refers to the three factors and 13 indicators of organizational resilience. These factors will be measured using the indicators and serve as this research's independent variables. On the right side of the framework is the rapidity of response which refers to the capacity to meet priorities and achieve goals in a timely manner (Kantur & Iseri-Say, 2012). Only rapidity of response is included in this research and is treated as the dependent variable of this research.

Figure 1



Hypothesis

The following hypotheses were tested:

Ho1: Leadership and culture do not influence the rapidity of response.

Conceptual Framework

Ha1: Leadership and culture influence the rapidity of response.

Ho2: Networks and relationships do not influence the rapidity of response.

Ha2: Networks and relationships influence the rapidity of response.

Ho3: Change readiness does not influence the rapidity of response.

Ha3: Change readiness influences the rapidity of response.

Ho4: All factors of organizational resilience do not influence the rapidity of response.

Ha4: All factors of organizational resilience influence the rapidity of response.

Methodology

The research employed a causal research design to determine if there is a relationship between OR, the independent variable, and RR, the dependent variable. A purposive sampling of 384 private corporations was used to gather data for the research. The criteria used for the sample were 1)



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private corporations; 2) located in the NCR; and 3) respondents must have a position title of at least a manager. The research made use of a self-constructed survey questionnaire consisting of 36 questions. The OR indicators were derived from the study of Brown et al. (2017) and Whitman et al. (2013), while the RR questions was derived from Samsuddin, et al. (2018).

Data Results and Analysis

Demographic Information

Out of the required sample size of 384, only 209 responses were collected due to a low rate of return and a limited survey collection time frame. Of this number, only 175 were considered qualified responses since four percent were the abandonment rate, and 18% were disqualified.

A total of 175 respondents were included in the study. 24% (n=42) of the 175 respondents who answered the survey are members of the board of directors. The majority of the respondents were middle managers (n=107, 61.1%), while the others were senior managers (n=51, 29.1%) and members of the executive management team (n=17, 9.7%).

The industries where most respondents came from are financial and insurance (n=29, 16.6%), manufacturing (n=18, 10.3%), wholesale and retail trade (n=15, 8.6%), other services (n=15, 8.6%), admin and support services (n=14, 8.0%) and information and communications (n=12, 6.9%). These top 5 industries comprise 58.8% of all the respondents.

Most of the respondents belong to large corporations (n=104, 58.9%) followed by medium corporations (n=39, 22.3%). Around 29, or 16.6%, are from small corporations. Also, most respondent have been in business for 11-20 years (n=57, 32.6%) followed by 21-30 years (n=36, 20.6%) and those less than 10 years in operation (n=30, 17.1%).

Multiple Regression Analysis

Leadership and Culture.

Multiple regression analysis was used to test if LC affected the RR. The results of the regression indicated that only 22.2% of the variation of the RR could be explained by LC (adjusted $R^2 = .222$. $F(29,145)=174$, $p<.001$), 95% CI [0.25,0.55]. Similar to the proposition of Bhaduri (2019), he stated that LC, coupled with the right competencies, can help an organization recover efficiently during a crisis. LC can explain OR in terms of RR; therefore, the null hypothesis is rejected.

Networks and Relationships.

Multiple regression analysis was used to test if NR significantly affected RR. The results of the regression indicated that NR could explain only 21.3% of the variation of the RR (adjusted $R^2 = .213$. $F(29,145)=174$, $p<.001$), 95% CI [0.26, 0.58]. Ducheck (2020), in his study, made a proposition that social resources, which include sharing of information, exchanging of resources, and collaboration, positively influence OR. This supports the result of this study that NR can explain OR in terms of RR; therefore, the null hypothesis is rejected.

Change Readiness.

Multiple regression analysis was used to test whether CR affected the RR. The results of the regression indicated that only 28.1% of the variation of RR could be explained by CR (adjusted $R^2 = .281$. $F(29,145)=174$, $p<.001$), 95% CI [0.33, 0.61]. CR can explain OR in terms of RR; therefore, the null hypothesis is rejected.

All Variables.

Multiple regression analysis was used to test if all three factors affected the RR. The results of the regression indicated that all three factors could explain only 27.6% of the variation of RR (adjusted



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$R^2 = .276$. $F(31,143)=174$, $p<.001$), 95% CI [-0.12, 0.35], [-0.28, 0.27], [0.14, 0.64] for LC, NR, and CR respectively. LC, NR, and CR can explain OR in

Table 1

Summary of Results

Hypotheses	Adjusted R ²	p-value	Results
H ₀₁ : LC do not influence RR.	0.222	<.001	Reject H ₀₁
H ₀₂ : NR do not influence RR.	0.213	<.001	Reject H ₀₂
H ₀₃ : CR does not influence RR.	0.281	<.001	Reject H ₀₃
H ₀₄ : All factors of OR do not influence RR.	0.276	<.001	Reject H ₀₄

Discussion, Conclusions, Recommendations

Discussion

Given the results of the study, management of business organizations can look into the CR indicators, specifically unity of purpose, proactive posture, planning strategies, and stress testing plans, if they want to improve their response to a crisis. Programs related to risk management, behavior-based safety, strategic planning, and operations and safety audits will help organizations improve their OR in terms of change readiness as a factor.

Considering that the LC and NR show a relationship with RR, organizational leaders may also address issues concerning leadership, staff engagement, situation awareness, decision making, innovation and creativity, effective partnerships, leverage knowledge, breaking silos, and internal resources to improve rapidity of response. Programs related to leadership, acculturation, employee engagement, critical incidents reporting, problem-solving and decision-making, creativity, and innovation will address LC. In contrast, supply chain management, loss control, and team building programs will help address concerns related to NR.

Conclusion

The study concludes that there is a relationship between the three factors of OR and RR. Although there is a relationship between the factors and the dimension, the relationship is relatively low since

terms of the RR; therefore, the null hypothesis is rejected.

the adjusted R² is less than .50 or 50%. The study also showed that CR could best explain the relationship with RR. The low R² values are supported by Frey (2018) because, according to him, studies in the social sciences usually yield a low coefficient of determination since behavior depends on a complex set of variables and social scientists have difficulty controlling it.

The research proved that both the Resilience Theory and OR Theory supports the premise that there are factors that improve resilience. In the case of organizations, the level of resilience can be improved if factors that affect it are harnessed and taken into consideration. Vogus and Sutcliffe (2003, as cited in Vogus and Sutcliffe, 2007) further strengthened the link between the theory and the results of the study because, according to them, resilience "relies upon processes, structures, and practices that promote competence, restore efficacy, and encourage growth endow organizations with capabilities to mediate jolts and increased strain" (p.3419).

Recommendations

Future studies can look at the relationship of the same set of factors with all the dimensions of OR, such as robustness, redundancy, resourcefulness, and rapidity all together to determine if there is a significant relationship for corporations in NCR since there are several studies already about entrepreneurs. Further studies can also be made using a different set of factors as proposed by other scholars to determine if it will yield a higher adjusted R².

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Evaluating the Impact of Competition on the Profitability and the Stability of the Commercial Banking Sector: A Case of Selected Asian Countries (2008-2020)

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Abstract

This study aimed to assess the impact of competition on profitability and stability within selected top banks from seven Asian countries across a 13-year time period, utilizing the following tests: (1) Econometric Model, (2) Panel Unit Root Tests, (3) Panel Co-Integration Test, and (4) Granger Causality Test to derive results. Results show that competition significantly impacted the profitability of the following banking sectors during the following time periods: South Korea and Singapore during the Global Financial Crisis (GFC), South Korea after GFC, and South Korea, Thailand, and Singapore during the COVID-19 pandemic. Competition significantly impacted the stability of the following banking sectors during the following time periods: Taiwan, China, and Indonesia during GFC, Taiwan, China, and Singapore after GFC, and Taiwan, China, Singapore, and Malaysia during the COVID-19 pandemic.

Purpose – To bridge the gap in current literature by expanding the study to focus on the impact of competition on profitability and stability within Asian Banking Sectors, specifically those in Southeast Asia.

Design/methodology/approach – This study is quantitative and utilized secondary data in the form of audited financial statements collected from either the bank's official website or Thomson Reuters Eikon Refinitiv. Then, panel unit root tests and a co-integration test were run. Afterwards, the Econometric Model was run, and the Granger Causality Test was run to determine whether competition has a significant impact on profitability and stability within the specific banking sector.

Findings – Developed economies showed a more effective policy response compared to developing economies. In terms of the policy response during financial and non-financial crises, governments focused on increasing the money supply and maintaining public trust during the GFC and the COVID-19 pandemic to sustain the profitability and stability of the banking system.

Research limitations/implications – This study was limited to competition within the banking sector. Future research can explore other profitability and stability metrics used in studies by the Bankers Association of the Philippines and expand the sample size to include more Asian countries for an increasingly in-depth discussion on the topic.



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Practical and social implications – The study would aid policymakers in constructing policies aimed at stimulating profitability and stability within the banking sector, considering the existing competition and its implications. Regulators and banks can learn from banking systems in the study that successfully maneuvered through crises and recovery periods. Bank clients can prepare funds for future crises and understand how banks keep themselves stable and profitable especially during crises.

Originality/value – This study gives a perspective on the effects of banking competition on banks profitability and stability during and after the GFC, as well as during the COVID-19 pandemic within Asian and Southeast Asian Countries.

Key Words: Competition, profitability, stability, commercial banking sector, econometric model, Granger Causality Test

Relevant SDGs: SDG 8 Decent Work and Economic Growth, SDG 10 Reduced Inequalities, SDG 17 Partnership for the Goals

Introduction

Financial institutions, specifically banks, play a role in financing ventures, allocating resources, risk-taking ventures, which is why it is instrumental to the development of an economy (Khan et al., 2016; Dutta & Saha, 2021). At the wake of the Asian Financial Crisis (AFC), the Asian and ASEAN banking sector has been constantly restructuring applying new strategies to remain resilient during changing times. Additionally, with the ASEAN Banking Integration Framework underway, it is expected that there would be an increase in competition between banks in the region (Sahul, 2017).

Banking stability, competition, and profitability have been topics for debate amongst academicians and policymakers for a long time (Noman et al., 2017). Profitability plays a major role in commercial banks, and stability is considered a major concern by banking regulators and regulatory bodies (Tan & Anchor, 2016). Meanwhile, competition remains as one of the causes affecting risk-taking, profitability, innovation, and a bank's operating conduct (Hu &

Xie, 2016). Competition between banks also affects the economy, banking sector, economic growth and volatility of loan interest rates (Wibowo, 2017). As a result of bank liberalization in the late 20th century, competition between banks across the globe increased (Dutta & Saha, 2021).

When the GFC occurred in 2008, banking stability was put at the forefront of the debate as academicians and policymakers attempted to determine the degree of responsibility competition had for the said crisis. Despite banks losing their profitability during this time and others failing, there remains no unified agreement as to whether competition affects the banking system's stability (Noman et al., 2017).

Apart from GFC, the most recent devastating event would be the occurrence of the COVID-19 pandemic (Wójcik & Ioannou, 2020). During the COVID-19 pandemic, banks have been one of the hardest-hit sectors as they have faced most of the negative hits of the pandemic. Despite the weakening effects of the widespread pandemic, financial risks undertaken by the banking sector continue to



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remain high (Kozak, 2021). With risks and risk-taking being directly correlated to competition, risks accompanying the pandemic may directly influence the commercial banking sector's profitability and stability.

The goal of this paper is to assess the influence of competition on the profitability and stability of the top commercial banks in each of the seven selected Asian countries, namely, (1) Taiwan, China, (2) South Korea, (3) Indonesia, (4) Thailand, (5) Malaysia, (6) Singapore, and (7) the Philippines during and after the GFC and during the COVID-19 pandemic.

Literature Review

The GFC can be depicted as extraordinary both in breadth and severity; due to it being unprecedented, the magnitude of its effect was felt across the globe (Bosworth & Flaaen, 2009). The experiences and repercussions caused by the crisis resulted in a substantial paradigm shift in economic policy and theory (Ramskogler, 2014). In Asia, the GDP growth slowed even more in the second half of 2008, indicating deteriorating economic conditions; the region had a substantial economic downturn in the fourth quarter of 2008, with activity declining at a rate of roughly 7% on an annual basis (Bernanke, 2009). While in Hong Kong, Malaysia, Korea, Singapore, Taiwan, and Thailand, the real GDP declined at an average yearly rate of 13%.

The COVID-19 pandemic is considered to be more devastating compared to any epidemic in history, as it significantly influenced globalization and interdependence among countries due to the high rate of virus transmission across the world (Ceylan et al., 2020; Marcu, 2021). The pandemic not only severely impacted countries as their GDP declined, forcing them to go into recession in late 2020, but it also impacted their financial sectors as there was widespread currency depreciation (Ford & Ward, 2021). However, the banking industry entered the pandemic better capitalized as compared to the Global Financial Crisis (GFC), with various

multinational and central banks working together ensuring that the world would not experience another deep recession (Wójcik & Ioannou, 2020).

While studying ASEAN banking industries namely, Malaysia, the Philippines, Indonesia, and Thailand utilizing the Boone Indicator, Lerner Index, and Panzar-Rosse H-statistic during the period of 1999 to 2013, Wibowo (2017) found that the level of banking competition and profitability have an inverse relationship. This is implied through the results of the study showing evidence of monopolistic competition being supported by a strong negative association between banking competition and average bank profitability.

In China, Tan (2016) utilized the one-step Generalized Method of Moments (GMM) system between 2003 to 2010 and found that risk and competition have no robust impact on bank profitability thereby supporting the traditional Structure-Conduct-Performance (SCP) hypothesis. On the contrary, it was found that higher competition leads to lower profitability among Chinese banks between 2003 – 2013 depicting an inverse relationship between profitability (Tan et al., 2017).

Yuanita (2019) utilized both structural and non-structural approaches to determine the relationship between competition and profitability using 93 Indonesian banks from 2000 to 2015. The structural approach found that lower competition is linked with lower profitability, while the non-structural approach found that the Lerner Index has a direct relationship with the performance of the bank. Utilizing the Net Interest Margin (NIM) in relation to market concentration in Taiwan, Chin, Choi & Huang (2016) found that there is proof of collusion from the period of 1991 to 2000, implied by the increased market concentration that leads to larger Net Interest Margins.

Fu et al. (2014) analyzed competition and its implications on the stability of various non-listed commercial and listed banks across 14 Asia Pacific



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countries, namely, Australia, China, Hong Kong, India, Indonesia, Japan, Korea, Malaysia, Pakistan, Singapore, Sri Lanka, Taiwan, China, Thailand, and the Philippines. A significant direct correlation was found between the competition and stability of banks, as a higher degree of pricing power among Asia Pacific financial institutions can lead to higher stability verifying the Competition-Stability Theory.

Moreover, Maji and Hazarika (2019) also found supporting evidence on the Competition-Stability Theory among Indian Banks. Their findings reflect a significant reverse relationship between bank competition and risk, suggesting that competition positively influences bank stability. Dutta & Saha (2021) found that a low level of competition contributes to stability but gradually diminishes and becomes detrimental as competition intensifies by examining Bangladesh's banking competition from 2009 to 2017 utilizing the Boone Indicator and Z-Score. Hou (2021) also discovered an inverted U-shaped relationship between bank competition and financial stability while using data from samples of Chinese commercial banks from 2010 to 2019.

However, Zigraiova and Havranek (2016) claimed that competition's impact on developing countries' bank stability is stronger than developed countries. Noman et al., (2017) found an inverse relationship within the ASEAN-5 commercial banks. Also, bank concentration in the ASEAN-5 region had no significant impact on bank stability apart from a positive yet insignificant relationship between bank stability and competition, which was concluded in the banking industry by both members and non-members of the OECD (Xia et al., 2019; Zigraiova & Havranek, 2016).

Research Philosophy, Framework, Design, and Methodology *Theoretical framework*

The study of the effects of competition on profitability and stability can be traced back to concepts of the Structure-Conduct-Performance (SCP) Paradigm, Competition-Stability Theory, and Financial Intermediation Theory. The SCP

Paradigm suggests that the market is controlled by a few large enterprises, implying collusive behavior through lower costs of coordination and subsequent agreement implementation (Khan & Hanif, 2019). It posits that there is a positive or direct relationship between profit and market concentration (Yuanita, 2019). The Competition-Stability Theory indicates that an increasing bank risk can be found in banks possessing higher market power, implying that lower level of competition poses a higher risk (Xia et al., 2019). The Financial Intermediation Theory states that the existence of financial intermediaries is integral as they hold a positive influence towards economic development (Swamy, 2018).

Operational Framework

The financial statements of the top banks of each of the selected Asian countries from the years 2008 to 2020 in respect to their total assets were gathered for the study. This study utilized independent variables including the Lerner Index, Boone Indicator, and Panzar-Rosse H-Statistic to obtain a robust overview of the competition within the banking sector for each of the selected Asian countries. The study's dependent variables include Z-Score and NPL ratio for banking sector stability and ROE, ROA, and NIM for the profitability of the banking sector. Preliminary tests on the data were done before any modeling to ensure reliable results, Panel Unit Root Tests were used to account for serial correlation and heterogeneity in the data as described by Levin et al. (2002) and the Johansen Fisher Panel Co-Integration Tests were used to consider for the long-term co-integration of the data. The GMM was used as an estimator for the econometric model, which measured the level of impact of banking competition on stability and profitability through the time framework of the study. Lastly, the Granger Causality Test was used to confirm the findings.



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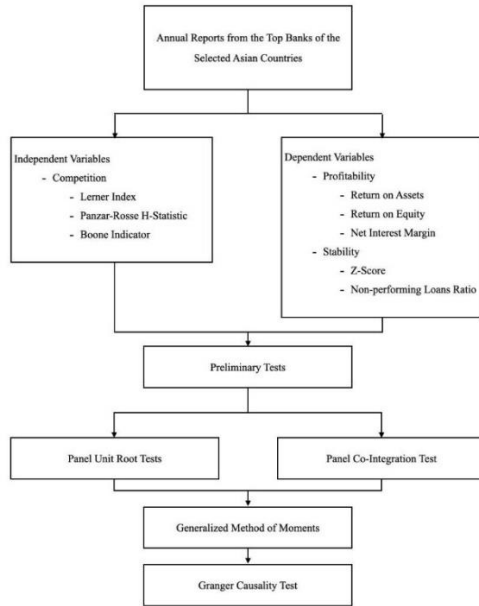
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Figure 1

Operational Framework



Methodology

The Lerner Index, Boone Indicator and the Panzar-Rosse H-Statistic were used to determine bank competition within the banking sector of the countries included in the study. Lerner index determines market power, Panzar-Rosse H-Statistic assesses competition between banks, and Boone Indicator determines the degree of competition within the sector (Noman et al., 2017; Albaity et al., 2019).

Lerner Index

$$\frac{P_{TA_{it}} - MC_{TA_{it}}}{P_{TA_{it}}}$$

Panzer-Rosse H-Statistic

$$\ln P_{it} = \alpha + \beta_1 \ln W1_{it} + \beta_2 \ln W2_{it} + \beta_3 \ln W3_{it} + \gamma_1 \ln X1_{it} + \gamma_2 \ln X2_{it} + \gamma_3 \ln X3_{it} + \varepsilon_{it}$$

$$\ln(\pi_{i,t}) = \alpha_0 + \beta_t \ln MC_{i,t}$$

Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM) were used to determine bank profitability. ROA demonstrates a company's capacity to produce profits before leveraging, ROE estimates the overall benefit that shareholders receive after putting their capital into the financial institution, and NIM concentrates on the profit gained from interest-generating activities (Afreen, 2020; Palečková, 2016; Shamki et al., 2016).

$$\text{Return on Assets (ROA)} = \frac{\text{Net Income}}{\text{Total Asset}}$$

$$\text{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{Shareholder's Equity}}$$

$$\text{Net Interest Margin (NIM)} = \frac{\text{Net Interest Income}}{\text{Earnings Assets}}$$

Z-score and Non-performing Loans (NPL) Ratio were used to determine bank stability. Z-score measures the distance of the financial institution from insolvency, and the NPL Ratio determines the credit risk exposure of the financial institution (Noman et al., 2017).

$$Z - score = \frac{ROA + \left(\frac{\text{Total Equity}}{\text{Total Assets}}\right)}{\sigma ROA}$$

$$\text{Non - Performing Loans Ratio} = \frac{\text{Non-performing loans}}{\text{Total outstanding loans}}$$

Prior to modeling the data, with the intention of preventing natural data from being mistaken as evidence of correlation, unit root tests and co-integration tests were conducted. Panel Unit Root tests in the form of the Levin-Lin-Chu test equation accounts for serial correlation and heterogeneity in different cross-sections.

$$\Delta x_{it} = \alpha_{it} + \beta x_{i,t-1} + \sum_{j=1}^{pi} \beta_{ij} \Delta x_{i,t-j} + \mu_{it}$$

Considering the long-term nature of the data included in the paper, the Johansen Fisher Panel Co-Integration Test was integrated in the study ensuring that all series to be modeled into the



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regression are co-integrated.

$$y_{it} = \beta_1 + p_i t + \beta_{1i} x_{1,it} + \beta_{2i} x_{2,it} + \varepsilon_{it}$$

Afterwards, the Econometric Model was employed to determine the effect of bank competition on bank profitability and stability within the countries included in this paper.

$$\begin{aligned} \text{profit}_{it} &= \beta_0 + \beta_1 \text{profit}_{i,t-1} + \beta_2 \text{competition}_{it} + \beta_4 \text{AfterGFC} + \beta_5 \text{DuringCOVID} \\ &+ \beta_6 \text{competition}_{it} \times \beta_7 \text{competition}_{it} \times \text{AfterGFC} \\ &+ \beta_8 \text{competition}_{it} \times \text{DuringCOVID} \end{aligned}$$

$$\begin{aligned} \text{stable}_{it} &= \beta_0 + \beta_1 \text{profit}_{i,t-1} + \beta_2 \text{competition}_{it} + \beta_4 \text{AfterGFC} + \beta_5 \text{DuringCOVID} \\ &+ \beta_6 \text{competition}_{it} \times \beta_7 \text{competition}_{it} \times \text{AfterGFC} \\ &+ \beta_8 \text{competition}_{it} \times \text{DuringCOVID} \end{aligned}$$

Lastly, the Granger Causality Test was conducted to determine the causal effect of banking competition towards profitability, and stability, as the aforementioned test is used to analyze causal relationships between time series (Granger, 1969).

$$y_t = \alpha + \sum_{k=1}^K \gamma_k y_{t-k} + \sum_{k=1}^K \gamma_k \beta_k x_{t-k} + \varepsilon_t$$

The study utilized secondary data extracted from the Thomson Reuters Eikon Refinitiv software and the financial statements reflected in the annual reports of banks over a thirteen-year period spanning from 2008 to 2020, which covered the GFC and the COVID-19 pandemic. The top banks from the selected Asian countries: (1) Taiwan, China (2) South Korea, (3) Indonesia, (4) Thailand, (5) Malaysia, (6) Singapore, and (7) the Philippines were selected based on their overall ranking according to their total assets. The banks had to be established before 2008, and the data should be complete within the research study's timeframe to compute the variables of interest in the study. If these criteria were not met, the bank was excluded from the list, and the succeeding bank in the list was automatically examined.

The paper utilized purposive sampling to identify which commercial banks from the selected Asian countries were chosen. Purposive sampling sets itself apart from other probabilistic techniques used in sampling because it examines the intrinsically

complicated interactions among the variables of interest rather than generalizing or randomizing them (Serra et al., 2018). The study identified that for each of the selected Asian countries, the top banks in respect to their total assets should be utilized in the study. As a result, the sample had an unbalanced panel data, composed of the top banks in terms of total assets on an annual basis, from 2008 to 2020, which covered during and after GFC and during the COVID-19 pandemic.

Data Results and Analysis

Results showed that competition had a significant impact on profitability and stability in selected countries over the time period of the study. During the GFC, the impact of competition on profitability was significant in the South Korean and Singaporean banking sectors. Only the bank competition within the South Korean banking sector had a significant impact on profitability after the GFC. The significant impact of competition on profitability during the COVID-19 pandemic resulted in the rejection of null hypothesis in South Korea, Thailand, and Singapore. It is evident that when a crisis period emerges and the government fails to build strong foundations in both its financial and non-financial sector, more policies will be introduced to banks to combat the crisis, thereby significantly affecting the profitability of the banking sectors. This was evident in Singapore and South Korea, as regulatory changes were implemented since the AFC to help cushion the effects of the GFC in the said countries. Since the profitability of highly competitive banking sectors are more affected by policies implemented by the central bank compared to those with low competition, the introduction of monetary policies in highly competitive banking sectors like South Korea, Thailand, and Singapore during the COVID-19 pandemic contributed to the rejection of the null hypothesis. Meanwhile, the insignificance of competition's impact on profitability in the banking sectors of Taiwan, China, Indonesia, Malaysia, and the Philippines yielded in non-rejection of the null hypothesis.



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The impact of competition on stability during the GFC resulted in the rejection of null hypothesis in Taiwan, China, Indonesia, and Singapore. Only the bank competition within the banking sector of Taiwan, China had a significant impact on stability after the GFC. The significant impact of competition on stability during the COVID-19 pandemic resulted in the rejection of null hypothesis in Taiwan, China, Malaysia, and Singapore. For countries like Taiwan, China and Indonesia that were not affected by the GFC due to the lack of financial openness and the economy's less dependence on exports, the policies they implemented to further stabilize their banking industry has contributed to the rejection of the null hypothesis. After the GFC, the implementation of financial liberalization to increase competition in the Taiwanese banking industry significantly influenced bank stability through the improvement of liquidity in the banking system. Since the stability of highly competitive banking sectors are more affected by policies implemented by the central bank compared to those with low competition, regulating the money supply and increasing the loan loss reserves of highly competitive banking industries like Taiwan, China, Malaysia, and Singapore amidst non-financial crisis contributed to the significant influence of competition on stability. The insignificance of competition's impact on stability in the banking sectors of South Korea, Thailand, and the Philippines yielded in non-rejection of the null hypothesis. Through the Granger Causality Test, most results imply the absence of causality between variables; however, this does not invalidate the association results. The results of competition's impact on profitability and stability of selected Asian countries during and after the GFC and during the COVID-19 pandemic as listed in Tables 1 and 2 below.

Table 1

Impact of Competition on Profitability

	GFC			Post GFC			COVID		
Indonesia	ROA	ROE	NIM	ROA	ROE	NIM	ROA	ROE	NIM
Boone	0.69	0.457	0.68	0.88	0.985	0.75	0.72	0.623	0.6
Hstat	0.69	0.457	0.68	0.96	0.602	0.36	0.72	0.623	0.6
Lerner	0.69	0.457	0.68	0.96	0.653	0.85	0.72	0.623	0.6
		Accept			Accept			Accept	
Malaysia	ROA	ROE	NIM	ROA	ROE	NIM	ROA	ROE	NIM
Boone	0.49	0.944	0.11	0.29	0.94	0.08	0.73	0.932	0.07
Hstat	0.49	0.944	0.11	0.87	0.982	0.11	0.73	0.932	0.07
Lerner	0.49	0.944	0.11	0.23	0.315	0.02	0.73	0.932	0.07
		Accept			Accept			Accept	
Singapore	ROA	ROE	NIM	ROA	ROE	NIM	ROA	ROE	NIM
Boone	0.04	0.008	0	0.21	0.299	0.26	0	0	0
Hstat	0.04	0.008	0	0.23	0.435	0	0	0	0
Lerner	0.04	0.008	0	0.25	0.183	0	0	0	0
		Reject			Accept			Reject	
S. Korea	ROA	ROE	NIM	ROA	ROE	NIM	ROA	ROE	NIM
Boone	0.08	0.221	0	0.21	0.096	0	0	0.232	0.52
Hstat	0.08	0.221	0	0.06	0.197	0	0	0.232	0.52
Lerner	0.08	0.221	0	0	0.001	0	0	0.232	0.52
		Reject			Reject			Reject	
Taiwan	ROA	ROE	NIM	ROA	ROE	NIM	ROA	ROE	NIM
Boone	0.2	0.02	0.96	0.44	0.509	0.98	0.41	0.291	0.98
Hstat	0.2	0.02	0.96	0.97	0.15	0.8	0.41	0.291	0.98
Lerner	0.2	0.02	0.96	0.68	0.282	0.99	0.41	0.291	0.98
		Accept			Accept			Accept	
Thailand	ROA	ROE	NIM	ROA	ROE	NIM	ROA	ROE	NIM
Boone	0.12	0.44	0.99	0.17	0.923	0.85	0.03	0.248	0.99
Hstat	0.12	0.44	0.99	0.87	0.582	0.92	0.03	0.248	0.99
Lerner	0.12	0.44	0.99	0.7	0.605	0.98	0.03	0.248	0.99
		Accept			Accept			Reject	
Philippines	ROA	ROE	NIM	ROA	ROE	NIM	ROA	ROE	NIM
Boone	0.979	0.995	0.121	0.93	0.051	0.5	0.912	0.27	0.12
Hstat	0.979	0.995	0.121	0.94	0.575	0.433	0.912	0.27	0.12
Lerner	0.979	0.995	0.121	0.961	0.312	0.868	0.912	0.27	0.12
		Accept			Accept			Accept	



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Table 2

Impact of Competition on Stability

	GFC		Post GFC		COVID	
	NPL Ratio	Zscore	NPL Ratio	Zscore	NPL Ratio	Zscore
Indonesia						
Boone	0.209	0	0.683	0.22	0.718	0.34
Hstat	0.209	0	0.8	0.54	0.718	0.34
Lerner	0.209	0	0.578	0	0.718	0.34
	Reject		Accept		Accept	
Malaysia						
Boone	0.443	0.951	0.258	0.8	0.49	0.04
Hstat	0.443	0.951	0.631	0.13	0.49	0.04
Lerner	0.443	0.951	0.474	0.56	0.49	0.04
	Accept		Accept		Reject	
Singapore						
Boone	0	0.416	0.43	0.43	0.003	0.42
Hstat	0	0.416	0.018	0.31	0.003	0.42
Lerner	0	0.416	0	0.38	0.003	0.42
	Reject		Accept		Reject	
S. Korea						
Boone	0.687	0.413	0.247	0.8	0.569	0.46
Hstat	0.687	0.413	0.719	0.29	0.569	0.46
Lerner	0.687	0.413	0.938	0.07	0.569	0.46
	Accept		Accept		Accept	
Taiwan						
Boone	0.006	0.266	0.736	0	0.932	0
Hstat	0.006	0.266	0.184	0.02	0.932	0
Lerner	0.006	0.266	0.569	0.12	0.932	0
	Reject		Reject		Reject	
Thailand						
Boone	0.633	0.179	0.142	0.25	0.901	0.25
Hstat	0.633	0.179	0.797	0.68	0.901	0.25
Lerner	0.633	0.179	0.951	0	0.901	0.25
	Accept		Accept		Accept	
Philippines						
Boone	0.377	0.835	0.69	0.92	0.125	0.7
Hstat	0.377	0.835	0.218	0.66	0.125	0.7
Lerner	0.377	0.835	0.741	0.54	0.125	0.7
	Accept		Accept		Accept	

Discussion, Conclusions, Recommendations

Based on the results of the study, developed economies exhibited relatively more effective policy responses compared to developing economies. This was evident in the significant impact of both crises on Singapore, a developed and export-oriented economy; while Indonesia, a developing economy with a relatively small export ratio to GDP, was not significantly impacted by the crises. In terms of the policy responses on both financial and non-financial crises, the governments of countries included in the study focused on increasing money supply and maintaining public trust during the GFC and the COVID-19 pandemic to sustain the profitability and stability of the banking system. The governments' initiation of masterplans following the AFC were effective to combat financial crises like the GFC, which contributed not only to a more extensive regulation and improved risk management framework and governance structure but also to the increased efficiency and resiliency of the financial sector to crises. Policies intended to support SMEs were enacted during the COVID-19 pandemic, as these could encourage SMEs to avail loans, thereby benefiting the financial condition of banks.

This paper acts as a roadmap, showing the proper steps banks and regulators should take to better protect their profitability and strengthen their stability during uncertain times. Policymakers and regulators will be able to anticipate and prepare for future crises within the financial institutions sector. Regulators and banks will be able to model effective strategies used by banking systems in the study that successfully maneuvered through crises and recovery periods. The study will also aid regulators in preparing policies that would soften the blow of any upcoming crises, be it financial or pandemic.

The study recommends regulators and policymakers to construct policies that would stimulate profitability and stability within the banking system, given the amount of competition that exists within it while anticipating future crises to keep the banking system in their countries resilient. The



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paper can also help bankers gain insight about the impact of competition on profitability and stability within the banking sector and use this as reference should there be another pandemic or financial crisis within the foreseeable future. Likewise, retail and institutional investors would also benefit from this study in understanding how banks in the selected Asian countries responded during crisis and post-crisis, which would enable them to employ an optimal investment strategy during crisis. Future studies may explore other profitability and stability metrics utilized in various studies by the Bankers Association of the Philippines and expand the sample size to include more Asian countries to have a more in-depth comparison of the impact of competition on profitability and stability during and after the GFC and during the COVID-19 pandemic.

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An Analysis on the Total Factor Productivity of Selected Commercial Banks in the ASEAN-5 Countries Using Malmquist-DEA Analysis from 2006-2020

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Abstract

The resilience of an economy is reliant on the health of its Financial Institutions, which is why lawmakers and economists are especially careful when such a sector is faced with crises. This paper examines the efficiency of banks from the countries Singapore, Malaysia, Philippines, Thailand, and Indonesia in terms of their Total Factor Productivity, Technological Change, and Technical Efficiency during the years 2006 to 2020, separated by four periods: pre-GFC, during GFC, post-GFC or pre-COVID, and during COVID. The study uses interest expense, interest income, non-interest expense, non-interest income, personnel expense and deposits as variables. These were then processed through the Malmquist Productivity Index via the Data Envelopment Analysis (DEA). The change test was also utilized to examine which input and/or output variables were most impactful on the scores garnered by the selected banks for the various efficiency types. The paper found that only half of the nineteen banks had performed efficiently on average during the four periods, with Singapore having the most efficient banks and the Philippines with the least. It was found that interest expense and interest income were seen to be the most common focal points of impact on the efficiency achievement of banks during the financial crises. This paper answers which banks and countries among the ASEAN-5 had performed inefficiently during the four periods matched with the assessment of their few countermeasures to mitigate the collapse of their financial sector.

Purpose – To identify and compare the primarily observable effects and common factors that lead to the 2008 financial crisis and the COVID-19 pandemic crisis on banking institutions and determine the extent of their effect on the efficiency of banking institutions listed in the ASEAN stock exchanges

Design/methodology/approach – The data was collected from audited financial statements through the bank's official website and Thomson Reuters Eikon Refinitiv. The study then used Data Envelopment Analysis – Malmquist DEA analysis to garner the productivity of banks.

Findings – The Singaporean banking system is far more developed in comparison to its neighbor countries in Southeast Asia. Approximately half (48%) of selected commercial banks were efficient in Total Factor Productivity across all periods (Pre-GFC to During COVID).

Research limitations/implications – The study was limited to commercial banks in the ASEAN5 (Indonesia, Malaysia, Philippines, Singapore, and Thailand) and only used the Malmquist



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Productivity Index-DEA approach. The periods only cover pre-crisis, post-crisis and during the crisis of 2008 Global Financial Crisis and COVID-19 pandemic (2006-2020).

Practical and social implications – The study acts as a blueprint by which banking institutions can select areas of their processes for improvement and strengthen them in preparation of any future financial and pandemic crises.

Originality/value – The paper was able to give a comparison to the different countries in the ASEAN-5 whereas published researches are more narrow-scale which only considers one country.

Keywords: Total Factor Productivity, ASEAN-5, Commercial Banks, Data Envelopment Analysis, Global Financial Crisis, COVID-19

Relevant SDGs: SDG 8 Decent Work and Economic Growth, SDG 12 Responsible Consumption, and SDG 17 Partnership for the Goals

Introduction

The proponents of the study used the Data Envelopment Analysis together with the Malmquist Productivity Index (MPI) to compare the efficiencies of the decision-making units (DMUs). The MPI was popularized by Swedish economist and statistician Sten Malmquist in 1953 (Cho & Chen, 2021). In this study, the MPI was used to determine the overall performance of the banking industries in the ASEAN-5 countries over time. Shah, Wu, & Korotkov (2019) considers the DEA as an appropriate tool to study banking efficiency since it does not require any explicit relationships between the input and output variables in consideration that banking performance is based on strategic planning and the economic environment. Previous literature has not made any attempts to compare total factor productivity across multiple periods, specifically, financial and pandemic crises.

The significance of the study towards firms, specifically the commercial banks in the ASEAN Region, is that it can help banking institutions to assess their total factor productivity focusing on their technological and technical efficiency. This

would allow us to see how these top banks coped during and after the financial crisis. This paper is important to firms especially banking institutions as it would assist them in analyzing their total factor productivity that would eventually help them use these factors in their decision making for the overall improvement of their efficiency. Previous research also had not focused on the ASEAN-5 region. The paper constructed a comparative analysis of the total factor productivity of selected commercial banks between the periods of pre-GFC up to during-COVID in order to fill the research gap.

Literature Review

The Data Envelopment Analysis (DEA) in accordance with the findings of Barr & Durchholz (1997) and Wong & Deng (2016) is a nonparametric methodology by which the relative strength of a group of similarly characterized Decision Making Units (DMUs) are empirically gauged. DMUs are essentially the entities which are then responsible for performing the processes by which selected inputs are processed into desired outputs. This postulation essentially makes the DEA a select framework for most studies in which banking efficiency is being consulted as it provides a reliable



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quantification of efficiency levels. In a similar vein, Tan (2016) was able to expand more on the DEA framework by proposing that there are two orientations by which the DEA framework may be aligned or used for. The first orientation is the Input-Oriented DEA in which the main focus is minimizing input levels while achieving maximum output levels. On the other hand, the second orientation is the Output-Oriented DEA in which the main focus is retaining input levels whilst maximizing output levels. As mentioned by Wong & Deng (2016), the advantage of DEA is that it does not require assumption on the functional form of random error term, instead this technique measures efficiency of each bank by creating a reference of efficient banks in the industry. This framework was primarily the main vehicle for how the present article measured the efficiencies of the banks to be consulted; hence, why it is of great importance to completely understand the fundamentals of the said framework from top to bottom.

Antunes, Hadi-Vencech, Jamshidi, Tan, & Wanke utilized the DEA approach in 2021 in their Bank Efficiency estimation in China that took into account years 2010-2018 wherein they studied a sample of 39 Chinese commercial banks. Using DEA, the researchers focused on assessing efficiency levels and proceeded with Robust Endogenous Neural Network Analysis to determine the relationship between variables such as efficiency, bank size, bank profitability, expenses, and the like. The paper concluded consistent growth within the sector and a noticeable stabilization in volatility of over 0.7 by the end period of the study.

In assessment of the banking efficiency levels of Slovak banks in 2018, Grmanová, & Ivanová identified the average parameters of comparing products and their short-term effects to assess the overall efficiency of banks, such would lack the evaluation of long-term competitiveness for individual banks and the sector as a whole. The paper discussed the capacity of DEA models to serve as a reliable metric for assessing banking efficiency within economies, such is the case for Belgium,

Denmark, France, Germany, Italy, Luxembourg, the Netherlands, Portugal, Spain and the UK. To dissect the overwhelming amount of data which would require DEA models, they are commonly used alongside multi-criteria methods such as Principal Components Analysis (PCA), Cluster Analysis, and Factor Analysis, citing the capacity of combining these methods to further include the wide range of input, as done with Kordostami, Amirteimoori, & Masoumzadeh (2011) in their analysis of 29 Iranian Banks.

Wong & Deng (2016) proved the importance of studying the efficiency of banking institutions in the ASEAN region. DEA was applied to identify the efficiencies of banks in Malaysia, Indonesia, Philippines, and Thailand where different efficiencies were used, it includes the technical efficiency (TE), cost efficiency (CE), scale efficiency (SE), mix efficiency (ME), and allocative efficiency (AE). The study showed that countries that have high efficiency in one aspect of efficiency did not perform well in other efficiencies. In an example, the banks in Thailand scored the highest in their SE but showed a continuous decline in their TE, but the author explained that this was because of the indivisible effect of intangible resources. It was then concluded that it was difficult for the ASEAN banks to perform well in all efficiency especially in both cost and technical efficiency. The four ASEAN countries studied showed a low-cost efficiency as they have increasing cost and operational expenses because of the macroeconomy. On the contrary, the studied banks showed that it performed better in technical, mix, and scale efficiency.

Research Philosophy, Framework, Design, and Methodology

The study was based on the model shown in Figure 1 where the study made use of the input-process-output structure based on which the paper can determine the needs of the study. The first step or the input part would be to gather the data from the banks listed in the stock exchanges of the ASEAN-5 namely Philippine Stock Exchange, Bursa Malaysia,



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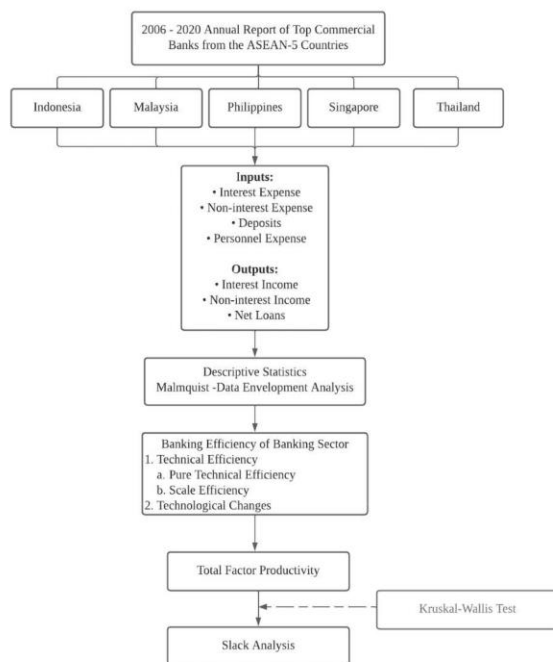
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Indonesian Stock Exchange, Singapore Exchange, and the Stock Exchange of Thailand. The data needed were deposits, interest expense, non-interest expense, personnel expense, interest income, non-interest income, and the net loans.

The research model of the study used a downward process where it had a goal to obtain the total factor productivity of the selected banks in the ASEAN-5 using a model.

Figure 1

Operational Framework of the Study



The researchers ranked the banks from the ASEAN-5 Countries by largest assets, once identified the top performing banks, their annual reports and financial statements from years 2006-2020 were gathered and assessed, extracting variables such as deposits, personnel expense, interest, and non-interest expense. Whereas using net loans, interest income, and non-interest income as variables for output.

With the data arranged, the next step would be to assess the efficiency scores of each bank; using the portfolios along with specific variables extracted, the researchers then applied the Data Envelopment Analysis (DEA) through the influence of the Malmquist Productivity Index. Once the efficiency scores have been determined, Total Factor Productivity (TFP) was refined to either of its two subcategories; Technical Efficiency and Technological Change, with the former further deconstructed to scale efficiency and technical efficiency. The categorized efficiency scores provided a concrete basis for determining the efficiency scores of each bank as well as the banking sector of each ASEAN-5 country. In order to evaluate wastages of banks that had been deemed inefficient and determine the appropriate levels of each variable from the banks, Slack Analysis was utilized as a main tool. Finally, to tie up the results and devise a conclusive interpretation of which hypotheses are to be rejected and accepted, the researchers used the Kruskal-Wallis test.

Methodology

For this paper, the study used a quantitative and descriptive-comparative research foundation wherein banking performance is based on total factor productivity among the top commercial banks in the ASEAN-5 region. The paper is considered to be quantitative in nature because data collection is mainly focused on quantifiable data using statistical and computation methods through the Malmquist Productivity Index and Data Envelopment Analysis. Secondary data will be collected through the annual reports and financial statements of the chosen commercial banks listed in the stock exchanges of the ASEAN-5 countries. The paper has created a portfolio of banks and have provided descriptive statistics of their mean, median, standard deviation, standard error, sample variance, kurtosis, and skewness.

A descriptive-comparative study, or a comprehensive comparative study, studies two or more variables that are not manipulated and



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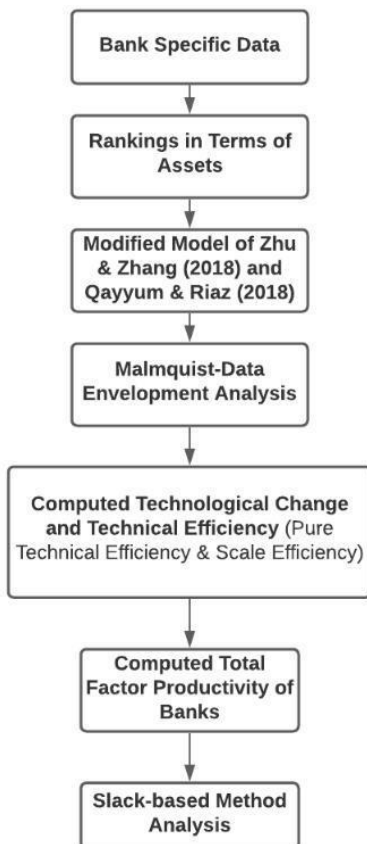
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compares the results to find a conclusion for the research. In the case of Zhang, Dong, Chicane, & Yu (2019), they used a comparison criterion to evaluate the efficiency of consensus reaching processes in differing circumstances to enhance group decision making. In this study, the main input variables used include: deposits, interest expense, non-interest expense, personnel expense, interest income, non-interest income, and net loans to evaluate the efficiency scores of the chosen banks, which have the researchers to rank the banks according to their banking efficiency when coping with financial crises like the 2008 global financial crisis and the COVID-19 pandemic crisis.

Figure 2

Sources of Data



As a first step, the study gathered secondary data from Banks, mainly their annual reports and financial statements from the years 2006 - 2020, this was the main point of reference in terms of building portfolios for commercial banks. After collection of data, the banks were assessed by largest total assets, with the top banks of each country chosen for further analysis.

To thoroughly assess and understand the respective banks' performance, their Total Factor Productivity and its subcategories, technological efficiency, technical efficiency, pure technical efficiency, and scale efficiency with the influence of Malmquist-DEA were accounted for. The main variables extracted from the secondary data and used for inputs are the following; deposits, personnel expense, interest expense, and non-interest expense. On the other hand, the three output variables used were; net loans, interest income, and non-interest income. All were utilized in the model created by Zhu & Zhang (2018) and Qayyum & Riaz (2018).

According to Ren and Choi in 2016, Panel Data models are commonly included in methodologies of studies as it is capable of taking into account variables over a span of time or units, with these panel data having contributed to the efficiency of economic estimates. Moreover, in a study conducted by Song & Li in 2008, Panel Data has managed to outperform methodologies influenced by time series as well as intelligent methods used in projections made fashion sales. In this notion, the data that was applied in the Panel Data Model spans from 2006 to 2020 and 39 banks; with ten banks from Philippines and Indonesia, nine banks from Thailand, seven banks from Malaysia, and three banks from Singapore included in the study.

As a means of reviewing the computed data from the R programming language and determining the slacks of banks identified to be inefficient with their resources and outputs, the proponents utilized the Slack Analysis.



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Total Factor Productivity

$$M_0(x^{t+1}, y^{t+1}, x^t, y^t) = \frac{D_0^{t+1}(x^{t+1}, y^{t+1})}{D_0^t(x^t, y^t)} \left[\frac{D_0^t(x^{t+1}, y^{t+1})}{D_0^{t+1}(x^{t+1}, y^{t+1})} \frac{D_0^t(x^t, y^t)}{D_0^{t+1}(x^t, y^t)} \right]^{\frac{1}{2}}$$

The purpose of Total Factor Productivity in this study was to serve as an element of quantifying efficiency; thereby providing a defined measure of efficiency for decision-making units. The formula for Total Factor Productivity served to render a number between zero (0) and one (1) in this study's methodology, with the former marking inefficiency, and the latter efficiency. With the designated years taken into account, the study assessed the banks' individual performances, thereby determining which have been successfully operated most efficiently. To assist the indicated formula, the following supplementary computation was included in this study:

$$D_0^{t+1}(x^t, y^t) = \inf \{ \theta | (x^t, y^t / \theta) \in S^{t+1} \}$$

and

$$D_0^t(x^{t+1}, y^{t+1}) = \inf \{ \theta | (x^{t+1}, y^{t+1} / \theta) \in S^t \}$$

Such were considered for the initial Total Factor Productivity Formula, indicating that the inputs should be positive in value and no number in the set should be not be less than the values of $(x^{t+1}, y^{t+1} / \theta)$ and $(x^t, y^t / \theta)$ which should be within the set of S. Where S^t is equal to $\{(x^t, y^t)\}$.

Data Results and Analysis

This section shows the analysis of the data from the total factor productivity, technical efficiency, pure technical efficiency, scale efficiency, technological efficiency, and change variable test.

Table 1

Top 3 Banks in the ASEAN-5 in terms of TFPCH

Rank	Bank	TFPCH Score
1	Affix Bank	1.1217
2	United Overseas Bank Ltd	1.0559
3	Commerce International Merchant Bankers Berhad	1.0284

For Total Factor Productivity, Affin Bank of Malaysia, United Overseas Bank Ltd of Singapore, and Commerce International Merchant Bankers Berhad of Malaysia had the highest mean scores of all the countries. This means that roughly, Affin bank was able to produce 12.17% more outputs than their inputs. Same can be said with UOB with 5.59%, and 2.84% with CIMB. These banks were able to do this even though they went through financial crises. It was discovered that COVID-19 had affected banks more than the GFC of 2008 did, this was attributed to Loss of liquidity, decline in asset, health risks, according to the BSP. The Philippines had the most banks deemed inefficient. Singapore had all its banks performing efficiently, followed by Indonesia with 60% of total banks deemed efficient.

Table 2

Top 3 Banks in the ASEAN-5 in terms of EFFCH

Rank	Bank	EFFCH Score
1	Philippine National Bank	1.0098
2	Metropolitan Bank & Trust Co.	1.0079
3	CIMB Thai Bank Public Company Limited	1.0078

The top 3 highest averaging banks in terms of technical efficiency scores are Philippine National Bank, Metropolitan Bank, and CIMB Thai Bank Public Company Limited. Respectively, these banks are roughly 0.98, 0.79, & 0.78% more technically



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efficient than other banks that were assessed in this study. It may also be observed from the results that twenty banks improved in technical efficiency during the GFC, while 3 banks were found to be inefficient. On the other hand, the period during the COVID-19 pandemic caused some banks to decrease in technical efficiency with 11 banks being found to be inefficient during the said period. According to KPMG (2020), the COVID-19 pandemic forced the Global Banking Industry to lower interest rates to cope with the situation imposed by the virus. This resulted in less “core banking profitability” for the banking sector, which directly affects the technical capability of banks to convert their inputs into profitable outputs.

Table 3

Top 3 Banks in the ASEAN-5 in terms of PECH

Rank	Bank	PECH Score
1	Metropolitan Bank & Trust Co.	1.0077
2	Philippine National Bank	1.0076
3	CIMB Thai Bank Public Company Limited	1.0075

As for Pure Technical Efficiency, the rankings remain to be very similar with the same 3 highest ranking banks, but in a different ranking order. Pure Technical Efficiency is the technical efficiency of a firm without the consideration of its firm scale, which is the ability of banks to minimize inputs while maximizing outputs. On this table, it can be seen that the pure technical efficiency scores of banks are much closer to each other as compared to scores in technical efficiency. This implies that scale measurement is indeed an impactful consideration in analyzing efficiency. Interestingly, only 13 banks improved and seven banks were found to be inefficient in pure technical efficiency as compared to the findings in technical efficiency scores. This presents how the effects of the GFC were more immediate. In contrast, the COVID-19 pandemic

crisis caused nine banks to drop to an efficiency score of 1.0 or even lower. It is observable that a majority of these nine affected banks are from Indonesia which indicates that the COVID-19 affected the banking sectors of Indonesia the most. According to PwC (2020), this may be attributed to issues in accounting, business, and operations. Having said that, the COVID-19 crisis indeed had more impact on the DMUs compared to the GFC which may be attributed to its sudden impact on both profitability and operations.

Table 4

Top 3 Banks in the ASEAN-5 in terms of SECH

Rank	Bank	SECH Score
1	Philippine Bank of Communications	1.0052
2	United Overseas Bank Ltd	1.0036
3	BDO Unibank, Inc.	1.0033

Scale efficiency simply describes a bank’s ability to maintain its level of output given a decrease in its firm size. Table 4 shows the top 3 banks in terms of scale efficiency, namely The Philippine Bank of Communications, succeeded by United Overseas Bank Ltd (UOBH) and BDO Unibank, Inc. (BDO). From the scale efficiency score results, it was shown that 13 banks improved their scale efficiency scores during the GFC period and the number of scale inefficient banks decreased to eight banks from a total of 21 inefficient banks during the pre-GFC period. On the other hand, the COVID-19 pandemic crisis illustrates an entirely different situation in terms of scale efficiency. It can be seen that the banks stayed in the 1.0 threshold, while thirteen banks were deemed to be scale inefficient. The contrast between the effect of the GFC and the COVID-19 crisis on the scale efficiencies of these banks may be due to the fact that the COVID-19 crisis also bears an impact on the operational aspect of these banking institutions. This implies that the effectiveness of using regulation to combat the GFC was not as enough to counteract the effects of the



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COVID-19 crisis on the scale efficiencies of these DMUs.

Table 5

Top 3 Banks in the ASEAN-5 in terms of TECH

Rank	Bank	TECH Score
1	Affin Bank	1.1135
2	United Overseas Bank Ltd.	1.0518
3	CIMB Group Holdings Berhad	1.0281

The top performing banks in terms of technological efficiency are Affin Bank, United Overseas Bank Limited, and CIMB Group Holdings Berhad. It may be observed that these banks are all from Malaysia or Singapore, which may be due to how banks in Malaysia and Singapore generally have more resources to invest in technological developments in relation to the banks in the Philippines, Indonesia, or Thailand. During the GFC period, the majority of the DMUs declined in technological efficiency, however, there were still eleven banks deemed to be efficient. After the GFC, several banks improved their technological efficiency. This may imply that the measures taken by financial regulatory bodies had been quite successful in contributing to a more resilient global financial system. Notably, Degl'Innocenti et al. (2018) mentioned that the capacity of banks to innovate new technology is stimulated by a competitive business environment and a stable financial system. Hence, it is up to these financial regulators to propose policy reforms and regulations that would create a competitive environment for banking institutions to continuously innovate new technology and processes.

The change test of the study shows the significant variables per period to see which variables have affected the country's efficiency the most. In Table 6 is the different country's total factor productivity efficiency scores which showed the change in

between the period where the green font means it showed an improvement while red font indicates a decline in their overall productivity.

Table 6

Country's TFPCH score from 2006 to 2020 (Change-Test)

TFPCH	Pre-GFC vs GFC	GFC vs Post-GFC	Pre-COVID vs COVID
ID	**0.9993	*1.0013	**0.9991
MY	**0.9796	*1.0248	**1.0059
PH	*1.0161	**0.9961	*0.9963
SG	**1.0044	*1.0261	**0.9967
TH	**0.9981	*1.0020	**0.9917

Note:

- Signifies that there was an improvement in their productivity from the said periods
- Signifies that there was a decline in their productivity from the said periods

In Table 6, for the Pre-GFC to GFC, as shown in column 1, Philippines is the only country who showed an improvement for this period which is why the one asterisk was placed as for its peers they showed a decline in their TFP in between this specific period thus the two asterisks. As for the GFC to Post-GFC period which is shown on column 2, it can be observed that it was the opposite of the previous period where all four countries except the Philippines showed an improvement. As for the last period, Pre-COVID and COVID column 3, the countries Malaysia and Singapore have shown the lowest decrease in terms of TFP as shown in the last column which explains the two asterisks.



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Table 7

Variable Change Test Result

Variables	Pre-GFC vs. GFC				GFC vs. Post-GFC				Pre-COVID vs. COVID			
	EFFCH	TECH	PECH	SECH	EFFCH	TECH	PECH	SECH	EFFCH	TECH	PECH	SECH
Deposit												↓ ID SG TH
Interest Expense					MY PH SG ↓	ID MY SG TH ↓			↓ ID SG TH	↓ ID TH		
Non-Interest Expense									↓ ID SG TH	↓ ID TH		↓ ID MY SG TH
Personnel Expense							ID PH ↓					
Interest Income							ID MY SG TH ↓			↓ ID TH		
Non-Interest Income												
Net Loans												

Note:

MY: Malaysia, ID: Indonesia, PH: Philippines, SG: Singapore, TH: Thailand

This specific improvements and decline can be further dissected in Table 7, shown on this table is the variables that have impacted the efficiencies of banks, the upward arrows signify higher amount for the specific variable was found while the downward arrows mean lower amount was reflected. For the first period or pre-GFC to GFC period, the decline in the countries Indonesia, Malaysia, Singapore, and Thailand was affected by higher interest income, non-interest income and net loans as shown in their technical and technological efficiency respectively. As for the next period for GFC to post-GFC, the improvement for the countries Indonesia, Malaysia, Singapore, and Thailand showed a decrease in interest expense and interest income as reflected in their technical and technological efficiency. Lastly for the COVID period, the decline in the efficiency on countries Singapore and Malaysia can be directed to the deposit, interest expense, non-interest expense, and interest income as seen in their technical, scale, and technological efficiencies.

Discussion, Conclusions, Recommendations

The results garnered from the research presents that the total factor productivity, as well as its components: technological efficiency, technical efficiency, scale efficiency, and pure technical efficiency exhibited significant changes between pre and post GFC and COVID-19 pandemic periods. It was also observed that across all periods studied, at

least one bank was efficient in terms of one of, if not more than, the five types of efficiency. From these findings, the paper therefore rejects all the null hypotheses.

It was predominantly found that during the pre-GFC to GFC period, the variables: Interest Income, Non-Interest Income and Net Loans were the primary and significant causes of changes in efficiency scores during that time frame. For the GFC to post-GFC/pre-COVID-19, it was seen that Personnel Expense, Interest Expense and Interest Income then overtook as the significant variables which affected the changes observed in efficiency scores. Lastly, for the pre-COVID-19 to COVID-19 period, it was seen that Interest Expense, Non-Interest Expense, Interest Income and Deposits were the primarily significant variables to have great movers for the efficiency scores garnered for this time period. From these observations, As seen in the variable change test result, the paper conclude that Interest Income and Interest Expense are the most common variables affecting the shifts in efficiency achievements during crisis periods, given how these two variables are the most common to have appeared significant across the board.

As such, it may be surmised that banks should prioritize safeguarding these inputs from the effects of any would-be financial crisis, given their significance appears as the pattern between crisis periods. This, given alongside the fact that the paper found only nineteen out of thirty-nine banks to have maintained efficiency scores across the efficiency types in all periods considered bodes negatively about how strong of an impact crisis periods have on Interest Income and Interest Expense.

The degradation of asset value, operational effectiveness and liquidity during crisis periods has all been contributory towards results garnered in this research. While the efficiency achievements of all five ASEAN-5 countries varied in both timing and gravity, it was still seen that 70% of the thirty-nine DMUs studied showed dips in inefficiency territory due to causes and their impact on Interest



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Income and Interest Expense and inputs in these DMUs' operational processes. It is this varied response as well which also proves that the case for each ASEAN-5 country and their respective DMUs are indeed presented with unique situations amidst a common and global financial crisis.

Some countries presented strength and endurance in certain efficiency types while falling short in others. However, amid the variety of these responses, they may be viewed as the common starting point across the DMUs for their process of developing action plans to safeguard the most commonly significant variables. The variety in shortcomings for the DMUs consulted may also be seen as a basis for these DMUs to selectively prioritize which aspects of their production and operations must be further optimized, as all sub-categories of efficiency still contribute to their individual total factor productivity achievements.

In conclusion, the findings of this study were able to provide valuable information regarding the patterns of significant changes observed in the efficiency scores of the selected banking institutions between the crisis and non-crisis periods considered. This study was also able to provide the change test which pinpoints the specific variables that had the most impact on specific efficiency types during the different periods, readers of this study may be able to identify exactly where and how crisis eras are able to deal blows to banking institutions. Given the results of the change test and DEA, financial institutions of the selected Asian countries will be able to identify which facets of their efficiency are most affected during crisis periods as well as which variables are most affected leading to these changes in efficiency scores.

The study acts as a blueprint by which banking institutions will be able to select areas of their processes and organization to improve and safeguard in anticipation of any future financial crises that may occur. This same purpose may be useful towards regulatory bodies and policymakers from the ASEAN-5 countries as such information

may help them better formulate regulations and measures to enhance the endurance of their banking industries against financial crises.

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Sustainability and firm performance in the mining industry: International evidence

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Abstract

Can firms be sustainable and profitable? The study investigated how publicly traded firms' capital expenditures, working capital and total assets predicted operational, financial, and market outcomes as moderated by sustainability ratings. The research focused on the mining industry given its effects on social and environmental outcomes such as opportunities for local communities, employment, corruption, human rights abuses, water and soil contamination, loss of biodiversity, and climate change. The research used stakeholder, agency, and legitimacy theories. Using data from Refinitiv Eikon, the study confirmed that ESG ratings moderated the relationship between the predictors and market outcomes.

Keywords: Sustainability reporting, ESG, sustainable mining, firm performance

Introduction

The United Nations aimed “to improve human lives and protect the environment” and created the Sustainable Development Goals (SDGs) in 2012. It’s a commitment to address global problems on “water, energy, climate, oceans, urbanization, transport, science and technology.” (UN Sustainable Development Goals: History, n.d.)

The importance of sustainability lies on creating long-term benefit for everyone and ensuring a fair opportunity for generations to come. Companies often work on environmental and social risks only when it affects their profitability. This results to overconsumption of natural resources and waste which the planet finds difficult to absorb. This also results to inequalities. Stakeholder capitalism encourages resilience in the economic system by encouraging business models and practices that include all stakeholders: the company, stockholders,

workforce, clients, suppliers, local groups, and public entities (Freeman & Reed, 1983). Through sustainability, business practices integrate the creation of shared value for stakeholders.

Can firms be sustainable and profitable? Scientific research remains inconsistent with the effect of sustainability to firm performance. Research supporting a positive effect argues that sustainability aligns with shareholder maximization and the needs of society (Abdi et al., 2020). Sustainability increases consumer demand due to their willingness to pay more and patronize sustainable firms resulting to better profit (B. Kim & Lee, 2020; Singal, 2014). Furthermore, internal stakeholders, a firm’s employees may manage corporate assets better resulting in better management. This can also help improve recruitment of talent and maintenance. Sustainability ratings provide transparency on financial performance and risks resulting in better market returns (Abdi et al., 2020).



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Opposing research pointed out that sustainability practices come from agency problems and proved to be controversial. Some result highlighted the negative effect of sustainability to firm performance (A. Buallay et al., 2020; Duque-Grisales et al., 2020; Duque-Grisales & Aguilera-Caracuel, 2021; Sadiq et al., 2020).

Aifuwa (2020) observed that fewer disclosures occur in developing countries and that can result to failing UN SDGs. Furthermore, he suggested that additional research on the relationship between CS and firm performance be conducted in other industries.

Moreover, the study focused on the mining industry due to its negative effects to the environment and local communities (Holden, 2015; Odell et al., 2018). Also, economic activities and world population results to more demands for extracted minerals. The United Nations expect a rapid increase in minerals use as the transfer to low carbon economies will require huge quantities of minerals to establish renewable technologies like batteries, wind turbines and solar panels. The COVID pandemic also accelerated the use of technology such as remote work and meetings that require use of metals. Tubay & De Leon (2020) further recommended that sustainability in mining be studied as its operations result to accidents and tragedies. Furthermore, they pointed out that mining result to no positive effects to local communities despite various initiatives.

Understanding the effect of sustainable ratings to performance has several benefits. It can help firms maximize operations, market, and financial value as it relates to the various aspects of sustainability ratings. Furthermore, leaders can identify the value of sustainable reporting and improve the transparency and quality of future reports. This can assist in future research on the value of sustainability reporting to company performance in various sectors and industries across the globe.

Review of Related Literature

Firm Performance

According to Porter and Kramer (2011), businesses should create a shared value (CSV) that marries benefits to society and profitability. The model by Kim et al. (2020) highlighted that CSV helps ensure business survival. It creates a mutual benefit that helps the community prosper which in turn makes companies prosper. There is also an emphasis on ethical CSV versus profit-driven CSV which highlights the focus on building trust. Moreover, the model underlines the existence of business within society or communities.

The literature indicated mixed results when testing the effects of corporate sustainability (CS) on firm performance. Many reported positive, negative, and mixed to no effects. This could be due to the difference on sources of data, measurement of variables, and research methods.

Many studies showed positive effects of CS to firm outcomes. The study by Xie et al. (2017) showed that environmental, social, and governance (ESG) ratings positively affects the return on assets (ROA) of global companies. Laskar and Maji (2017) conducted a study of India and South Korea and affirmed the positive results by using GRI 3.1 and the market-to-book ratio (MBR) to represent CS and firm value, respectively. Laskar (2018) expanded his study and included Japan and Indonesia. He confirmed that CS affects MBR. Akbulut & Kaya (2019) shared that CS of global and bigger companies affects firm performance. Wardhani & Hamidah (2019) discovered that sustainability recognitions in Indonesia positively affects Return on Assets (ROA) and Tobin's Q (TQ). Aifuwa (2020) conducted a literature review using content analysis and pointed out that CS positively affects firm performance. He stated that researchers often used financial metrics (ROA and ROE) and market metrics earnings per share (EPS) and dividends per share (DPS). Hongming et al. (2020) found that



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sustainability and each index of ESG in Pakistan positively affect ROA.

Global studies also affirmed the positive effects of CS. In the meta-analysis of Prashar (2021), he confirmed that CS affect the market (TQ), accounting (ROE), and operational measures (ROA). Ning et al. (2021) utilized business analytics and found that environmental disclosures positively affect ROA. Al Hawaj & Buallay (2021) asserted the positive effects of CS to ROE, ROA and TQ.

Table 1

Articles Reporting Positive Effects

Author(s), Title of Study, Year Published	Result
	Overall +ROA
Do environmental, social, and governance activities improve corporate financial performance? (Xie et al., 2017)	No significance for corporate efficiency and market value No significance on ROA for environmental disclosures
Corporate sustainability performance and firm performance: evidence from India and South Korea (Laskar & Maji, 2017)	+ MBR
Impact of Corporate Sustainability Reporting on Firm Performance: An Empirical Examination in Asia (Laskar, 2018)	+MBR
Sustainability reporting and firm performance (Akbulut & Kaya, 2019)	CS + affects firm performance based on size No significance for ROA and TQ
The signalling of Sustainability reporting award in Indonesia and its effects on financial performance and firm value (Wardhani & Hamidah, 2019)	Awards on sustainability positively affect ROA and TQ
Sustainability Reporting and Firm Performance: The Demonstration of Pakistani Firms (Hongming et al., 2020)	+ ROA
Sustainability Reporting and Firm Performance in Developing Climes: a Review of Literature (Aifuwa, 2020)	Financial
	+ ROA
	+ ROE
	Market
	+ EPS
	+ DPS
Moderating effects on sustainability reporting and firm performance relationships: a meta-analytical review (Prashar, 2021)	Quality and level of sustainable reports affect market (TQ), accounting (ROE) and operational measures (ROA)
Online sustainability reporting and firm performance: lessons learned from text mining (Ning et al., 2021)	Employee intent affects corporate outcomes compared to customers.
A worldwide sectorial analysis of sustainability reporting and its impact on firm performance (Al Hawaj & Buallay, 2021)	No significance of ROA on Mining and Energy Sector
	+ ROA
	+ ROE
	+ TQ
Environmental, Social and Governance (ESG) Scores and Financial Performance of Multilatinas: Moderating Effects of Geographic International Diversification and Financial Slack (Duque-Grisales & Aguilera-Caracul, 2021)	+ROA

ESG performance and firm value: The moderating role of disclosure (Fatemi et al., 2018)	ESG dimensions disclosures moderate the relationship between ESG and Firm Performance
Does ESG performance enhance firm value? Evidence from Korea (Yoon et al., 2018)	+stock price, +BVPS, +EPS
ESG impact on performance of US S&P 500-listed firms (Alareeni & Hamdan, 2020)	Environmental and social disclosures is negatively associated with ROA and ROE but positively associate with TQ; companies with higher assets and financial leverage tends to have higher ROA and ROE
ESG disclosure and firm performance before and after IR: The moderating role of governance mechanisms (Albitar & Hussainey, 2020)	ESGD predicts TQ, moderated by Corporate Governance Mechanism such as Ownership concentration, gender diversity and board size
Does good ESG lead to better financial performances by firms? Machine learning and logistic regression models of public enterprises in Europe (De Lucia et al., 2020)	ESG Predicts ROA and ROE
How do ESG pillars impact firms' marketing performance? A configurational analysis in the pharmaceutical sector (Paolone et al., 2021)	ESG scores predict market share
Board/executive gender diversity and firm financial performance in Canada: The mediating role of environmental, social, and governance (ESG) orientation (Ouni et al., 2020)	Board gender diversity predict FP moderated by ESG
Do ESG Endeavors Assist Firms in Achieving Superior Financial Performance? A Case of 100 Best Corporate Citizens (Qureshi et al., 2021)	ESG predicts FP
Revisiting the impact of ESG on financial performance of FTSE350 UK firms: Static and dynamic panel data analysis (Ahmad et al., 2021)	ESG predicts FP moderated by firm size
Performance assessment of firms following sustainability ESG principles (Filbeck et al., 2019)	Governance results more value for investors and predicts firm performance: Social and Governance scores affect companies with high ESG ratings more: Firms are not hurt by following ESG ratings; the market differentiates between 3 components of ESG ratings
Exploring the impact of sustainability (ESG) disclosure on firm value and financial performance (FP) in airline industry: the moderating role of size and age (Abdi et al., 2022)	ESG ratings positively affect MBR
The value relevance of ESG disclosure performance in influencing the role of structured warrants in firm value creation (Yen-Yen, 2019)	ESG ratings affect firm value

However, other studies also indicated negative to no effects of CS to firm performance. Sadiq et al. (2020) found that ESG disclosures decreased ROA, TQ, debt over equity, and asset over sales. Buallay et al. (2020) discovered that CS decreased the ROA and ROE of banks in developed and developing countries. Buallay (2020) increased her observations and affirmed that CS negatively affected ROA. Asuquo et al. (2018) found no significance in CS and ROA.



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Table 2

Articles Reporting Negative or No Effects

Author(s), Title of Study, Year Published	Result
The impact of environmental, social and governance index on firm value: Evidence from Malaysia (Sadiq et al., 2020)	ESG disclosures decreases ROA, TQ, debt over equity and asset over sales ratio
Sustainability reporting and bank performance after financial crisis (A. Buallay et al., 2020)	- ROA, -ROE
The Level of Sustainability Reporting and Its Impact on Firm Performance: The Moderating Role of a Country's Sustainability Reporting Law (A. M. Buallay, 2020)	- ROA
The effect of sustainability reporting on corporate performance of selected quoted brewery firms in Nigeria (Asuquo et al., 2018)	No significant effect on ROA
ASEAN corporate governance scorecard: Sustainability reporting and firm value (Husnaint & Basuki, 2020)	No significant effect on firm value
Environmental, social, and governance (ESG) practice and firm performance: an international evidence (Shaikh, 2021)	Sustainability negatively affects firms' performance. Firm size negatively impacts FP.
Fulfillment of ESG responsibilities and firm performance: a zero-sum game or mutually beneficial (Chen et al., 2021)	ESG has short-term negative effect; there is a lag so it's good in the long- term; firm size affects the relations between ESG and ROA

Furthermore, other studies indicated mixed results. Sampong et al. (2018) found limited effects of sustainability on firm value (TQ) in South Africa. However, his study revealed that social disclosures positively affected TQ. Uwuigbe (2018) found that CS of banks in Nigeria positively affected revenue generation and negatively affected market price per share. Rodgers et al. (2019) used algorithmic pathways in the throughput model and found mixed results. Similarly, the review by Jayakumar & Suprabha (2020) found varied results. Abdi et al (2020) discovered environmental and governance disclosures positively affected MBR and TQ but social disclosures negatively affected both firm value measures. The study by Khan et al. (2021) revealed that sustainability increased ROE and ROI but decreased ROA.

Table 3

Articles Reporting Mixed Effects

Author(s), Title of Study, Year Published	Result
Disclosure of CSR performance and firm value: New evidence from South Africa on the basis of the GRI guidelines for sustainability disclosure (Sampong et al., 2018)	Social disclosure affects firm value + TQ
Sustainability reporting and firm performance: A bi-directional approach (Uwuigbe et al., 2018)	+revenue generation - Market price per share
Sustainability and firm performance: A review and analysis using algorithmic pathways in the throughput model (Rodgers et al., 2019)	Mixed
Corporate Sustainability Reporting And Firm Performance Linkage-A Literature Review Approach (Jayakumar & Suprabha, 2020)	Mixed results
Firm Sustainable Development Goals and Firm Financial Performance through the Lens of Green Innovation Practices and Reporting: A Proactive Approach (Khan et al., 2021)	Environment and governance positively affected MBR and TQ Social disclosures negatively affected MBR and TQ
Sustainability and firm performance: A review and analysis using algorithmic pathways in the throughput model (Rodgers et al., 2019)	Mixed findings +ROE, + ROI -ROA -ROA, -ROE
Environmental, social, and governance (ESG) practice and firm performance: An international evidence (Shaikh, 2022)	+TQ Practicing sustainability results to more CAPEX due to operational overhead Implementing sustainability lowers ROA and ROE
Environmental management practices and financial performance: Evidence from large listed Indian enterprises (Kumar, 2021)	No effect on ROA and ROE under static regression Positive effect using dynamic regression

Sustainability and Mining

Sustainable mining is ensuring that mining operations have little negative impact and protecting the surrounding local communities. Research on sustainability and mining provided several insights (Moomen et al., 2020). Dzingai & Fakoya (2017) showed that sustainability can affect ROE through effective governance in Africa. Odell et al. (2018) also highlighted the effects of mining operations to climate change. Wasara & Ganda (2019) shared that sustainability positively affected ROI. The articles highlighted positive effects.



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Table 4

Sustainability and Mining

Author(s), Title of Study, Year Published	Result
All That Glitters : Foreign Investment in Mining Trumps the Environment in the Philippines (Tan & Khee-jin, 2006)	CS should have location performance, risk assessment, and legacy effects
Mining amid typhoons: Large-scale mining and typhoon vulnerability in the Philippines (Holden, 2015)	Climate change will affect the status of mining activity and communities and the environment
Effect of corporate governance structure on the financial performance of Johannesburg stock exchange (JSE)-listed mining firms (Dzingai & Fakoya, 2017)	Argued that mining can be sustainable and proposed the use of sustainability indices like GRI and HDI
Investigating performance indicators disclosure in sustainability reports of large mining companies in Ghana (Arthur et al., 2017)	Large mining companies provide more CS
Mining and climate change: A review and framework for analysis (Odell et al., 2018)	More can be done by mining companies aside from compliance to global standards.
The relationship between corporate sustainability disclosure and firm financial performance in Johannesburg Stock Exchange (JSE) listed mining companies (Wasara & Ganda, 2019)	+ROI
Effect of corporate governance structure on the financial performance of Johannesburg stock exchange (JSE)-listed mining firms (Dzingai & Fakoya, 2017)	Effective governance through small board affects ROE
Integrating Environmental, Social and Governance (ESG) Disclosure for a Sustainable Development: An Australian Study (Lokuwaduge & Heenetigala, 2017)	ESG reporting are influenced by regulations.
Important environmental social governance risks in potential phosphorite mining in Estonia (Paat et al., 2021)	Environmental risks are more important than social risks
Corporate social responsibility and artisanal mining: Towards a fresh South African perspective (Bester & Groenewald, 2021)	Mining companies can include miners in social responsibility efforts.
Beyond the social license to operate: Whole system approaches for a socially responsible mining industry (Verrier et al., 2022)	Use Systems Thinking to fully embed Corporate Social Responsibility (CCS) at the core of strategic mine planning

Overall, the findings by various authors were mixed. This may be due to the various frameworks of sustainability, measures of firm value, and methods of analysis. Different researchers used various versions of GRI. Some used ESG indexes from various data sources. Moreover, others created their own sustainability measurement using ESG since some countries have yet to require sustainability reporting.

Multiple measures of firm value were also shown in the review. Among the measures used involved ROA, ROE, ROI, MBR, stock price, DPS, EPS, TQ, debt over equity, sales over assets, and revenue. Some used subcategories of firm value such as operational (ROA), financial (ROE), and market (TQ, MBR).

Methods also varied. Content analysis and regressions are typically reflected in the literature. Interestingly, several authors used logistic regression when it is used for binary dependent variables (Akbulut & Kaya, 2019; Laskar, 2018; Laskar & Maji, 2017). However, other methods such as DEA, meta-analysis, LDA, LMM, and probit models were used.

Given the mixed outcomes from previous research, more studies can be done on the effects of corporate sustainability to firm performance. Furthermore, previous studies typically use corporate sustainability as a predictor. The existing research utilized the interaction of corporate sustainability and firm metrics in a moderation analysis. Moreover, given the overall negative effect of mining on the environment and communities plus the aggravating effects of climate change, the industry can be further studied. This indicated a gap in research focus and methodology.

Frameworks

Stakeholder Theory

Stakeholder theory posits that a firm is responsible to other stakeholders aside from the stockholders. It affirmed that other stakeholders like stock owners, employees, customers, suppliers, vendors, and the community have a share in the actions of the firm. Given this, a firm needs to provide a sustainable report to its stakeholders. Accordingly, the firms need to balance their economic needs with the needs of their stakeholders. (Freeman & Reed, 1983) Abdi et al. (2020) claimed that satisfying the needs of all stakeholders results in organizational sustainability. Moreover, stakeholder theory



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supports the claims of Abdi et al. (2020) that companies will communicate with stakeholders to satisfy their needs. ESG ratings can be used by companies to share their various performance that may influence their stakeholders like employees, shareholders, and customers. Stakeholder theory may explain the operational, financial, and market performance of the company as it conveys CSV that may satisfy internal and external stakeholders like their employees, management, suppliers, customers, and investors (Al Hawaj & Buallay, 2021).

Agency Theory

Agency theory posits that agency relationships, where one entity (principal) assigns work to another (agent), pose problems due to conflicting goals between the two and the difficulty of the former in checking the activity of the latter. This can result in risks and costs as the principal cannot check if the agent is behaving properly (Eisenhardt, 1989). Shareholders (principals) hire managers, executives, and firms to maximize shareholder value and reward them accordingly.

Given this, ESG ratings allows shareholders to minimize risks and agency costs associated with dealing with executives. This results in higher financial performance (Al Hawaj & Buallay, 2021)

Legitimacy Theory

Legitimacy theory points out that firms take proper action based on the context of where they operate. Suchman (1995) defined legitimacy as an assumption that the behavior of an entity is appropriate according to the context of the society it operates. Firms must consider the norms, attitudes, beliefs, and culture of the communities where they operate. This theory affirms the notion that firms have a social contract with society and must satisfy it to avoid nullifying the agreement of support. This ensures that the expectations of society are met. ESG ratings can legitimize the firm resulting in higher market value (Laskar & Maji, 2017).

Methodology

Research Problem

- Will sustainability ratings moderate the relationship between capital expenditures and indicators of firm performance?
- Will sustainability ratings moderate the relationship between working capital and indicators of firm performance?
- Will sustainability ratings moderate the relationship between total assets and indicators of firm performance?

Hypotheses

We expected a positive relationship between sustainability reporting and company success based on the number of confirmations in the available literature. We anticipated the following:

- The effect of the interaction between capital expenditures and ESG ratings on operational indicators will be significant.
- The effect of the interaction between working capital and ESG ratings on financial indicators will be significant.
- The effect of the interaction between total assets and ESG ratings on market indicators will be significant.

Research Design

The research is causal design and based on secondary data of publicly listed mining companies. This was generated in Refinitiv Eikon. The period of the study covered from 2011 to 2021, before and after the declaration of sustainability requirements by the government institution. After removing companies without ESG Ratings and IPO start dates, 157 companies from 25 countries remained with 1727 observations.

Dependent Variables

We use various metrics to measure each aspect of firm performance. The study used return on assets (ROA) for operational outcomes; return on equity (ROE) and Return on Invested Capital (ROIC) for financial outcomes; and Dividend per Share (DPS)



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and Earnings per Share (EPS) for market outcomes. These were the same measures utilized by Al Hawaj & Buallay (2021) and Abdi et al., (2020).

Independent Variable

The independent variables are total assets, working capital and capital expenditures.

Moderators ESG (Environmental, Social and Governance) Scores

The ESG ratings came from MSCI ESG database in Refinitiv Eikon. The firms were rated on the dimensions of environmental, social and governance.

Table 5

Variable Measurement

Variables	Label	Calculation
Dependent variables		
Operational (Return on Assets)	ROA	Net income over total assets
Financial (Return on Equity)	ROE	Net income over shareholder equity
Financial (Return on Invested Capital)	ROIC	Net profit after tax/invested capital
Market (Earnings per Share)	EPS	Net income minus preferred dividends over number of common shares outstanding
Market (Dividend per Share)	DPS	Total dividends paid / shares outstanding
Independent variable		
Capital Expenditures	CAPEX	Change in property, plant and equipment plus depreciation
Total Assets	T_Assets	The sum of all the book values of the company.
Working Capital	W_Cap	Current assets minus current liabilities

Data Analysis Procedure

The study used descriptive and inferential statistics. Specifically, it used Shapiro-Wilk's test of normality, Spearman correlation coefficient, and linear regression. The study used JASP and analyzed the data. JASP is a free graphical statistical tool for common procedures (Love et al., 2019).

Given the huge variance in firm size, we clustered the companies into 4 quartiles (Shaikh, 2021).

Discussion of Results

Descriptive statistics of independent variables indicated large means for larger firms (fourth quartile). Firm size indicated a huge gap between first ($M=1.356e+8$, $SD=1.430e+8$) and fourth quartile ($M=2.248e+10$, $SD=2.545e+10$) companies. Huge firms outsize small firms on average of 165 times. Capital expenditures showed a lesser intense gap. Huge firms ($M=1.326e+9$, $SD=1.389e+9$) outspend smaller firms by 67 times. However, working capital of huge firms ($M=4.271e+9$, $SD=1.918e+10$) outsize smaller firms ($M=2.265e+7$, $SD=7.757e+7$) by 188 times.

Descriptive statistics of dependent variables showed mostly negative means for smaller firms (first quartile). Smaller firms indicated low ROA ($M=-13.62$, $SD=41.56$), ROE ($M=-19.24$, $SD=75.23$), ROIC ($M=-45.74$, $SD=75.23$), EPS ($M=-0.31$, $SD=1.48$), DPS ($M=0.69$, $SD=2.83$), and TQ ($M=1176.53$, $SD=8903.190$).

In contrast, huge firms showed higher ROA ($M=5.02$, $SD=9.37$), ROE ($M=36.05$, $SD=456.30$), ROIC ($M=7.01$, $SD=13.63$), EPS ($M=1.58$, $SD=5.38$), DPS ($M=1.28$, $SD=4.22$), and TQ ($M=0.78$, $SD=0.67$).

The Shapiro-Wilk test for independent and dependent variables indicated that they are not normal.

Correlation analysis of coefficients used the interpretation outlined by Shober et al. (2018). The analysis indicated significant positive but weak relationships of independent variables to dependent variables as indicated by Table 7.

To answer the research questions, the study conducted a series of multiple regression analysis to see if ESG ratings moderated the relationship between predictors and outcomes. The analysis used the procedures outlined by Aiken and West (1991). For moderation to be supported, two conditions must be met (Netemeyer et al., 2001). First, each causal predictor variables; capital expenditures, working



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capital and total assets; must significantly predict firm performance (operational: ROA; financial: ROE and ROIC; market: DPS and EPS) in the simple effects model (step 1). Secondly, the interaction model (step 3) must explain significantly more variance of firm performance than the non-interaction model (step 2). If either of these conditions fail, moderation is not supported. These regressions will be examined based on an alpha of 0.05.

The first set of analysis studied the influence of predictors to each outcome. The first analysis studied the influence of capital expenditures, working capital and total assets in predicting changes in operational firm performance, ROA. The results of the regression indicated that the predictors explained very small amounts of the variance ($R^2 = .006$, $F(3,1395)=2.66$, $p=.001$). Moreover, none of independent variables significantly predicted ROA.

The second analysis studied the influence of the IV in predicting changes in financial firm performance, ROE and ROIC. The results of the regression indicated that the predictors did not explain the amounts of variance in ROE ($R^2 = -0.001$, $F(3,1376)=0.53$, $p=.66$) or ROIC ($R^2 = .003$, $F(3,1390)=1.59$, $p=.19$).

The third analysis studied the influence of the IV in predicting changes in market firm performance, EPS and DPS. The results of the regression indicated that the predictors explained 5% of variance in DPS ($R^2 = .05$, $F(3,828)=14.97$, $p=.001$). T_Assets significantly predicted DPS ($\beta = -3.69e-11$, $p<.001$). Similarly, CAPEX ($\beta = 9.11e-10$, $p<.001$) and W_Cap ($\beta = 1.34e-11$, $p<.001$) significantly predicted DPS. Linear regression also showed that the predictors explained 1% of variance in EPS ($R^2 = .012$, $F(3,1102)=4.64$, $p=.003$). CAPEX ($\beta = 5.05e-10$, $p=.047$) and W_Cap ($\beta = 1.76e-11$, $p=.008$) significantly predicted EPS.

The outcome of the first set of analysis retained several outcome variables. The operational outcome

ROA, and market outcomes DPS and EPS remained after the initial stage analysis.

The second set of analysis studied the influence of the interactions between the predictors and moderators to ROA, DPS and EPS. The first analysis studied the influence of the interaction between the independent variables and moderators in predicting changes in operational firm performance, ROA. The results of the regression indicated that the predictors did not explain the variance ($R^2 = .025$, $F(9,881)=1.50$, $p=.06$).

Table 6

Linear Regression of ROA with Moderation

Model Summary - ROA									
Model	R	R ²	Adjusted R ²	RMSE	R ² Change	F Change	df1	df2	p
H ₀	0.082	0.007	0	13.408	0.007	1.002	6	890	0.422
H ₁	0.158	0.025	0.008	13.352	0.018	1.829	9	881	0.059

Note. Null model includes T_Assets, CAPEX, W_Cap, Env, Soc, Gov

ANOVA						
Model	Sum of Squares	df	Mean Square	F	p	
H ₁	Regression	4016.26	15	267.751	1.502	0.098
	Residual	157059.214	881	178.274		
	Total	161075.473	896			

Note. Null model includes T_Assets, CAPEX, W_Cap, Env, Soc, Gov

The second analysis on this set studied the influence of the interaction between the independent variables and moderators in predicting changes in financial firm performance, DPS. The results of the regression indicated that the predictors explained 18% the variance ($\Delta R^2 = .12$, $\Delta F(9,862)=9.27$, $p<.001$). Specifically, the interaction of T_Assets and Soc ($\beta = 0.55$, $t(616) = 2.46$, $p<.001$), CAPEX and Env ($\beta = -.88$, $t(616) = -3.3$, $p=.001$), CAPEX and Soc ($\beta = -.93$, $t(616) = -3.84$, $p<.001$), CAPEX and Gov ($\beta = .63$, $t(616) = 2.3$, $p=.022$), and W_Cap and Gov ($\beta = 1.12$, $t(616) = 4.8$, $p<.001$) were all significant.



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Table 7

Linear Regression of DPS with Moderation

Model Summary - DPS									
Model	R	R ²	Adjusted R ²	RMSE	R ² Change	F Change	df1	df2	p
H ₀	0.258	0.067	0.058	2.984	0.067	7.434	6	625	<.001
H ₁	0.429	0.184	0.164	2.81	0.118	9.862	9	616	<.001

ANOVA					
Model	Sum of Squares	df	Mean Square	F	p
H ₁	Regression	1097.928	15	73.195	9.27 <.001
	Residual	4863.859	616	7.896	
	Total	5961.786	631		

Model	Unstandardized	Standard Error	Standardized	t	p
T_Assets * Env	2.48E-11	1.27E-11	0.605	1.95	0.052
T_Assets * Soc	1.93E-11	7.84E-12	0.55	2.458	0.014
T_Assets * Gov	-7.18E-12	8.07E-12	-0.271	-0.89	0.374
CAPEX * Env	-6.16E-10	1.87E-10	-0.882	-3.303	0.001
CAPEX * Soc	-5.60E-10	1.46E-10	-0.932	-3.843	<.001
CAPEX * Gov	3.28E-10	1.43E-10	0.629	2.299	0.022
W_Cap * Env	-5.40E-12	5.63E-12	-0.138	-0.959	0.338
W_Cap * Soc	7.19E-12	6.89E-12	0.189	1.043	0.297
W_Cap * Gov	3.10E-11	6.47E-12	1.122	4.796	<.001

The third analysis on this set studied the influence of the interaction between the independent variables and moderators in predicting changes in financial firm performance, EPS. The results of the regression indicated that the predictors explained 6% the variance ($\Delta R^2 = .06$, $\Delta F(15,783)=3.28$, $p<.001$). Specifically, the interaction of T_Assets and Gov ($\beta = -0.66$, $t(783) = 2.30$, $p<.022$), CAPEX and Gov ($\beta = .88$, $t(783) = 3.31$, $p<.001$), and W_Cap and Gov ($\beta = 7.55$, $t(783) = 3.39$, $p<.001$) were all significant.

Table 8

Linear Regression of EPS with Moderation

Model Summary - EPS									
Model	R	R ²	Adjusted R ²	RMSE	R ² Change	F Change	df1	df2	p
H ₀	0.124	0.015	0.008	4.814	0.015	2.07	6	792	0.055
H ₁	0.243	0.059	0.041	4.733	0.044	4.033	9	783	<.001

ANOVA					
Model	Sum of Squares	df	Mean Square	F	p
H ₁	Regression	1100.773	15	73.385	3.276 <.001
	Residual	17537.77	783	22.398	
	Total	18638.543	798		

Model	Unstandardized	Standard Error	Standardized	t	p
T_Assets * Env	1.57E-11	2.05E-11	0.22	0.766	0.44
T_Assets * Soc	1.80E-11	1.35E-11	0.301	1.332	0.18
T_Assets * Gov	-3.04E-11	1.32E-11	-0.659	-2.3	0.02
CAPEX * Env	-5.29E-10	3.07E-10	-0.438	-1.72	0.09
CAPEX * Soc	-4.67E-10	2.44E-10	-0.454	-1.91	0.06
CAPEX * Gov	7.87E-10	2.38E-10	0.879	3.314	<.001
W_Cap * Env	-9.99E-14	9.48E-12	-0.001	-0.01	0.99
W_Cap * Soc	2.15E-11	1.16E-11	0.32	1.858	0.06
W_Cap * Gov	3.69E-11	1.09E-11	0.755	3.391	<.001

The second set of analysis showed mixed results. The interactions in predicting ROA proved to be insignificant and the market outcomes of DPS and EPS confirmed the increased in variance while retaining significance.

Conclusion

The study analyzed the interaction effects of firm metrics and sustainability to a firm's operation, financial and firm outcomes. Furthermore, Asuquo et al. (2018), Al Hawaj & Buallay (2021), and Akbulut & Kaya (2019) found no relationship between sustainability and operational outcomes. Kumar (2021) also concluded that sustainability does not affect operational and financial outcomes. However, this supports the findings of Aifuwa (2020) that sustainability affects market outcomes.

The inconsistencies with previous literature indicate that sustainability is not the only element impacting firm performance. Combining sustainability and firm metrics explained an 18% variance for DPS and 5% for EPS. Further analysis indicated that the interaction of total assets and social rating increased **DPS**. This suggests stakeholder and legitimacy theories at work as larger companies who ranked higher in corporate social practices increased in DPS. However, the interaction of capital expenditures and environmental ratings, and interaction of capital expenditures and social ratings results to lower DPS. This is not surprising given



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that higher capital expenses result to lower net income which affects dividends. However, the significant positive interaction between capital expenditures and governance ratings suggested that good governance of capital expenditures results to an increase in DPS. The same significant positive effect was found on the interaction of working capital and governance. These indicated agency theory as transparency and governance minimizes the agency risks.

Limitations and Recommendations

The study had several limitations. The effects of the pandemic were not analyzed in the study. The study also focused on MSCI ratings of publicly listed mining companies to measure sustainability from 2011 to 2021.

Given these, future studies may take these into account as part of their research. Researchers can check the effects of the pandemic on these companies. Similar studies may be done on other industries and non-publicly listed companies. Other firm metrics may also be used to predict firm performance

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Assessment of the Sustainable Business Practices of Dell Biologics Incorporated (DBI) Concerning Environmental, Social and Economic Dimensions

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Abstract

Purpose – This study assessed the current sustainable performance of Dell Biologics Incorporated in all of its wide range of product lines and offered services based on the triple bottom line model— specifically, the three pillars of environment, social and economic.

Design/methodology/approach – A total of twelve sustainable performance indicators along with the contribution of the firm’s products and services to the UN Sustainable Development Goals were evaluated using the modified sustainability reporting guide from the Securities and Exchange Commission of the Philippines.

Findings – The selected SPIs have shown that in terms of the economic and social dimension, most of the information given by the company promotes favorable performance. SPIs under the environmental line, on the other hand, consist of unfavorable increases in some of their activities.

Research limitations/implications – The conducted sustainability reporting scoring suggests that the environmental dimension is the strongest or the dimension in which their sustainability efforts are mostly focused followed by the social sector while the economic sector was least focused. Lastly, it was revealed that that most of its products contribute to SDG 3, SDG 9, SDG 12, and SDG 14

Key Words: *sustainable performance indicators, triple bottom line, UN SDGs*

Relevant SDGs: SDG 3, SDG 9, SDG 12, and SDG 14.

Introduction

The current situation depicting demand forecast from 2015 to 2030 shows that there will be an increase in the global middle class: from 2.5 billion to an estimate of about 5 billion while the supply situation, on the other hand, is also considered to be in bad shape, with this projected growth in demand along with the fixed amount of land, fresh water, forest cover, and other nonrenewable resources on earth, it can be said that the

“environmental stability is dwindling” (Hedstrom, 2018). With corporations being one of the central actors for such unfavorable trends, sustainability in businesses or corporate sustainability emerged. Today, the concept can hardly be considered as a phase or a trend only, due to the even more aware consumers of climate and human rights issues, sustainability is now on the center stage of business operations. As a result, sustainability as compared to before is not something businesses implement as part of a strategy only, rather, it became one of the foundations of firms’ strategy formulations,



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from an initial “nice-to-have” concept, businesses are starting to set sustainability as a mindset (WorldFavor, 2021). Considering also factors such as increasing stakeholder impact, sustainable government regulations and policies, globalization, access to sustainability information, and the existing age of accountability combined with the observed benefits such as risk management improvement, investor attractiveness, employee engagement and motivation, customer loyalty improvement, and improved financial performance, resulting to the ignition of the firms’ need for incorporate sustainability.

As much as sustainability applies to large, multinational corporations, the relevance of sustainability to MSMEs is also very much existing since no business is exempted from the driving forces of sustainability, and its advantages and benefits are applicable no matter the size of the organization (Kohl, 2011). And with the higher threat of greenwashing to these types of enterprises since MSMEs are not required to comply and disclose their non-financial or sustainability practices and MSMEs being a significant economic driver for the Philippines, assessing the sustainability of an MSME will allow us to not just know if the company is sustainable or not but will also provide how valuable sustainability really is to a business firm if sustainability is being incorporated appropriately or a threat of greenwashing is evident.

Moreover, assessment of an MSME’s sustainable practices will help in the confirmation of sustainability’s current form, a concept recognizing and including the other aspects of economic and social which as compared to before is highly centered on the environment alone—a framework more commonly known as the triple bottom line. The MSME of interest is Dell Biologics Incorporated or DBI, a duly-registered, FDA-licensed company operating in Barangay Tuntungin-Putho, Los Baños, Laguna. Due to its contribution to the input and production subsector together with its utilization of natural or agricultural raw materials, the company is considered a player in the agribusiness industry—an industry which is also being highly affected by the business risks brought about by corporate sustainability. Dell Biologics Inc. operates with its three main principles in mind: technical creativity for its offerings, nurturing partnerships with its clients and customers, and last but most significant of all, sustainable innovation.

Literature Review

The word sustainability has become evidently popular over the past few years, in fact, according to the widely-used search engine Google, “earth-friendly practices are becoming the new standard and worldwide, search interest for sustainability reached record highs in 2021” (Google, 2021). According to Webster’s New World Dictionary, the word sustainability came from a fusion of two Latin words *sus* which means ‘up’ and *tenere* which means ‘to hold’. Hence, sustainability means ‘to hold up’ (Cabezas & Diwekar, 2012). Corporate sustainability, specifically is “building a more ethical, resilient, sustainable, and profitable company,” or to elaborate, it is about running a successful business organization without ruining the future’s needs—doing so in a way that respects the communities where the business operates (Hedstrom, 2018).

Stakeholder Impact and Corporate Sustainability Advantages

Many overlapping factors are seen to explain why sustainability is mainstreamed in businesses. One of which is the consumers’ growing concern for sustainability is more evident, from 2017 up to 2022, a 71% increase in online searches for sustainable goods globally, was observed. In terms of sustainability, customers are currently aligning themselves with brands that correspond with their priorities and values, a survey by McKinsey and Co. has shown that 66% of their respondents together with 75% of millennial respondents stated that sustainability is considered whenever they make a purchase (Martins, 2022). A recent survey by Nielsen on the other hand shows that such a trend reflects global consumers wherein 81% of consumers globally agree that it is extremely important for companies to have programs that support the improvement of the environment. 73% of respondents also stated that they would either probably or definitely modify their consumption practices to lessen their environmental impact while 38% said that they would be willing to pay higher-than-average prices for goods manufactured using sustainable resources (Wilson, 2018).



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Improved Financial Performance

It was revealed that 90% out of the 200 studies analyzed have shown that good ESG (environmental stewardship, social responsibility, and, governance and execution) standards result to lower cost of capital; 88% of such studies further support such claims wherein it was showed that good ESG practices equate to better operational performance and 80% indicated that stock price performance is positively linked with good sustainability practices. Data from 2006 to 2010 from the top 100 global companies operating sustainably also showed that they enjoyed significantly higher profit before taxation, return on assets, cash flows from operations, and mean sales growth. Companies committed to sustainability during the 2008 recession obtained an “above average” performance in the financial markets which translates to an average of \$65 million in increased market capitalization per company while it was also observed that companies with superior environmental performance have lower cost of debt by 40-45 basis points (Whelan & Fink, 2016).

Customer Loyalty Improvement

Market preferences for sustainable products also contribute positively to customer loyalty, customers of today equate a higher level of product performance to products made by sustainable companies and sustainability information creates a significantly positive effect on customers when they evaluate a company, they also consider environmental and social responsibility as more significant factors among other numerous factors that affect their intention to buy. Such effect can be seen in companies such as Unilever which claims that its “brands with purpose” products are making positive performance, growing at twice the rate compared to its other portfolios. Revenues from sustainable products and services are also proven to have grown six times when looking at the rate of overall company revenues between the years 2010 and 2013; General Electric’s Ecomagination division for instance since 2005, has generated \$200 billion in sales. IKEA’s sustainable products from its product line “Products for a More Sustainable Life at Home” such as LED bulbs and solar panels currently contribute billion-dollar sales to the company (Whelan & Fink, 2016).

The Securities and Exchange Commission of the Philippines in fact listed the internal and external benefits firms may obtain through engagement with the concept of sustainability, internal benefits include effective management of sustainability risks and opportunities, sustainable vision, strategy, and business plans, improved management systems, and motivated workforce while external benefits consist of improved company reputation and brand value, investor attractiveness, stakeholder engagement, and competitive advantage (SEC, 2019).

The Role of Corporate Sustainability Assessments

Due to the translation of sustainable development into business strategies which gave birth to harmful practices such as greenwashing— attempts done by corporations in order to appear environmentally conscious, when their business practices tell otherwise. Companies do this by using buzzwords such as ‘environment-friendly’, ‘natural’, ‘green’, ‘ecological’, and ‘sustainable’ without no clear definition and specific evidence of the properties and practices which make it true, such words as a result, provides little about the real sustainability of a given product (Mooney, 2020). Together with the growth in the importance of corporate sustainability, an important issue also emerged about how to ‘measure’ sustainability and how to assess and prove that a business practice or a product is indeed ‘green’ (Jones, 2017). NGOs, consumers, investors, customers, and other stakeholders expected sustainability not just through words alone but also through ‘proof’. As a result, large firms in the 1990s started to issue sustainability reports alongside their business reports (Berghoff & Rome, 2017), and development in the area of sustainability evaluation quickly followed through, a sustainability framework or concept called the triple bottom line which was discussed in the succeeding sections, is now widely used not just by large multinational firms but by numerous small- and medium-sized businesses as well to drive corporate responsibility (Caradonna, 2014) and growing numbers of institutional and individual consumers, investors and workers are now beginning to evaluate companies according to this triple bottom line framework. An example of such evaluation is the infamous Global Reporting Initiative (GRI) in which 140 companies such as Shell and P&G are in accordance while 650 others are using the guidelines without being in full accordance



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with them. With this come GRI and other evaluation tools which are intended for offering structure for sustainability evaluation and its results which include indicators and indexes, frameworks, and standards.

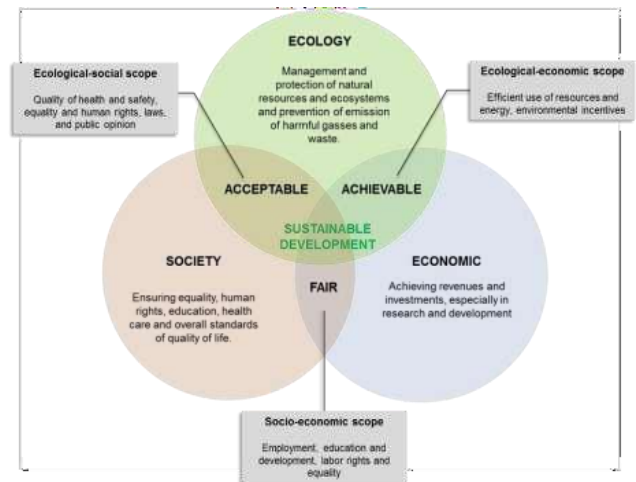
The objective of such a sustainability evaluation tool is to: evaluate the progress of the organization and, to communicate to the stakeholders the firm's efforts in three dimensions: economic, social, and environmental (Sartori & Campos, 2014). In line with the second objective, given that the public has a significant interest in sustainable development, the concept of sustainability, as a result, has been closely related to transparency, accountability, and legitimacy. Sustainability assessment, among the other sustainability management and measurement approaches then belongs to the transparency perspective wherein the main purpose is to inform and assess the company's impacts and problems (Maas et al., 2016).

Conceptual Framework

The study is concerned with the evaluation of the firm's sustainability in terms of the three pillars of economic, environmental, and social, dimensions which was first identified through the triple bottom line model coined by John Elkington in 1994 (Azevedo & Matias, 2016).

Figure 1

Triple Bottom Line Concept of Sustainable Development



According to Elkington, businesses need to measure their successfulness not only by the conventional bottom line of financial performance which is most often seen through the company's profits, return on investment (ROI), or shareholder value; but also, through their impact on the environment, the broader economy, and on the society in which they operate. A business must know that in its processes, they use not only financial resources such as investment and sales revenues but also environmental resources such as energy, water, raw materials, and social resources such as a community employee's time and talents and infrastructure made by government agencies. Being a sustainable business means being able to measure, document, and report a positive performance on all three bottom lines—economic, environmental, and social—aswell as benefits stakeholders gain along these three dimensions.

The economic dimension, which is also known as the “traditional” dimension, looking at the linear take-make-waste has been used for a relatively long time. It analyzes the issues related to the production, distribution, and consumption of goods and services while also looking at the firm's flow of money such as income or expenditures, business climate factors, taxes, business diversity factors, and employment. The focus therefore of this dimension on sustainability is “on the efficient use of resources to achieve a return on investment” (Azevedo & Matias, 2016; Slaper & Hall, 2011).

The environmental dimension talks about the natural capital of an enterprise or society; it represents the measurements of natural resources while also reflecting the potential influences on its viability. In this dimension, companies or societies must think of ways to reduce its negative impacts on the environment and diminish the use of what cannot be reduced. This may incorporate energy consumption, solid and toxic waste, air and water quality, land use/land cover, and natural resources. When it comes to this dimension, the primary thinking would be proceeding in such a way that “the needs of present and future generations are met without compromising the health of ecosystems” (Azevedo & Matias, 2016; Slaper & Hall, 2011).

Lastly, social sustainability dimensions as compared to the environmental dimension where management of



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natural resources is prioritized, this dimension, on the other hand, covers the management of intangible resources such as people's institutions, social values, skills, and relationships. It includes the measurements of education, health and well-being, social capital, quality of life, and equity and access to social resources. Social sustainability within firms can be accomplished through reduction of unemployment, improvement of health protection and safety of employees, supply chains, prevention of social exclusion, and ensuring equal treatment (Azevedo & Matias, 2016; Slaper & Hall, 2011).

Methodology

Research Design

The primary advantage of quantitative methodologies is the clear assessment procedure inclined with the methodology and quantifiable goals for development or improvement, while disadvantages include its time-demanding quality due to complexity and data needed for indicator calculations which can be more challenging in SMEs. The qualitative approach, on the other hand, is advantageous in the sense that it is time-efficient, easy to use, and the orientation of generated ideas is on sustainability rather than accuracy in evaluation while the disadvantage of the approach involves a high level of subjectivity and the challenge in setting up goals with clearly defined metrics (Kinderytė, 2010). Due to this, both the qualitative and quantitative approaches were utilized, for the reason that sustainability reporting which is heavily linked with sustainability assessment is partially qualitative and partially quantitative (Schneider & Meins, 2012), and also because in terms of sustainability assessment, the combination of the two approaches is described as the best approach if we were to acknowledge that sustainability assessment through qualitative data at an enterprise level is more applicable and oriented towards SMEs, in which the firm of interest falls and is categorized while although quantitative methodologies are more geared towards big enterprises, some are also adapted for SMEs as well.

Data Collection

The study made use of the combination of qualitative and quantitative data, a recommended method in order to

create an in-depth and more conclusive result specifically used in obtaining the firm's sustainability performance.

Primary Data

In order to assess Dell Biologics Incorporated more accurately, information derived from company records and documents was provided by the firm in a form of a questionnaire or a report which was adapted and modified from the template given by the Securities and Exchange Commission. Aside from this, interview questions were also asked to give more background or explanation to some of the data given by the company as well as the general performance of the firm when it comes to sustainability answers to these questions were incorporated in the analysis part of the study. The personal key informant who answered the form or questionnaire and the questions was DBI's head of quality control, Ms. Feristelle Tambalo.

Secondary Data

Information about the factors influencing a firm's incorporation of sustainability, the sustainable performance indicators used, and the scoring method adapted were obtained and derived from published and unpublished materials such as journals, annual reports, magazines, books, industry reports, statistical reports, and other theses which are concerned with the concept at hand. The five industries the company are a part of, the contributions of the firm's products and services to the UN sustainable goals, and other public organizational information such as its mission and vision statements, and corporate values were obtained from its free-to-access website.

Results and Discussion

Defining the Company's Sustainability Motivations

Mission, Vision, and Corporate Values

While any business organization strives to be known usually through its products and success in terms of numbers or sales, another key element found in most companies also contributes to its popularity specifically, by communicating its narrative to its stakeholders.



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Company aims also known as the mission, vision, goals, and corporate values set the firm's movement as it provides the basis for the firm's strategies and decisions: a company's vision indicates the organization's aspiration or what it wants to become in the future, the mission statement, on the other hand, showcases the firm's past and present by illustrating the reason for its existence and the role it currently plays in the society, goals are the company's way in order to achieve such mission and vision, and lastly corporate values represent the key principles the company lives by and endorses. Such aims are very important that if there's a case where a company strategy, decision, or action is to be implemented and it does not align with the vision, mission, and corporate values, that specific action/decision should be dropped and modified in order to ensure that the company is abiding with their statements as the organization moves forward (Kennedy et al., 2020). It was to be noted that the analysis conducted below and during this section of the study was based on the researcher's interpretations.

Analyzing the Firm's Corporate Values

"Meeting industry needs with superior service, quality, and accessibility through:

Technical creativity- we provide customized alternatives which are based on cutting edge science and technology,

Sustainable innovation- Our work for you is based on being stewards of nature and humanity and,

Nurturing partnership- We work with you as your partner".

Corporate values as stated earlier, demonstrate the important principles that the organization lives by, expects its employees to embrace and shows its customers and potential customers what the organization stands for (Kennedy et al., 2020). As seen through the company's profile and the industries it caters it can be said that the firm indeed performs technical creativity by offering alternatives using its expertise and technology. DBI's value of nurturing partnerships can be seen in the current performance of the firm's partners or customers: Antricks Industries Inc.—which offers shampoos and batch accessories, odor

and stain removers, and others, is now recognized in the 6th position among 47,658 companies in Makati City in terms of turnover; The House of Pili, on the other hand, grew from micro to what is now a medium-sized enterprise with a PhP30M capitalization, it expanded its market, increased its employees, and added more product variations. Although it is clear to say that DBI's customers/partners are currently successful, their success although not a direct result of DBI's products and services as there are many other factors to consider and while DBI's contribution to such factors is low, it can still be said that being a partner of DBI until today even after the fact that these companies are growing and becoming successful can sufficiently prove that DBI's offerings are satisfying their partners and indeed help them achieve success.

Dell Biologic's value of sustainable innovation, which is more significant to the study, on the other hand, is defined as their work or offerings being aligned to their role as stewards of nature and humanity. Although quite shorter it is still similar to the more common definition wherein it involves making intentional decisions and changes to an organization's products, services, or processes in order to create long-term environmental and social benefits while creating economic profits for the business firm as well (Lee, 2021), a definition which still highlights the three dimensions in the triple bottom line. This specific corporate value initially presents and communicates the firm's regard for sustainability. However, looking at the firm's own definition it can be seen that sustainability in their own definition is through the creation of new and relevant products and services but is driven by their importance and concern for humanity and the environment. This also provides a hint for the firm's definition of sustainability as being focused on the environment and the people. And while this is the only part where DBI explicitly demonstrates its incorporation of corporate sustainability, the concept can still be derived from other organizational statements to follow.

Analyzing the Firm's Vision Statement in terms of Sustainability

"Dell Biologics Inc. was created to be a provider of smart, superior, conscientious, and eco-friendly products and services.



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A company that continually develops technology to meet the changing needs and challenges of the industry. Superior service, quality, and accessibility are embodied as our core principles.

DBI has consciously chosen skilled professional managers and staff who are devoted to achieving the company's goals of growth, creativity, and excellence in all of our endeavors.

Finally, DBI embraces a continual pursuit of being an ever more competitive company; Proudly Filipino with a conscience!"

Dell Biologic's vision statement as observed above is still aligned with its core values by providing products that they described as smart, superior, conscientious, and at the same time eco-friendly. Vision as also stated earlier provides the organization's aspirations, describing the big goals it wants to accomplish. Reading through the vision statement it can be said that DBI's vision in summary is to continually develop smart, superior, conscientious, and eco-friendly products and technologies in order to meet the changing needs and challenges of the industries it serves as well as to be seen as a proudly Filipino company with a conscience. Aligning this vision to the concept of sustainability, it can be said that two sustainability dimensions are in play: the social and environmental dimensions. Their long-term objective of continuously developing technologies and products in order to meet the needs and face the challenges of the industries they are a part of with a conscientious and eco-friendly nature corresponds to the impacts of organizations on the natural systems and resources which is under the environmental dimension of sustainability. Being a proudly Filipino company, on the other hand, tells us that the firm prioritizes the creation and offering of its products and services in the country where it is located, the Philippines using the expertise and knowledge of the Filipino workforce, this factor, on the other hand, impacts the immediate social system within which DBI operates, belonging to the social dimension of corporate sustainability.

Analyzing the Firm's Mission Statement in terms of Sustainability

"The Dell Biologics' primary mission is to provide high quality, innovative, globally promising and environment-friendly products and services. Enabling our partners to achieve success.

The second mission for DBI is to develop products, process and solutions that are proudly Filipino-made, used by various industries as part of their management process.

We are one with our country's mission to help boost the Philippine economy and people."

The firm's mission statement on the other hand also aligns with its corporate value and vision statement, wherein the mission as defined earlier states the reasons for the organization's existence, or its purpose; DBI's mission—similar to its vision, is to provide high quality, innovative, globally promising, and environment-friendly products and services those that are proudly Filipino-made, another is to be hand-in-hand with the Philippines' mission to improve its economy and its people. When it comes to the three dimensions of sustainability, the mission statement still depicts emphasis on the environmental (mentioning the nature again of the products as environment-friendly) and social dimensions (creation of products that are Filipino-made and its support to the country's mission of boosting the Filipino people), it can also be observed that the firm's acknowledgment of the economic dimension of sustainability (by providing an impact on the country's economy) is also evident, a dimension quite unique to the mission statement since it was not mentioned in the firm's corporate values and vision statements in any form. Analyzing the mission statement in the concept of sustainability tells us that the creation of its products and services and its existence, in general, is anchored on providing positive impacts in not just one but three dimensions of corporate sustainability.

In order to analyze the firm's sustainability motivations more clearly, corporate motivations for sustainability from (Simões-Coelho & Figueira, 2021) was also utilized.



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Table 1

Corporate Motivations for Sustainability

Concept	Description
Legitimacy	The perception that an organization's actions are appropriate and wanted within a socially accepted system of beliefs, rules, legislation, or values.
Market Success	Increase in an entity's ability to compete in its market, generating more sales or brand equity.
Process Improvement	Reduction in the use and related costs of resources via ecological or social optimization of processes
Social Insurance	Engagement in ecological and social responsibility activities to pre-emptively ensure against potential reputation losses.

Adapted from (Simões-Coelho & Figueira, 2021)

Generating a sense of background over Dell Biologics Incorporated's engagement with corporate sustainability is not an easy task, since the utilized information is only through the existing company aims: its mission, vision statements, and core principles/values, conclusions derived from these available statements although not detailed still captured and achieved the aim of this part of the study: to get an initial idea about the firm's corporate motivation for sustainability which provided a great contribution to the study's succeeding sections. After such analysis, DBI's corporate values, mission, and vision statements suggest that three motivations namely: legitimate, market success, and social insurance constitute the firm's major reasons for engagement in corporate sustainability, through the information accessible by the public—which also represents the company in general. It can be said that DBI considers the perception that a certain organizational action is appropriate and wanted within a society that possesses accepted systems of beliefs, rules, legislation, or values (legitimate), the increase its ability to compete in its market (market success), and pre-emptive insurance against potential losses (social insurance) with market success as noticeably more influential than others.

Strategic, Economic, and Values-based Motivations for Sustainability

Aside from the four motivations analyzed above, to further strengthen the reason for DBI's engagement in corporate sustainability, three other motivations which are more general and broader in nature were also

considered. The three motivations from (Hedstrom, 2018; Kersten et al., 2015) as introduced in the related literature section consists of strategic reasons (benefits the firm obtains through maintenance of brand image, enabling of new market entry, creation of complementary relationships with different supply chain partners, setting industry standards, value enhancement, and reduction of risks in terms of public criticism), economic gains (reduced cost, reduced risk, sales growth), and values-based (because "it is the right thing to do," sustainability aligns directly with the business principles of the company or its core values).

To have an idea about these motivations for the company, a question was asked to the personal key informant Ms. Tambalo as to whether their value for incorporating sustainability is described as strategic-, business-, or values-based. The descriptions of these three motivations were first introduced before asking the question in which Ms. Tambalo stated that "The company [DBI] aims to be sustainable primarily because of the core values of the company; since inception, the goal of the company has been to provide job opportunities for the local community by promoting products and services that are environment-friendly." In addition to this, she also stated that "While our partner clients do not necessarily subscribe to the same ideology, we try to include samples with sustainable and/or environment-friendly ingredients for their consideration."

Aside from the answer which leans toward the values-based motivation, she further added another motivation stating that "Secondary to that is strategic. The market trends, especially for personal care products and cosmetics, have shown a great shift in interest in eco-friendly and sustainable products. In such industries saturated by brands from big and/or international companies, it is an attention-grabber to have a product with something different and which also jives with the current trends."

With such answers, it can be said that for DBI, their incorporation of sustainability is anchored on values-based and strategic-related motivations. That ever since DBI's foundation sustainability was prioritized to be included in the company's core principles not just for their goal to provide environment-friendly products and jobs to the community but because also of the favorable



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market trends they observed. It was however noticed that the other motivation—economic gains, is not considered by the company as one of its reasons for embracing sustainability even if presented with the option to include all of the motivations if they are applicable to the firm.

Integrative Analysis of DBI's Engagement in Corporate Sustainability

Before looking at the firm's sustainable practices using the sustainable performance indicators, it is important to understand first why the firm incorporates the concept of sustainability which was done by understanding the firm's publicly-available statements (vision, mission, and corporate values), and incorporating the concept of sustainability in one of its three core values (sustainable innovation) shows that there is indeed existing importance and commitment when it comes to sustainability. Looking at the firm's definition of such core value, it can be observed that the focus is more on the environment and people aspect of corporate sustainability. Such observation can also be seen in the company's vision wherein the company's vision of being 'proudly Filipino-made with a conscience' describes its long-term contribution to the environmental and social aspects of sustainability. DBI's mission statement, however, included the economic dimension wherein the company exists to 'help in boosting the Philippine economy' while including also the two other dimensions of environment and society.

Combining the two sets of motivations above, it can be said that the analyzed motivations: legitimacy, market success, and social insurance can be classified under the directly stated motivations of DBI, one of which is strategic reasons. The company's awareness of changing customer perceptions on sustainability (legitimacy), creation of competitive advantages such as priority to innovation, building brand image based on appealing trends such as being environment-friendly and proudly Filipino-made, strengthening its relationship with its customers (market success), and anticipation of disruptive changes and challenges (social insurance) can all be considered as part of the benefits under the motivation of strategic reasons. The other identified motivation for being sustainable and is also considered as

the primary reason, values-based is also aligned with the analysis of the firm's vision, mission, and corporate value statements wherein priority for the two dimensions: social dimension (the company's goal of providing jobs to the local community since inception) and environmental dimension (the company sees to it that all of its products even those in its toll manufacturing services are environment-friendly) can be observed, it can also be seen that the other dimension—economic was sort of left behind and were not derived.

Through the analysis conducted, it can be initially said that Dell Biologics Incorporated's corporate sustainability is motivated by values-based reasons wherein sustainability is embraced due to the concept's alignment to the firm's goals since inception, goals which are focused and highly related to the environmental and social dimension of sustainability. The other motivation, strategic reasons although encompasses many different benefits, is also identified mainly due to sustainability's contribution to the firm's positive brand image and competitive advantage. This second motivation seems to correspond to the outdated view of sustainability as an influential trend as confirmed by the firm, due to their knowledge and observation of sustainability as a market trend, the concept, in turn, was also utilized as a strategy. As a result, it can also be observed that environment-related concepts are found in all three of the firm's company statements, this tells us that the company also utilizes the common misconception that in terms of sustainability, eco-friendliness greatly defines the concept of sustainability, a misconception also believed by many consumers.

Analyzing the firm's vision, mission, and corporate value statements allowed us to initially say that sustainability for DBI is reflected heavily on the environmental dimension of sustainability specifically through the products it offers where the concept of eco-friendliness is always attached, next to this is the social dimension since priority for the firm's products being Filipino-made are also quite mentioned in its statements combined with the company's stated goal of providing jobs to the local community since its inception—a goal included in the firm's major reason for being sustainable. The economic dimension, however, is quite lacking in terms of



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priority in this initial analysis, aside from the dimension being least mentioned in the firm’s statements, the firm’s non-consideration of economic gains as a motivation also supports this initial conclusion.

Sustainability Performance Evaluation

After looking through the firm’s production volume, the next step is to examine its sustainability performance through the selected sustainability performance indicators gathered through the modified sustainability form/report that the firm or more specifically, the PKI answered. Shown below are the summary of the analyzed SPIs under the three sustainability dimensions.

Economic Dimension

Table 3

Summary of the Analyzed SPIs under the Economic Dimension

Sustainable Performance Indicator	Observed Activities/Performance
Economic Performance (SPI 1)	Direct economic value generated (revenues) greatly increased
	Direct economic value distributed has a noticeable decrease in 2020
	Investment in the community decreased
	Valuable increase in the amount that flowed back to society in general (2019 vs. 2021 figures)
	Shift to a made-to-order basis instead of having stocks to prevent wastage in production.
Procurement Practices (SPI 2)	Makes use of local suppliers and allots 40% of procurement budget for local suppliers. Slowly switching to local suppliers for raw materials.
Incidents of Corruption (SPI 3)	The company has no incidents of corruption among its directors, employees, and business partners.

Environmental Dimension

Table 4

Summary of the Analyzed SPIs under the Environmental Dimension



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Sustainable Performance Indicator	Observed Activities/Performance
Resource Management (SPI 4) Energy consumption	The company has no company car, public transportation or personal vehicles of staff are used in terms of travel while gasoline is only used during a production schedule interrupted by a sudden power outage.
	Electricity consumption increased from 2019 to 2021 however, the amount increased is seen to be in decreasing manner.
	Electric consumption seems to correspond with sudden production volume increase.
	Water use decreased from 2019 to 2020 but increased again in 2021.
Water Consumption	The company is slowly increasing its use of renewable materials.
Materials Used by the Organization	The use of non-renewable materials is also increasing but in a decreasing manner.
	The firm prides itself in using natural and environment-friendly materials and as much as possible encourages its toll manufacturing clients to use more ecological alternatives.
	Encourages clients in personal care, household, and pet care products to use alternatives to petrochemicals commonly used in cosmetics.
	The company avoids the use of hazardous chemicals listed in the GHS hazard classes.
Environmental Impact Management (SPI 5) Solid Wastes	A 14% (60kg) decrease in the number of solid wastes generated from 2019 to 2020 then increased again in 2021 by 31% (110kg).
	Reusable and composted wastes although made an increase is seen as positive or beneficial.
	Landfilled or residual wastes increased by 50 kg in 2021.
	The firm does not consider incineration as a form of waste management.
Water Discharges	The firm facilitates and promotes wastewater treatment, water discharge although increased may be of high quality and safe for the receiving body.
	The firm does not facilitate the recycling of wastewater.
Environmental Compliance (SPI 6)	The company does not have any existing or current records of monetary fines, non-monetary sanctions, and resolved cases involving non-compliance with environmental laws and/or regulations.

Summary of the Analyzed SPIs under the Social Dimension

Sustainable Performance Indicator	Observed Activities/Performance
Employee Management (SPI 7) Employee Data	The number of employees is consistent from 2019 to 2020 but increased by 1 in 2021.
	The attrition rate does not exceed 15% and is reducing per year.
Employee Benefits	The ratio of the lowest-paid employee against the minimum wage is also decreasing.
	The firm offers the minimum benefits such as SSS, PhilHealth, and Pag-ibig while also having a vacation and sick leaves to its full-time employees.
Employee Training and Development	Employees are trained in the company for a total of 24 hours per employee.
Diversity and Equal Opportunity	DBI doesn't currently have permanent or full-time employees belonging to indigenous communities and/or vulnerable sector but outsource temporary employees who currently do not have work and is need of extra income such as single parents which fall within such classification.
	A greater number of female employees compared to males may suggest diversity but cannot be directly stated since employee size and the difference is of minimum amount.
	A female head for the company's quality control suggests good management team diversity.

Table 5



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Workplace Conditions, Labor Standards, and Human Rights (SPI 8)	The employees have a total of 1584 safe man-hours with no existing and current records of work-related injuries, fatalities, and ill-health cases.
Occupational Health and Safety	The firm conducts at least 1 safety drill annually.
Labor Laws and Human Rights-Related Incidents and Policies	The company currently doesn't have any case of legal actions or employee grievances in terms of forced or child labor.
	Although the company doesn't have written company policies on forced labor, child labor, and human rights, they ensured that they follow the rules and regulations set by DOLE and do not condone violations of labor laws and human rights.
Supply Chain Management (SPI 9)	The company does not consider sustainability topics in terms of supplier accreditation due to the limited number of available suppliers in the country but ceases and terminates business transactions and contracts when suppliers or clients became associated with concerning issues. The company, however, has strict supplier quality standards and requirements.
Relationship with Community (SPI 10)	The firm ensures the safety of nearby communities by preventing the use or the discharge of any hazardous chemicals or fumes.
	The firm offers temporary jobs and sources some of its raw materials from the nearby community and provides scholarship programs to students in the barangay.
	The company also holds an annual Christmas Party for children in the barangay before the COVID-19 pandemic.
	The firm donated around 1000 L of its disinfectant product to the barangay during the pandemic.

Customer Management (SPI 11)	The firm obtained a customer satisfaction score of 100 but is subject to redo or update.
Customer Complaints Concerning Health and Safety, Marketing and Labelling, and Customer Privacy	
	The firm does not have any problems in terms of health and safety, marketing and labeling, and customer privacy as of the moment.
Data Security (SPI 12)	DBI has yet to have cases in terms of data breaches which include leaks, thefts, and losses.

Product or Service Contribution to UN SDGs

The United Nations Sustainable Development Goals (SDGs) are considered a universal call to action, to protect the planet, end poverty, and make sure that all people enjoy prosperity and peace which are all included in the seventeen (17) goals as listed in the table below. SEC's memorandum stated that such disclosure would be needed in order to know how companies are able to contribute to the SDGs through their products and services (SEC, 2019). In this section, Dell Biologics' products and services—which embody their sustainable practices were showcased in order to know how each of them or how a manufacturing firm in general help in reaching the UN sustainable development goals.

To summarize the products and services offered by Dell Biologics as well as its contribution to the UN 17 Sustainable Development Goals, a table can be seen below.



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Table 6

Summary of DBI's Contribution to UN SDGs through its Products and Services

Sustainability Reporting Scoring of DBI

DBI's Products and Services	Product and Service Contribution based on the 17 SDGs																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
NaturInk																	
COMPOZYME																	
Safe House Pet Care																	
TRIQUATRIX																	
OvatumCare																	
Double Q																	
DBI Fire Retardant Solution																	
ELBiMAX																	
AromaBiotic-F																	
GREASOLV																	
Toll manufacturing services																	

In order to analyze the firm's sustainability in general and more deeply, and to identify its strongest and weakest dimensions, a sustainability reporting scoring method introduced by (Morhardt et al., 2002), was used wherein the highest score that the firm can reach in the model is 21 from economic elements, 57 from social elements and 24 from environmental elements which in total, 102 points. And in appointing the score, if an SPI is not mentioned at all, no point; if it is mentioned shortly or in titles only, 1 point; if it is mentioned broadly in scope, 2 points; if it is mentioned broad in scope, systematic and is based on the data of more than 1 year, 3 points. The schematic model and the result of the scoring can be referred to below

Looking at the results of the scoring conducted on DBI's sustainable economic performance, it can be observed that economic performance has the highest score since the firm provided sufficient data about its distributed and gained economic values for three consecutive years resulting in a deeper analysis while indirect economic impacts, anti-competitive behavior, and market presence have no points due to the non-existing details provided. The economic dimension, as a result, gained a total of 8 points out of 21 points which is equivalent to 38.10%.

Figure 2

Schematic Demonstration of the Scoring Method

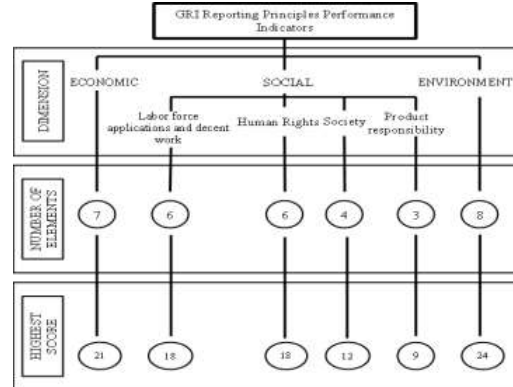


Table 7

Economic Scores of Dell Biologics Inc.

Elements	Score
Economic performance	3
Market presence	0
Tax	1
Anti-competitive behavior	0
Anti-corruption	2
Indirect economic impacts	0
Procurement practices	2
Total	8 (38.10%)

Table 8

Environmental Scores of Dell Biologics Inc.

Elements	Score
Materials	3
Energy	3
Supplier environmental assessment	2
Environmental compliance	1
Waste	3
Emissions	0
Biodiversity	0
Water and Effluents	2
Total	14 (58.33%)



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In terms of the environmental elements, it can be seen that materials, energy, and waste all obtained the highest point of 3 due to the sufficient information provided by the firm while emissions and biodiversity have no points due to the nature of the company thus resulting to non-applicability. For the environmental dimension, a total of 14 points out of 24 was obtained which is equal to 58.33%.

Table 9

Social Scores of Dell Biologics Inc.

Elements	Score
Labor Force Applications and Decent Work	
Employment	3
Labor/management relations	0
Occupational health and safety	2
Training and education	2
Diversity and equal opportunity	2
Supplier social assessment	3
Human Rights	
Non-discrimination	0
Freedom of association and collective bargaining	0
Child labor	1
Forced or compulsory labor	1
Rights of indigenous peoples	0
Human rights assessment	1
Society	
Security practices	0
Local communities	3
Socioeconomic compliance	0
Data security	2
Product Responsibility	
Public policy, customer health, and safety	2
Marketing and labelling	1
Customer privacy	1
Total	24 (42.11%)

The dimension obtained a total score of 24 out of the highest score of 57 which is equivalent to 42.11%.

Summary and Conclusion

Based on the assessment conducted, it was found out that the firm is indeed incorporating the concept of sustainability at first glance due to its incorporation as one of the firm’s corporate values. However, at first look; two dimensions seemed to be the two more obvious dimensions when it comes to the company’s vision and mission statements: the environmental and social dimensions.

Evaluation of the firm’s sustainable performance through the selected SPIs has shown that in terms of the economic dimension, most of the information given by the company promotes favorable performance. This performance, however, is affected by the current sustainability risk, the pandemic and although it also affected the firm negatively by lowering some of the product line’s production volume, it also gave an opportunity to the company. SPIs under the environmental line, on the other hand, consist of unfavorable increases in some of their performance, especially in the use of different materials. This increase in figures, however, is managed by the company through other means such as limited to zero use of other energy sources, non-consideration of incineration as a form of waste disposal, wastewater treatment, and avoidance of hazardous chemicals by using natural and environment-friendly materials. The SPIs for the social dimension exhibited the company’s good engagement with its employees and maintains good community relations by providing the local community with a safe environment, income source, scholarships, inclusive events or programs, and donations. All of these suggest a favorable performance as far as social sustainability is concerned.

Results of the sustainability reporting scoring conducted revealed that when providing and disclosing sustainability information—which can also be linked to how strong each of the dimensions was due to the amount of information they provided, it was found that the environmental dimension is the strongest or the dimension in which their



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sustainability efforts are mostly focused followed by the social sector while the economic sector least focused. It was also observed that the firm's focus on sustainability's environmental dimensions in its motivation was consistent since the environmental dimension of sustainability was indeed identified as the most highlighted dimension. And if we consider the favorability of the SPIs under each dimension, however, it can be concluded that the social dimension consists of business practices that are more sustainable than the other sustainability dimensions.

Looking at the more general view, however, of the firm's sustainable practices through its products and services and its contribution to the UN SDGs, it was found that most of its products contribute to SDG 9 (industry, innovation, and infrastructure), SDG 12 (responsible consumption and production), SDG 3 (good health and well-being) and SDG 14 (life below water).

Recommendations

It is recommended that in terms of the firm's economic sustainability that although currently, DBI's economic performance is showing favorable trends and figures, the company should keep in mind that factors such as the pandemic greatly affected such performance, this current increase should be maintained by the firm especially since the pandemic and its effects are beginning to disappear and slowly starting to show unfavorable performance (costs are catching up with the firm's revenues). And as concluded earlier, the economic dimension is the least focused dimension and while it shows good sustainability practices, it should still be improved since economic sustainability is also required to maintain the sustainability of the other dimensions. For the environmental dimension, it was recommended that while the company produces environment-friendly products, it should also take into consideration the materials they are using to make such environment-friendly products and that the firm might need to consider ways to help decrease their usage and consumption of such

resources. Recommendation for the social dimension on the other hand includes the need to hire more full-time employees, ensure fairness in terms of pay, redo the customer satisfaction survey, and disclosure of the firm's social sustainability practices among others.

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Optimizing Sustainable Development-Based Business Modelling Approach for Rice Farming Communities

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Abstract

The research presents the Philosophical Position Axiology-Pragmatism with Abduction as the approach to theory development in facilitating the establishment of livelihood projects in rice farming communities. The research Philosophy and Approach were based on the work of Saunders (2019). The purpose of the research is to tackle the application of Sustainable Development (SD)-based business modelling around the industrial symbiosis concept as a strategy to create new wealth for the rice farmers and, as a possible source of additional income stream for the Philippine Rice Research Institute (PhilRice).

The most pressing issue among rice farmers is the low buying price for their harvest. Thus, the need for supplemental income to ensure that the rice farming households will be able to meet their basic needs and rights in the event that the income from rice production is not sufficient. Consequently, PhilRice can act (and perhaps, earn) as the locus of innovation, such as, from services which can facilitate the global market entry of community products.

The pilot research initiative was conducted in the Provinces of Nueva Ecija and Aurora. The research design was an exploratory qualitative research methodology since the goal is to gather basic insights, test the processes and abduct theories based on real time business model case studies on how the rice-based farming systems concept will add to the farmers' household income.

Because the applications of sustainable development-based business modelling, particularly industrial symbiosis, is a new concept in the Philippines, the focus of the study is the development of processes that can be used by duty bearers on the aspects of opportunity seeking, product design, convergence facilitation and how the farmers can be effectively engaged in the livelihood programs that maximize land and labor productivity. Further, the study can be the primary source of literature for the duty bearers who are trying to increase the household income of rice farming communities in marginalized and/or geographically isolated and disadvantaged areas (GIDAs).

In terms of applying the concept of sustainable development-based business modelling, particularly the industrial symbiosis concept on rice-based farming communities, the research is first in its kind in the Philippines and the second initiative globally. Therefore, the additional contribution of the research to the broader body of knowledge is the guidance frameworks on the operational and



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marketing requirements at the product identification stage which can be used by development organizations to maximize the assets at hand among the stakeholders.

The process development is iterative and the methodology will be evolved depending on the outcomes which the stakeholders would like to achieve. Apart from rice farmers, the model may also be tested among communities where agriculture, forestry and fisheries is/are the primary source(s) of income.

Key Words: Sustainable development, industrial symbiosis, business modelling, rice-based farming communities, rice-based farming systems

Relevant SDGs: SDG 1 No Poverty, SDG 2 Zero Hunger, SDG 3 Good Health and Well-Being, SDG 8 Decent Work and Economic Growth, SDG 9 Industry Innovation and Infrastructure SDG 17 Partnership for the Goals

Introduction

Based on the 2021 Ricelytics Report, palay production in the Philippines is at 19.96 million metric tons, and the total area harvested is 4.81 Million hectares, wherein 3.33 million hectares are irrigated (68.23% irrigation outreach) and 1.47 Million hectares are rainfed or non-irrigated (philrice.gov.ph, 2021). Consequently, as reported in the Regional Rice Initiative Pilot Project of the Food and Agriculture Organization (FAO), rice is the most important staple crop in the Philippines that employs about 2.5 million households (Gonzales, 2013).

The Philippine Rice Research Institute (PhilRice) is an agency attached to the Department of Agriculture (DA). The mandate of PhilRice is to help develop high-yielding and cost-reducing technologies so farmers can produce enough rice for all Filipinos (PhilRice, About the Philippine Rice Research Institute, n.d.). PhilRice is a government instrumentality with corporate powers (GICP). The Agency was created through Executive Order (EO) No. 1061 on 5 November 1985 (as amended) (PhilRice, n.d.). PhilRice envisions a rice-secure Philippines (PhilRice, n.d.). Its mission is to improve the competitiveness of the Filipino rice farmers and

the Philippine rice industry and transform it to be more profitable, resilient, and sustainable through responsive, balanced, environmentally sound, and partnership-based research, development, and extension (PhilRice, n.d.). Moreover, as a government instrumentality with corporate powers (GICP), the Institution also has the responsibility to earn for its operations and support its growth.

In line with the mission and mandate of PhilRice – which is about enhancing the competitiveness of the Philippine Rice Industry while ensuring a sound environment - the researcher would like to explore other ways of how the Institute – though its physical and intellectual assets - can help facilitate employment generation through Sustainable Development (SD)-Based business modeling around industrial symbiosis in rice producing communities.

About Sustainable Development and Industrial Symbiosis

This research tackles a specific aspect of Sustainable Development (SD) in business modeling – the application of the Industrial Symbiosis concept. According to the Brundtland Report, Sustainable Development is the type of development that attains the needs of the present without compromising the ability of future generations to meet their own needs



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(Kono, 2014). Consequently, industrial symbiosis is an economically viable and environmentally friendly way of doing business. Nordregio.org synthesized the industrial symbiosis regime in three (3) key terms – green growth, circular economy, and industrial ecology (Teras & Mikkola, 2016). Based on the description provided by Nordregio.org, industrial symbiosis is a regime that fosters an all-win scenario for the farmers, business operators, government agencies, and civil society groups in case it will apply to rice-based farming communities.

Industrial symbiosis is a new concept for rice sector and in the Philippines, in general. It will be proposed as the next normal regime that fosters beneficial relationships between micro to large-scale producers and enterprise operators in a way that protects the environment. It also intends to harmonize the initiative of various government agencies to move the stakeholders in the rice sector out of poverty through productive activities. Consequently, business model development is a long-standing strategy to create wealth. Thus, the description of a Sustainable Development (SD)-based business model that was originally formulated by the researcher as applied to social development business modelling interventions is provided, as follows:

The concept is applicable to business entity/ies that can be public or privately owned and/or managed and ensures the economic viability of all aspects of the venture. Economic viability means that the enterprise is not dependent solely on grants and subsidies – it can grow with minimal assistance or without any assistance at all from government or grant-making bodies. Products and services are demand-driven. The activities will not result in any form of physical, moral, or psychological damage to the direct employees and partners of the initiative. It also ensures sound interpersonal relationships among its employees, stakeholders, and partners. The quality of life of direct employees and partners must improve because of the

enterprise. The sustainability of the environment is not compromised in the activities of the enterprise. The enterprise complements the operations of traditional businesses. The enterprise operates with high efficiency and productivity. And most importantly, it ensures transparency and integrity in measuring and reporting social, economic and environmental outcomes.

Significance of the Study

In line with SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-Being), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry Innovation and Infrastructure) and SDG 17 (Partnership for the Goals) - the study is significant to the rice farming communities, the Philippine Rice Research Institute (PhilRice), and the local economy. The rationale for the significance is explained, as follows:

- **Rice Farming Communities.** The study is significant for the rice farming communities, especially those in geographically isolated and disadvantaged areas (GIDAs). This is because the study tackles the practical solutions on how the productivity issues can be addressed through sustainable development-based business modeling around the industrial symbiosis regime. In case the farmers will need alternative on-farm and off-farm livelihoods to supplement their income from rice production, the study will provide the methods on identifying what livelihoods can be started. This will be based on what the farmers are interested to do, and how safe jobs can be created. The industrial symbiosis models will look at the resources that the farmers can access.

The resources can be the programs of other government agencies which can be leveraged by PhilRice for the transformation of materials (which are



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currently with minimal or no value) into sellable outputs. Furthermore, the industrial symbiosis strategy will also look at models on how PhilRice can mobilize resources at minimal cash out - in terms of salaries and funds. The resulting strategies, systems, and structures will be rolled out to the other branch stations of PhilRice

- **PhilRice.** As a government instrumentality with corporate powers (GICP) – should be able to generate income while making significant contributions to the Philippine Economy. Apart from developing technologies that can increase the productivity of rice production in the Philippines, PhilRice can look at the value delivery per hectare of rice land.
- **Micro-, Small-, and Large-Scale Industries.** The study is significant for these industries. Micro- and small enterprises in rice-producing communities can access additional support in the form of trainings with start-up livelihood kits and add products to their offerings. Through the efforts of the industrial symbiosis initiative, they can also access subsidies, grants, and development loans from government agencies and intermediary financing organizations once the viability of the concept had been proven. Large industries, on the other hand, need not spend on waste management since their outputs will be transformed into resources for the benefit of communities. The transformation will be designed to create safe jobs as well as sustainable enterprises and communities.

Literature Review

As cited by Zhang Y. et al. (2014), the term ‘symbioses’ originated from the Greek term that means “living together”. Further according to the publication of Zhang Y., et al. Darlington published

in 1951 that ‘symbioses’ was a contribution to Anton de Bary for the study of biological systems.

To contribute to a deeper and more concrete understanding of the Industrial Symbiosis construct, Zhang Y., et al. conducted thorough research on the history, theory, and methodologies of the concept. They mentioned that symbiosis is a term used in biological sciences to exemplify relationships between two (or more) different organisms. Translating the aforementioned biological term to industrial development, and, as first explained by George Renner in 1947, symbiosis is the approach to showing the interconnected relationship among industries (Zhang, et al., 2014). Further, as cited by Zhang Y., et al., Lowe and Evans (1995) provided an overview of how the natural cyclical relationship that exists among biological systems can be fostered among industries.

Early Applications of the Industrial Symbiosis Regime

Before the term Industrial symbiosis was coined in the 1980s, it was already being practiced in the 1970s – which was before the theories and concepts were extensively studied, tackled, and recognized globally. Briefly, the concept and practical application of a fully functional industrial symbiosis were first exemplified at the Kalundborg Industrial Community in Denmark (Singh, 2016). The industrial symbiosis approach at Kalundborg was started in 1972 (Kalundborg Symbiosis, n.d.). It stands as a partnership between eleven (11) public and private companies (Kalundborg Symbiosis, n.d.). The companies that started the industrial symbiosis regime organized themselves to collectively save on the cost of materials and water as well as to properly manage the wastes generated in the manufacturing processes (Zhang, et al., 2014). It was Valdemar Christensen who described the cyclical interrelationship among the industries in Danish terms. Thereafter, a group of students used the description of Christensen to coin the term “industrial symbiosis” in the 1980s.



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The overall concept of Industrial Symbiosis is the circular approach to production – the waste of one manufacturing industry is the resource or input of another (Kalundborg Symbiosis, n.d.). The circular approach promotes cost savings and environmental preservation. Cost savings can come from the minimized logistical cost of sourcing raw materials. The cost of waste management and/or treatment is also minimized or eliminated since the waste had become a resource. Because the waste is not given out to the environment, it is expected that no harm will be rendered to human health and biodiversity.

Industrial Symbiosis as a Strategy to Operationalize SD-Based Business Models in Rice Farming Communities

In this research, the construct will be applied to the possible relationship that can exist among organizations and enterprises to help rice farmers increase land and labor productivity. The opportunities and benefits of Industrial Symbiosis for smallholder farmer in the least Development Countries (LDCs) was tackled by Alfaro and Miller through a modeling case study conducted in Liberia (Alfaro & Miller, 2013). The case study was conducted on an integrated farm that is being managed by the Christian Revival Church Association or CRCA. Briefly, the flow of materials and energy was thoroughly studied in CRCA's integrated farm to determine how income and cost savings can be generated from the optimum use of resource. The details of each production activity were thoroughly analyzed in terms of inputs, expenses, manpower requirements, energy requirements (in the form of fuel consumption), and benefits generated which exemplified the benefits of industrial symbiosis even to small farms. However, the case developed by Alfaro & Miller (2013) only used about $\frac{1}{4}$ of a hectare for the modeling and did not explore the possibility of engaging other micro-enterprises beyond the study site. No attempt was also done on the development of novel products from farm wastes.

Product Development under the Industrial Symbiosis Regime

Mantese, et.al. (2018) proposed that industrial symbiosis must be considered in developing products, such as those that are currently used by the general public as well as for innovative products for anticipated needs. However, though the proposal of Mantese, et.al., around Development for Industrial Symbiosis (DFIS) is not based on real-time practice, it provided important insights into how research and development activities must be designed to optimize the use of resources, such as but not limited to, energy, utilities, water and wastewater, by-products and waste materials, and many others. Further, based on the proposal of Mantese, et al., the DFIS will deliver substantial economic, environmental, and social benefits.

In the Philippines, however, Industrial Symbiosis is not yet a widely studied concept. Based on the research of Neves A. et al. (2019) there was only one study that tackled the application of industrial symbiosis in the Philippines. Bacudio L. R. et al. (2016) analyzed the challenges to the implementation of industrial symbiosis using the Decision-Making Trial and Evaluation Laboratory (DEMATEL) Approach. The purpose of the research is to facilitate the creation of policies so that the Industrial Symbiosis regime can be instituted in the country. The DEMATEL approach attempts to determine the root causes of the challenges to the adoption of the industrial symbiosis regime.

The Case-Building Methodology

To exemplify the merits accorded by case study-based research methodologies to develop theories, Ridder (2017) made a thorough analysis of how various research designs contributed to the theory continuum (Ridder, The theory contribution of case study research designs, 2017). The portfolio which was assembled by Ridder aims to provide an overview of how the various types of case study methods can be appraised in terms of



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understanding, theory building, theory development, and theory testing.

Consequently, Ebneyamini and Moghadam (2018) distilled the various theoretical and practical applications of case study research that is focused on its utilization of management of technology and innovation. The case study methodology intends to grasp a holistic overview of the complexity and uniqueness of the situation being faced by the subject in focus, which may not be captured by data points (Ebneyamini & Moghadam, 2018). Further, according to Dul & Hak (2008), business research is employing case study methods as it is a powerful tool in building and testing theories (Ebneyamini & Moghadam, 2018).

Case development had become a very popular tool among researchers who are tackling the management of technology and innovation themes (Ebneyamini & Moghadam, 2018). Ebneyamini & Moghadam (2018), studied the articles published from the year 2005 to 2015 to analyze how the methodology is evolving to further the research on the aforementioned subject. The review which was conducted by Ebneyamini & Moghadam (2018) provided the rationale about when the case study methodology should be used, the general classifications of case study research, the contexts of each classification, the research processes under each category, and how each classification is applied to analyze issues (Ebneyamini & Moghadam, 2018).

The Action Research Methodology

The action research methodology delivers significant contributions to business research, especially in the areas of strategy, tactics, organizational development, and many other business functions (Shani & Coghlan, 2019). Reflection of Shani and Coghlan defined action research as an arising examination method in which applied behavioral science cognition is conglomerated with existing organizational knowledge to find solutions to the various problems which an organization is facing.

Apart from contributing to scientific knowledge, the primary goal of the action research methodology is to introduce the necessary change by strengthening the appropriate skills and optimizing the other resources of the organization. Further according to Shani and Coghlan (2019), the action research methodology is progressing method that is done through knowledge-sharing and partnerships. Based on the review conducted by Shani & Coghlan (2019), Sustainable Development (SD) has become a growing concern among businesses and the value of action research for the SD realm offers a wide area to explore. Moreover, the aforementioned review has not mentioned the use of the action research methodology in industrial symbiosis research. Thus, this study can be the first of its kind to tackle industrial symbiosis through the action research methodology.

The research of Eden and Ackermann (2018) exemplified the refinement of the action research methodology and presented the concept of the soft operational research method of the strategic options development analysis or SODA. Based on the aforementioned study, Ackoff (1981) emphasized the importance of finding the “right problem” (Eden & Ackermann, 2018). The study also emphasized that by being practice-based, action research may also involve the development of methods in building the theories – theory bestows the evolution of methodologies, and the optimization of methods contributes to theory. Further, Eden and Ackermann (2018) exemplified the action research cycle, which was published in 1996, as follows:

It can be noted that the action research methodology is a clear alternative to investigating a phenomenon concerning practice (Eden & Ackermann, 2018). As cited by Eden & Ackermann (2018), Eden & Huxham (2006:396) emphasized that the action research methodology should not be looked at in a way that the method is competing with other methodologies, instead, action research has the ability to extricate insights which cannot be obtained using other methods.



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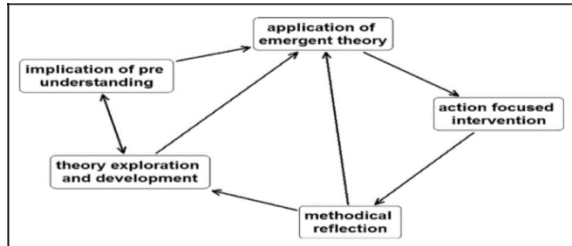
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Figure 1.

The Action Research Cycle



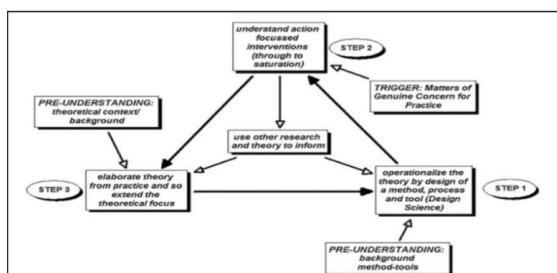
Published in 1996, cited by Eden & Huxham, 2006:396 (Eden & Ackermann, 2018)

To further strengthen the action research framework, Eden & Ackerman (2018) established the three steps to conducting an effective practice, as follows: Step 1 – Formulating the research design. Step 2 – The intra-cycle of interventions yielding data leading to saturation of both design and outcomes (Eden & Ackermann, 2018). This concept was copied verbatim from the publication of Eden and Ackermann (2018) to ensure that the original idea will not be distorted or adulterated because of the paraphrasing. Step 3 – The exit point for the next round of the action research (Eden & Ackermann, 2018)

The figure provides a more holistic overview of the steps to start the action research cycle:

Figure 2.

Expanding Prior Understanding and Spotting the Practice-based Stimulant (Eden & Ackermann, 2018)



Though action research is widely used for data gathering – that is gleaned on strategy formulation - and is a globally accepted methodology, an impression can be drawn from the diagram above that the method still has to be complemented to strengthen the validity of the results. The validation steps can be having another researcher working at the same research rationale and doing similar methods but looking at the problem through a different lens or employing surveys to statistically validate the results (Eden & Ackermann, 2018).

To summarize, Industrial Symbiosis is new to the Philippines. Because the research is about the creation of new wealth for PhiliRice and the rice farming communities.

Research Philosophy, Framework, Design, and Methodology

The researcher believes that technology development must be towards job generation so that rice farmers can enjoy a quality life wherein their family's basic needs and rights are attained with the income they have from optimizing their land. Thus, the Philosophical Position of the research is Axiology-Pragmatism with Abduction as the approach to theory development. Axiology is about the role of values and ethics on the research process (Saunders, 2019). Pragmatist research takes off from a specific problem and the goal is to develop practical solutions (Saunders, 2019). Based on the researcher's personal values, the solution must have long-term impact not only to the community where the solution was tested. Moreover, the researcher believes that the practical solution being tested must be applicable (if not merely replicable) across communities with the same condition. In terms of the approach to theory development, as cited in the work of Saunders (2019), Suddaby (2006), described abduction as a method in-between and combines inductive and deductive theory building processes (Saunders, 2019). Further, based on the work of Saunders, Abduction starts with a "surprising fact" (Saunders, 2019), which the Researcher interprets as a "serendipitous discovery of a truth or reality"



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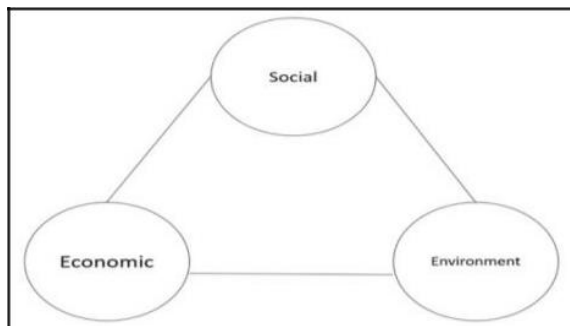
which can be specific to a certain condition or community.

Theoretical Framework

The research tackles the concept of complementation for the sustainable development (SD)-based business modelling as the foundation for the growth and the flourishing of other micro- small-medium- and large enterprises in rice farming communities. The concept of complementation was anchored on the three wheels of development which were crafted by the late Prof. Eduardo A. Morato, Jr. of the Asian Institute of Management. According to Prof. Eduardo A. Morato, Jr., a bicycle with three wheels of equal sizes is safer and easier to maneuver than one with only two wheels (Morato, Zaragoza, Bastillo, & Batalla, 1993). If the development processes will take the three-wheel bicycle as the model, then, the processes can be more efficient, and the growth will be sustainable. The three-wheel framework exemplified by Morato, et al. (1993) are the Social, Economic, and Environmental Dimensions of sustainable development. The concept is illustrated as follows:

Figure 3.

The Three Wheels of Sustainable Development (Morato, et al., 1993)

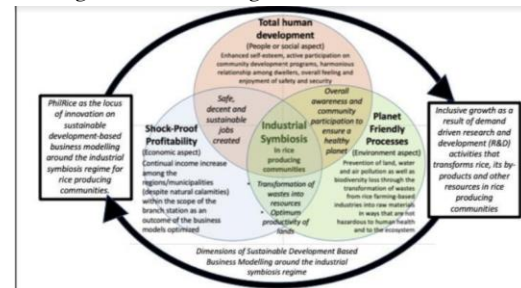


Translating the three wheels of development in the context of business model development, the social component is about people, the environment component is about caring for the planet and the

economic component is about profitability and productivity. Expounding further, the People component is aimed at total human development, the Planet component is about the earth-friendly process, and the Profit component is about shock-proof profitability. The theoretical framework of the concept is illustrated, as follows:

Figure 4.

Original Framework Developed by the Researcher Exemplifying the Role of PhilRice, Interface of the People (Social), Profit (Economic), and Planet (Environmental) Dimensions of Sustainable Development in Business Model Optimization around the Industrial Symbiosis Regime and the Targeted Outcomes of the Proposed Sustainable Development-based Business Modelling Approach among Rice Producing Communities



The interface of the three dimensions of sustainable development is the proposed Industrial Symbiosis Regime for business model development among Rice Producing Communities and is aligned with how PhilRice can maximize its competencies to further increase its contribution to the rice sector.

As the locus of innovation, PhilRice can measure itself on how new wealth is created, specifically on the parameters that concretely define enhancement of local economic development as well as raising awareness on the importance of environmental integrity. The aforementioned aspects can be measured through monetary equivalents. However, total human development will be challenging to measure because parameters, such as self-esteem



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and better social skills, are subjective and will be difficult to gauge in terms of monetary value.

The creation of new wealth using the sustainable development business modeling around the industrial symbiosis regime for the rice-producing communities is rooted in market-driven research and development of products and services around the transformation of rice, its by-products, and other “irritants” in the rice field. The new wealth creation can also be in the form of optimum use of the available manpower and area planted with rice. Moreover, the new wealth is also expected to promote inclusive growth among rice farming households.

As mentioned, industrial symbiosis is the interface of the three dimensions of sustainable development-based business modeling. The said dimensions are described in this research, as follows:

- *Shock-Proof Profitability (Economic Dimension)*. This dimension was conceptualized because of the economic shocks that the Philippines experienced from the year 2020 up to the time that this study is being conducted. The first shock happened in early January 2020 (the first signs of the Taal Volcano eruption was 12 January 2020) which progressed and resulted in massive internal displacement in the CALABARZON Region (IVA). This region renders the biggest share of the country’s Gross Domestic Product (GDP). The second economic shock was due to the 2019 Corona Virus Disease (COVID-19) Pandemic which is still wreaking havoc globally. The lockdowns that started globally in March 2020 resulted in a sudden drop in Gross Domestic Product (GDP) even among developed countries worldwide.

Apart from the aforementioned shocks, the Philippines is also a disaster-prone country that is frequented by typhoons, earthquakes, and other natural calamities.

Thus, Shock-Proof Profitability in this research is about the ability of households in rice farming communities to earn substantially even in the event of disasters and other uncertainties. This dimension is also about the ability of the rice farming households (in barangays, municipalities, and regions) to cover their basic needs and rights because of the continual income increase as the result of the interventions rendered by PhilRice (and/or through its partners).

- *Total Human Development (Social Dimension)*. This dimension is basically about empowerment – which can be described as enhanced self-esteem (especially among marginalized farmers). Some of the indicators can be active participation in community development programs and harmonious relationships among the dwellers in rice farming communities. This aspect is also about the overall feeling and enjoyment of safety and security in the community.
- *Planet-Friendly Business Processes (Environment Dimension)*. This concerns the protection and preservation of the environment. The economic and social activities in the rice farming communities must not result in any form of land, water, and air pollution or biodiversity loss. In case the wastes and/or irritants in rice production (such as destructive insects and other pests like snails) are to be transformed into raw materials (resources), the processes must not have any environmental impact or harm to human health.

Consequently, the interface of the dimensions is expected to yield desirable outcomes such as (i) The interface of Shock-Proof Profitability and Total Human Development is about safe, decent, and sustainable jobs because of the livelihood and other



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economic activities created because of the concept. (ii) The interface of Total Human Development and Planet-Friendly Business Processes is about the overall awareness of the dwellers in rice farming communities about the importance of protecting and preserving the environment. Thus, they will actively participate in activities on the prevention of pollution as well as safeguarding biodiversity. (iii) The interface of Shock-Proof Profitability and Planet-Friendly Business Processes is about the transformation of wastes and irritants in the rice field into resources. It is also about the optimum and productive use of rice lands in an environment-friendly manner.

Research Design and Methodology

The Sustainable Development-Based Business Modelling around the Industrial Symbiosis Regime is a new concept in the Philippines which will be applied to rice farming communities. Thus, the research design employed was a mixed method – quantitative approach to determine how the concept can add further value to rice farming communities with PhilRice as the locus of innovation and exploratory qualitative research methodology. One of the qualitative steps is the conduct of a research group discussion with the experts of the Philippine Rice Research Institute (PhilRice). The purpose of the activity is to gather insights about the starting point of the action research. The next process undertaken was an exploratory qualitative research methodology is aimed at the following goals: (1) to gather basic insights about how the concept can be started among rice farming communities; (2) develop theories on how the concept can effectively deliver value to the communities being assisted; and (3) develop methods that can be recommended to duty bearers.

For the quantitative research methodology, the survey was designed to determine which aspects of sustainable development are important among farmers. The responses will elucidate the gaps that must be addressed. The snowball sampling was done in various municipalities in Nueva Ecija. The

Department of Trade and Industry – Nueva Ecija played a very important role in the research.

The Action Research Methodology

The purpose of the action research is to develop theories on the critical success factors for implementing the industrial symbiosis concept in two rice-producing province – Aurora and Nueva Ecija. The theories were inducted from real-time case studies. The case notes were presented from the point of view of the researcher. The observations also presented the level of perception and understanding of the researcher.

The case studies followed the steps proposed by Eden & Ackermann on the Action Research Process (Eden & Ackermann, 2018). The methods are narrated as follows:

Step 1 – Formulating the Research Design (Eden & Ackermann, 2018)

The preliminary activity is the Immersion with various rice-based farming communities nationwide. This was undertaken from the period 2017 up to the time that this research is being reported. However, because of the Corona Virus 2019 (Covid-19) Pandemic, the business model development was focused in the Provinces of Aurora and Nueva Ecija. Through the immersion initiatives, the researcher would like to have a thorough understanding of the pressing productivity issues among rice farming households. In case income from rice production is the major issue, the design of the intervention will be towards supplementing the income from rice farming by enhancing land and labor productivity. The other reason is to determine how a PhilRice station can offer solutions through the SD-based business modeling strategy around the industrial symbiosis concept.



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Step 2 – The intra-cycle of interventions yielding data leading to saturation of both design and outcomes (Eden & Ackermann, 2018).

This step is about testing the business model in real-time and documenting the observations during the process. The strategies were formulated based on the empirical data and observations gathered.

Step 3 – The exit point for the next round of the action research (Eden & Ackermann, 2018)

As mentioned, productivity is about the sufficiency of household income to support basic rights which the researcher deemed as proper nutrition, quality education, appropriate healthcare, access to power and clean water, access to information, safety and security of the family, and many others.

Apart from immersion data gathering activities included environmental scoping with various industry and development actors that are operating within Nueva Ecija and Aurora Provinces.

Presentation Scope and Limitations

Because the action research is a handholding approach that aims to help rice farming communities have a steady market for value added products from rice-based farming systems (also known as rice farming with other crops), several business model development steps were undertaken, such as environmental scoping, choosing beneficiaries, facilitating convergence, organizational development, product design, and management of functional strategies including market development. However, the presentation for this research report will be limited to the frameworks on product identification and adequacy analysis. The frameworks were developed from the observations from various case studies (some were done earlier than 2017).

Data Results and Analysis

The Research Group Discussion with PhilRice Experts paved the way for the assessment of the application of industrial symbiosis in the Province of Nueva Ecija. Further, the concepts which surfaced in the Research Group Discussion with PhilRice Experts can be distilled through the logic - how can PhilRice strengthen and further develop itself through the strategy of being the locus of innovation around SD-Based Business model building? The minutes of the discussion was transcribed and the research process started with the salient points that were distilled. Based on the discussion, PhilRice can be a source of ideas which the rice farming communities can test. Also, PhilRice may be able to handhold farmers’ groups who may want to try the livelihood idea.

Thereafter, a survey among rice farming households in Nueva Ecija was conducted with the assistance of partners. The respondents were chosen based on their engagement in rice farming – either as farm owners or farm workers. The Province of Nueva Ecija has five (5) cities and 27 municipalities. The top 10 Municipalities of Nueva Ecija with the greatest number of farmers are provided, in table 1, as follows:

Table 1

Top Ten (10) Municipalities in Nueva Ecija with the Most Number of Farmers During the Dry and Wet Seasons of FY2020

Rank	City/ Municipality	No. of Farmers 2020 Dry Season	City/ Municipality	No. of Farmers 2020 Wet Season
1	Guimba	12,471	Guimba	11,639
2	Science City Munoz	5,343	Cuyapo	7,183
3	Llanera	5,171	Science City Munoz	6,070
4	Talavera	5,111	Cabanatuan City	5,737
5	San Jose	4,825	Talavera	5,676
6	Aliaga	4,707	Lupao	5,588
7	San Antonio	4,655	San Jose	5,505
8	Sto.Domingo	4,587	Aliaga	5,089
9	Rizal	4,474	Sto. Domingo	4,622
10	Cabanatuan City	4,342	Rizal	4,579



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In terms of the profile of the Respondents, there were more female respondents than males. One reason can be the network or colleagues who were tapped to gather information were mostly females. They might have some discomfort gathering information from male farmers. The second reason can be the willingness to share information.

Most of the respondents were married or with common-law partners. In-depth, socio-anthropological studies were recommended to determine the balance of power between the partners in increasing rice productivity. The age group with the greatest number of respondents were aged 41 to 50 and 51-60 years old. Majority of the respondents were high school graduates and some reached college level and graduated from college. This information is especially important in designing interventions to increase the productivity of rice cultivation. The learning methods must be suitable for the educational attainment of the farmers. The question of whether the respondent is part of the PWD Community was asked because PhilRice has to determine the ways in which the vulnerable groups in rice farming communities can be assisted. The majority of the respondents considered themselves as “poor”, a significant number said that they were “well-to-do” while very few respondents viewed themselves as rich. Most of the respondents were land owners. In terms of value, the land itself is a very important asset and farmers seeing themselves as poor calls for in-depth studies to determine whether the perception of poverty is from the revenues delivered by the land, or the farmers have a particular idea about the quality of life. The majority of the respondents live in the same area where their farm is located. This information will provide the possible interventions to maximize land and labor productivity. Also, the number of children will determine how the land will be used shortly. People who work on the farm considered themselves farmers. This information is especially important because of interventions on mechanization, how can PhilRice address the issue of efficiency by lowering the cost of labor while, at the same time, ensuring that job displacement is

properly managed. They had been in their respective locality for more than 31 years. Because PhilRice had been in existence in Nueva Ecija for more than 35 years, there should be several opportunities for the farmers to be acquainted with its programs and activities. The respondents have sources of income other than farming. Most of the respondents were employed in the public or private sector while some have a business. They replied that no one in the family is helping with farm work. In-depth research will be recommended so that PhilRice can design responsive farm mechanization strategies.

The Most Pressing Issue in Rice Production That Rice Farming Communities Deemed Most Important

Based on the general comments from the Focus Group Discussions conducted, the fluctuating price of fresh palay is the most pressing issue. During the harvest season, the farmgate price of fresh palay is lower than the production cost. On the other hand, the farmers do not have mechanical driers and storage facilities to ensure the integrity of the rice. The National Food Authority (NFA) only buys dried and cleaned palay and the warehouses can only accommodate certain amounts of harvest (interview with Ms. Irma Tomas Zafra, NFA).

In how many ways can PhilRice earn for its operations by being the locus of innovation on Sustainable Development-Based Business Modeling around the industrial symbiosis regime for rice farming communities?

Based on the perception of the respondents, PhilRice can earn while helping the farming community of Nueva Ecija through the initiatives that are reflected in the figure below:



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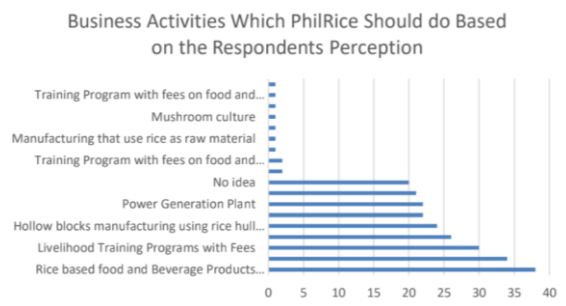
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Figure 5

Business Activities which PhilRice should do Based on the Respondents' Perception



Based on the perception of the respondents, PhilRice can enter into rice-based food and beverage products, livelihood training programs with fees, hollow blocks manufacturing using rice hull ash, and power generation plant.

Based on Executive Order 1061, PhilRice is allowed to generate its income and can use mechanisms such as entering into joint venture agreements and public-private partnerships. The findings of the research will be presented to the management of PhilRice and the aforementioned mechanisms will be explored further to enhance the income generation potential of the Institute.

Resulting Frameworks from the Real Time Business Modelling

The Action Research on Real Time Business Modelling were conducted as follows:

Table 2

Action Research Activities on Real time Business Modelling Conducted with Various Target Groups in Nueva Ecija and Aurora Provinces

Year	Location	Activity	Rationale	Remarks
2017	Ma. Aurora, Aurora Province	Citronella oil production	Alternative income through perennial crops in rice-based farming systems	On-going
2018	San Jose City, Nueva Ecija	Garments manufacturing with organized PWDs	Off-farm livelihood	Finished
2020	Llanera, Nueva Ecija	Rice Hull Ash Pots	Waste transformation	On-going

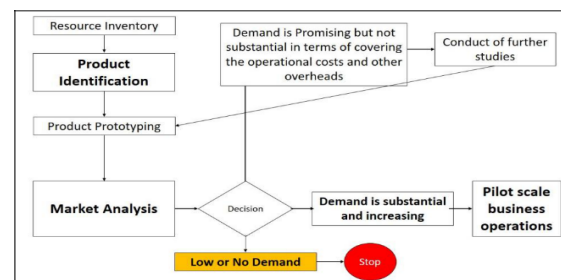
In line with the Pragmatism-Axiology Research Philosophy, the goal of the Action Research initiatives is to observe how the target groups will assimilate the values that poverty can be reduced if more members of the rice farming households will earn a decent income. The activities are also intended to design frameworks which can be used as guidance notes for duty bearers.

The Action Research on Real Time Business Modelling is around the argument: If the Sustainable Development-based Business Modeling around the Industrial Symbiosis Regime will be Introduced as a Strategy to Further Increase the Productivity of Rice Farming Households, How can PhilRice Effectively Position Itself as the Locus of Innovation and Operationalize the Concept in Terms of the (a) Conformance of the activities to the mission and mandate of the Institute. (b) Resource mobilization (Funds, tangible and intangible resources, networks, and other relevant requirements to operationalize a specific business model). (c) Supply chain management. (d) Market development for the outputs. (e) Measurement of value creation among rice-producing communities.

Based on the observations from the case studies, the framework for the product identification step was developed, as follows:

Figure 6

Framework for the Product Identification Step in Building Government-led and Managed SD-based Enterprise Models





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Figure 5 illustrates that the operational and marketing requirements are identified at the product identification stage. The components in the framework are functionally described, as follows:

Resource inventory. It is about identifying resources that can be used for income generation. The resources include the following: (1) Land. Ownership of the land is a critical factor in product and/or service design. If the land is owned, then there will be more flexibility on how the land will be exploited. If the area is leased, then care must be taken in terms of getting into products or services that need building construction or improvement. In the case of Curvada Organico – or the Rice Hull Ash Pots and Decors community manufacturing model in Llanera, Nueva Ecija- the land being used for the production facility is free of rent since the organization is opening job opportunities in the Barangay. (2) Raw materials needed in the manufacturing process. During the case development, securing the primary raw material – the rice hull ash - was quite a challenge because the Curvada Organico does not have a vehicle and is just depending on the assistance of the Barangay and PhilRice for access to the rice hull ash. (3) Resources needed for the services and/or manufacturing process – such as equipment, building, etc. (4) The physical profile of the area includes the presence of tourist attractions like rivers, lakes, scenic spots, adventure sites, etc. The product or service can be sold with tourism activities whenever possible. (5) Skills and competencies of the Managers who will be assigned to operate the business. (6) Availability and access to potable water. (7) Efficient power services. (8) Other relevant requirements (e.g., intellectual resources, waste management facilities, and many others).

Product Identification. For this aspect, the word product refers to tangible and intangible offerings, such as fast-moving consumer goods, land rental, laboratory services, etc. This activity is a very important step in designing an sustainable development-based business model initiative. If the intervention for the products (tangible and/or

intangible) will be recommended by a specific Philippine Government agency for production by a community and/or the agency will render the offering, then it must be based on the following: (i) The mandate – for example, Philippine Rice Research Institute should focus on products and services around rice-based farming systems. The rice hull ash pots project is an example of maximizing every part of rice – even the ash is just a by-product of energy generation. The Citronella (*Cymbopogon nardus*) Essential Oil Project in Aurora Province is using a land that is not suitable for rice production for crops that do not need much water and care but can be a source of daily revenues. Because the Citronella is planted beside rice, the activity is within the rice-based farming systems regime. The garments project is an alternative off-farm livelihood for rice farming households. It is about enabling family members with disability to earn a decent income opportunity while staying at home since it is unsafe for the person to work in the field. Other examples are food products where the raw materials are part of rice production and/or the rice farmers are the direct beneficiaries of the commodity. An example can be a micro-scale drying system for rice and crops which are planted simultaneously with rice or after harvesting rice. (ii) Policies on the use of government resources for income generation. (iii) The abundance of raw materials from rice-based farming systems. (iv) Resource ownership. (v) Policies for marketing specific products. (vi) Other relevant aspects that will have implications on production efficiency and marketing

Product Prototyping. For this research, it is about releasing a specific product and/or service with its desired image and features (e.g., after-sales service package) to the intended target market. The release will be on a micro-scale (e.g., less than 1000 units per month). The purpose of product prototyping is to determine whether the target clients will be interested to patronize the product based on the value assigned to it. Product Prototyping is also intended to determine whether the product has market potential and/or how it can be improved



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further to strengthen market acceptance. However, in this research, the government will be considered as one of the markets, but it will not be the target market. This is to ensure that the demand is not artificial.

Market Analysis. This aspect will provide the data on whether the product has substantial demand or how the product should be improved based on customers' perception of value. The data will also help decision-makers to decide whether the offering should be continued and offered on a larger scale. The data will also render the basis of whether the project should be culled because of low profitability.

The result of the activities under this aspect will lead to possible decisions, as follows: (i) Planning for the expansion of business initiative if the product prototype has substantial demand. Apart from the demand, the product must be valued by customers at a significantly higher rate than its production cost, logistics, and marketing costs. To reiterate, subsidies and grants must not be in the equation; (ii) If the demand is promising but the volume is not within the amount to which the enterprise can cover its costs, then, the proponents should review the product attributes. In reviewing the product attributes, the perception of value among customers must be carefully considered. Apart from the product attributes, the marketing mix must also be analyzed – such as, how the value of the product is communicated to customers. If the major customer is a government agency, then, care must be taken in planning the expansion – what will happen in case there will be a change in leadership? (iv) If the product has a very small demand given all the efforts to introduce the product, then, the program must be stopped.

The Concept of Adequacy Analysis

Adequacy analysis was developed by the researcher in case the proof of concept has promising results, the enterprise or business unit can slowly increase its market outreach before resorting to any major

investment. The expansion will be based on the outputs and outcomes of the preliminary activities.

The demand can be projected based on the sales of the prototype. It can be considered promising if the profits from the sales volume – or the number of customers who are paying for the assigned value of the product - can cover the entire operational expense. To reiterate, grants and subsidies must not be considered in calculating profitability. The number must be increasing, and 6-18 months must of market testing be assigned to test whether the investment can be recovered.

However, before doing any attempt to upscale, the carrying capacity of the enterprise or business unit must be thoroughly analyzed to ensure that the model is good enough to properly manage the growth.

Consequently, in the case of fast-moving consumer products, the demand must be supplemented by the required volume of the raw materials. The Operators of the Enterprise or business unit must be equipped with the skills needed to brace the growth. The physical and financial resources must be adequate as well. Thus, the conditions for the analysis of adequacy are proposed to enable the business unit operators to have a deep understanding of how they can manage the increase in demand. They must also be equipped with the skill to determine whether the demand is artificial (e.g., the government is the major client).



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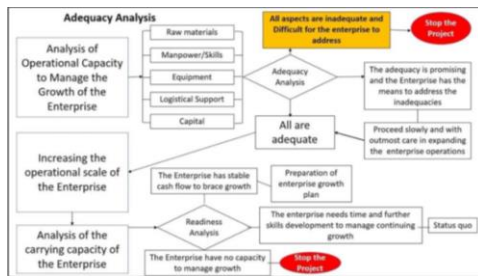
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Figure 7

Framework for Adequacy Analysis Methodology



Analysis of the adequacy of resources is about determining whether the raw materials, manpower, and infrastructure are more than enough for the projected demand. Following the analysis of adequacy, decision must be made whether or not the operational capacity of the enterprise or business unit can be increased. The Theoretical Framework for the proposed method is illustrated in Figure 7.

The components of adequacy analysis are explained, as follows:

The Analysis of Operational capacity is intended to help the Enterprise Operator plan for growth in case the demand for the product and/or service is/are substantial and growing. The aspects of the adequacy analysis include: (i) Whether the raw materials are enough for the growing demand, (ii) If the manpower and skills of the Team working on the Enterprise or business unit are enough in terms of education and experience to brace the growth of the initiative, (iii) Whether the Enterprise or business unit can afford (or acquire immediately) the equipment and other resources needed to ensure the integrity of the product (or service), (iv) Whether the logistical infrastructure and resources are enough to ensure the efficiency of operations, (v) And most importantly, whether the enterprise or business unit can immediately access the capital needed to brace the growth.

To analyze the adequacy of raw materials, the following aspects must be properly considered: (1) Seasonality of production of the major raw material requirement, (ii) Land area used for production, (iii) Availability of areas for the expansion of raw material production, (iv) Willingness of producers to take part in the supply chain, (v) Logistical infrastructure and equipment, (vi) Number of firms needing the same raw material. (vii) Price fluctuations, and (viii) Other conditions which can significantly affect the supply of the important raw material(s).

To analyze the adequacy of manpower and skills availability, the following aspects must be properly considered: (1) Training institutions within the periphery of the group implementing the livelihood or enterprise initiative. The Training Institutions, such as colleges and universities as well as Vocational Learning Organizations - will be the source of the skills required for the business processes of the enterprise or business unit; (2) The presence of government and civil society organizations (e.g., government units, academic institutions, technical institutions, etc.) within the periphery of implementing group can help supplement the technical expertise needed by the enterprise; (3) Presence of public and/or private institutions that can provide the trained manpower (e.g., trade schools, graduates of K-12).

The Adequacy of Equipment is important especially if the integrity of a certain product is dependent on particular parameters such as temperature (e.g., fresh mushrooms, rice cakes, and many others).

To analyze the adequacy of logistical support, the following aspects must be properly considered such as road conditions and transport services including the equipment requirements needed to ensure the integrity of the product or to properly deliver the goods and services in the most cost-effective and efficient way.



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Capital is the lifeblood of any enterprise. Thus, the operators must ensure that the funds are enough to brace the growth.

It can be noted in the framework that the step, *Increasing the Operational Capacity of the Enterprise*, does not immediately proceed nor is linked with the analysis of operational capacity to manage the growth of the enterprise. This is because any enterprise works under risky or uncertain conditions. In case the conditions cannot be properly managed due to uncontrollable factors, then, the project must be stopped.

Discussion, Conclusions, Recommendations

According to the World Bank, poverty is a multi-dimensional social phenomenon (World Bank, n.d.). Thus, the definition of poverty will vary according to the purview of the case owner. Poverty reduction and job generation are the essence of Industrial

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Symbiosis around the SD-Based Business Model Development.

Based on the experience of the researcher when running real-time business models, enterprise development skill is a continuous learning process that requires a substantial amount of time. Learning is a combination of academic and actual skills development from experiences. Failures can teach important skills.

Skills to innovate and find solutions can be supplemented by literatures but practical experience contributes more to solution-finding and strategy formulation skills. Though profit is the most basic means to measure the success of an enterprise, the metrics to measure the effectiveness of innovation can be unique in every model.

The framework will be tested to more case studies and the reports will be presented for further improvement.

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Wine & Liquor Concessionaire Management Practices, Sales Performance and the Mediating Role of Inventory Control: The Case of Philippine Supermarkets

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Abstract

This study aimed to identify the relationship and positive influence of wine & liquor concessionaire management practices of Philippine supermarkets on sales performance and the mediating role of inventory control. The causal research design was adopted in this study. A self-constructed survey questionnaire (undergone two-factor analysis – exploratory factor analysis and confirmatory factor analysis) was used to gather the responses from three hundred twenty-nine respondents mixed of store managers, assistant store managers, department heads and/or assistant department heads of Philippine supermarkets engaged in concessionaire agreement of their wine & liquor section. Composite reliability (CR) test and both convergent and discriminant validity tests were performed to assess the measurement model's reliability and validity, respectively. Partial least squares–structural equation modeling (PLS-SEM) was used to measure the direct and indirect (mediating) hypothesized relationships.

The results confirmed that wine & liquor concessionaire management practices based on concessionaire's term and termination, assignment of rights, insurance, signs, warranty and representation, operating parameters, and damages had no significant and positive influence on sales performance in terms of profitability (sales contribution to total sales), market share and sales revenue.

The study revealed that wine & liquor concessionaire management practices were significantly and positively related to inventory control. The findings also proved that inventory control was found to have a significant and direct effect on sales performance. Concomitantly, inventory control acts as a mediator on the relationship between wine & liquor concessionaire management practices and sales performance.

Keywords: wine & liquor concessionaire management practices, sales performance, inventory control, wine & liquor industry, PLS-SEM

Relevant SDGs: SDG 1 No Poverty, SDG 3 Good Health and Well Being, SDG 8 Decent Work and Economic Growth, SDG12 Responsible Consumption and Production, SDG 17 Partnership for the Goals



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Introduction

The Philippines is recognized as one with the highest potential for growth in alcoholic beverages in the world; as stated by the International Wine & Spirits Research (IWSR). The claim is ascribed to the considerably huge populace of young professionals in the Philippines, in their legal drinking age, and that their usable earnings have improved, in which the fancy for boozy drinks has stretched. IWSR forecasted that the Philippines would garner 1.4% of the global market for alcoholic beverages by 2023.

Based on the recent review of Euromonitor International in June (2022), the primary source in the world for consumer insights, market analysis, and global business intelligence; all classifications of alcoholic beverages (wines, spirits, beers and ready-to-drink RTDs) are still full of potential in Philippine market. Wine is appreciated as an elegant appendage for different occasions, and has recorded robust growth in sales in the category until the outburst of Covid-19. Leading companies in the wine industry like Bel Mondo Italia Corp and Emperador Distillers brag superiority with resilient distribution in hypermarkets, supermarkets, and convenience stores. Although the Philippines showed promising interest in imported hard liquors from houses of Diageo Philippines and Pernod Ricard Philippines over the review period, Ginebra San Miguel and Tanduay Distillers Inc, the local players of alcoholic beverages in the Philippines still dominate the competitive landscape which manifests more flexibility in 2021. Beers have the highest potential in the Philippines despite being far the leading type of alcoholic beverage in the country. Existing and aspiring players are trying to focus on capturing and enticing the new generation drinkers, over the review period.

Figure 1

Sales of Wines

Total Volume - million litres - 2007-2026

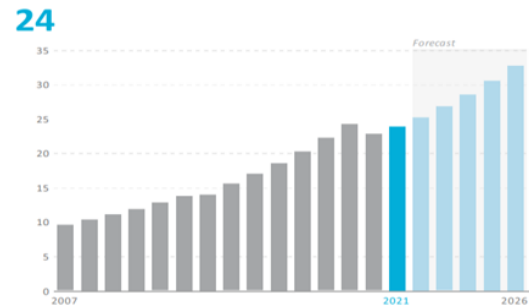
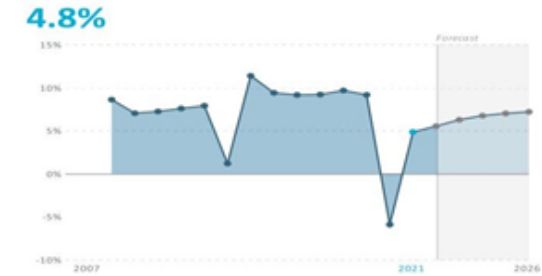


Figure 2

Sales Performance of Wines

% Y-O-Y Total Volume Growth 2007-2026



According to the recent review of Euromonitor International, Figures 1 and 2 wine present a sales growth rebound in 2021 as the government eases restrictions. Overall volume sales rose by 5% in 2021 to 24 million liters. Over the forecast period, volume total sales are pegged to increase at a CAGR of 7% to 33M liters. The middle class in the Philippines, during the review period, perceives an improvement in their standard of living and continuously eyeing new stuff to buy. As wine is comprehended as a classy complement to different and remarkable occasions, outstanding growth in sales was realized in the wine category until the Covid-19 epidemic. Red and white wines sustained to account for most volume sales at the end of the review period, which was largely down to the significantly lower price of these products, but also their wider availability.



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Like much modern merchandise, wine & liquors are commercially available on numerous distribution channels. The supermarket believably is the easiest and most convenient source of wine & liquor products. Possibly, wide selections of wine & liquors are available in every supermarket in the Philippines, and the price range is guaranteed to cater to different budgets. Unfortunately, due to the inefficiency of traditional retailing and the overall lack of knowledge in wine storage and handling, most Philippine supermarkets have no proper facility for stocking and preserving premium wines. Fortunately, some high-end supermarkets like The Marketplace and selected Robinsons, AllDay, and MerryMart supermarkets installed limited wine chillers to preserve super-premium wines 24/7 and invested in beautiful wine racks and wine barrels to showcase quality wines.

Another option to buy wine is through local specialty wine cellars that carry interesting and rarer bottles, which are seldom available in supermarkets and other grocery stores. There are numerous luxury wine shops in the Philippines that offer the largest collections and brilliant portfolios of wine & liquors in the country; showcasing the globe's reputable and well-known wineries, vineyards, and their most sought-after varieties. As evident in the online channel performance in CY2020 and CY2021, there is growing interest in ordering wine & liquors through eCommerce. Selected wine cellars and retailers are also using eCommerce to expand their market and as a source of growth.

Notably, in the Philippines, hypermarkets, and supermarkets are the leading distribution channels of wines which accounted for 35% share of volume sales in 2019. Backed up by the recent review conducted by NielsenIQ (August 2022), Figure 3 shows that Supermarkets remain the main channel for distribution of FMCG; though are still challenged to fully recover in both sales value and volume while traditional trade continues to drive total FMCG across categories.

Figure 3

FMCG Value Share of Trade & Growth I Philippines by Channel I YTD 2020, 2021, 2022



Retailers are legally doing business under concession agreements in diverse locations including restaurants and cafes, trade stores positioned in airports, sellers at municipal carnivals, or the retailing of food and beverages from kiosks within country parks. The undertakings that stipulate the duration of the contract, the period under which the concessionaire may operate together with charges that will be calculated by the property owner are clearly defined in the Concession agreement. Rates and payments to the property owner may be the rental for the place, a proportion of sales revenue in percentage agreed, or a combination of the two. Additional requirements can also be included, including which party is accountable for definite maintenance activities and finalizing the terms requested and agreed upon by both parties.

Entrepreneur Staff (2011) has stated that if a company's brand is fast gaining ground and aiming to reach more customers than those who visit its existing retail shop, worry no more. Department stores, even supermarkets, which have a glut in this country, are just waiting for a potential company to invade as a store concessionaire. Besides satisfying a wide range of consumers' needs, said stores could offer a space through a concession arrangement, which would elevate the business to the next level.

At present, major management supermarkets here in the Philippines are maximizing the outgrowing potential of concessionaire agreements and entrusting their wines and liquor section to a concessionaire party. Venturing into concession



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agreements is an alternative for these supermarkets where the headache of day-to-day operations is being transferred to or assumed by a concessionaire party in exchange for a predetermined percentage of income. The precise concession management approach promises a substantial contribution to revenues incremental while minimizing expenses at the same time.

Here in the Philippines, very few companies emerged as wine & liquor concessionaires (Philippine Wine Merchants, Blue Mountain, Don Revy, Wine Warehouse, etc.). Philippine Wine Merchants is one of the experts and pioneers in wine & liquor concessionaire in the country with nineteen solid years of servicing over five hundred supermarkets and convenience stores Philippine-wide; including Robinsons Group (Robinsons Supermarkets, The Marketplace & Shopwise), Waltermart Supermarkets, All Day Supermarkets, MerryMart Grocery, Ever Supermarkets, Tropical Hut, and Super 8 among others.

Being a Concessionaire, PWM not only sells a wide array of reputable brands of wine & liquors but also delivers excellent service to its clientele. Concession operates where the above-mentioned supermarket owners or management award the full responsibility of managing their wine & liquor section to PWM (concessionaire) in exchange for a predetermined commission for every bottled sold of wine & liquor products. As concessionaire, PWM ensures strict monitoring of the day-to-day operations of each store; invests in store-initiated marketing campaigns to boost in-store wine & liquor sales; provides wine store specialist or merchandiser for each store to the overseer and manages the wine & liquor section; inventory control in effect thru constant monitoring of fast-moving SKUs and slow-moving items to avoid out-of-stocks or overstocks and most importantly, ensure stocks available upon request. At the end of the month, the supermarket head office will send a consolidated sales report of all bottles sold across all branches net of commissions to the PWM head office with thirty (30) days payment terms.

The booming wine & liquor industry in the Philippines and the huge potential to grow the wine & liquor business in supermarkets are the main reason why the researcher conducted the study to unveil the superb and vibrant potential of concessionaire management in supermarket's wine & liquor section as a strategic option of these supermarkets to restructure and reposition their retail interests.

At the end of the study, the application of an inventory control system as a crucial part of concessionaire operation will be introduced alongside the recent development in wine & liquor concessionaire management practices where supermarkets and other retailers may seek to avail the service of a wine & liquor concessionaire party.

Significance of the Study

Aligned with SDG 3 (Good Health and Well Being), SDG 8 (Decent Work and Economic Growth), SDG 12 (Responsible Consumption and Production) and SDG 17 (Partnership for the Goals); this research study is beneficial and significant to business owners, supermarkets managers, aspiring entrepreneurs, wine & liquor patrons and to the local economy of the Philippines.

Business owner of the company engaged in wine & liquor concessionaire businesses/agreements. This study will help the owner evaluate their company's capabilities to sustain the business and manage the expectations of the supermarket owners.

Management of the company engaged in wine & liquor concessionaire businesses/agreements. This study promises to offer valuable inputs to the management to enhance existing practices in handling wine & liquor concessionaire business. With all the information gathered, the management can assess and determine the best concessionaire management practices that suit their requirements that will elevate its sales performance and strategically manage its inventory per store level and company-wide as a whole.



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Supermarket Owners. This study will enlighten the management regarding the beauty of collaborating on concessionaire agreements by maximizing their business potential. Uncover the strategic business advantage a wine & liquor concessionaire might offer and deliver through their optimal capabilities.

Aspiring Entrepreneurs. This study conveys another enticing business opportunity to consider.

Literature Review

Nowadays, big management companies including the major supermarkets here in the Philippines are maximizing the outgrowing potential of concessionaire agreements on their snacks, food, non-alcoholic beverages, and particularly in the wines and liquor section. Venturing into concession agreements is an alternative for these supermarkets where the headache of day-to-day operations is being transferred to or assumed by a concessionaire party in exchange for a pre-determined percentage of income.

The ability to establish good working relationships with independent retailers in today's competitive marketplace is a tough business endeavor. Familiarity with the trends in how wine & liquor concessionaire management operates in supermarkets is very important, thus, carefully taking into consideration the following dimensions: concessionaire's term and termination, assignment of rights, insurance, signs, warranty and representation, operating parameters, and damages.

Term and Termination

As cited in the Resource Manual for Airport In-Terminal Concession, LeighFisher (2011), Concession agreements comprise the arrangements that bind the trade relationship between the concession and the concessionaire party; both parties interpret this contract throughout its term. Hence, the context in the contract must be clear, brief, and complete. All concession agreements are

subject to applicable state, national, and local rules and regulations. A Concession agreement is a pact that provides the corporation its right to function as a definite business according to an administration's authority or on a different firm's possessions, subject to precise terms (Kenton, 2020)

Assignment of Rights

The influence of the agreement to limit assignment is extensive (Law Offices of Stimmel, et.al). Typically, contractual requirements that confine the assignment of the agreement without the permission of the obligor are legal and enforceable, even as soon as there is legal consent for the transfer. The limitation of the supremacy to assign is often futile unless the limitation is clearly and accurately defined. Non-assignment clauses are in effect only if they have the clear, ambiguous language of exclusion. Non-assignment clauses safeguard merely the obligor and do not affect the deal between the assignee and assignor.

Insurance

As cited in the Resource Manual for Airport In-Terminal Concession, LeighFisher (2011), comparable to all agreements, concession agreements make the responsibilities of the parties. Insurance provisions for the concessionaire and its subtenants and suppliers ought to be evidently specified in the concession contract. It is significant to precisely state the kinds of assurance instruments that can be yielded to meet the pledge necessities.

Signs

Correct merchandise display in-store attracts the customer's attention and has a direct impact on sales growth (Bilousko, 2021). He also mentioned that global retail is in an era of change. New trends and customer habits are forcing retailers to rethink their merchandising principles. In-store merchandising is a set of measures subject to the laws of merchandising, marketing, and retailing aimed at ensuring a comfortable search for goods by



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customers, attracting attention to a certain group of goods, increasing sales, enhancing the image and reputation of the store/retail outlet/network and stimulating customer loyalty. In Resource Manual for Airport In-Terminal Concession, Leigh Fisher (2011), recommends that discussion with concessionaires should confirm extensive collaboration on marketing initiatives and contribute to the creation of sound marketing choices. Common marketing approaches include flyers, enterprise directory panels, and signage among others.

Warranty and Representation

Concessionaire further warrants to supply adequate, complete, and new stocks that are good quality and priced competitively. In case of any change in price, the new pricelist should be sent to the Client immediately for evaluation and approval. The new price shall take effect on an agreed date. Biore et al. (2018) mentioned that price is meticulously tangled to the desires of the items' loyal patrons; for instance, if the product is prepared for the high-end market, subsequently, the item can be positioned at a higher price point. Concomitantly, Havaldar et al. (2010) were convinced that these days' consumers are considering a decent worth of their purchases; countless kinds of customers turned into noticeably price sensitive.

Operating Parameters

According to Raymund San Mateo, the key account executive of Philippine wine merchants (concessionaire) deliveries of wines and liquors are delivered in the receiving area or loading docks of the supermarket; PWM merchandisers will receive the deliveries witnessed by the stores' receiving personnel. Edwin Cristal, PWM key account executive, mentions that the pull-out of merchandise in the supermarkets will pass through a strict process. The merchandiser and/or store managers coordinate with PWM head office regarding the request for pull-out (both good and bad items). The key account executive and/or account coordinator

processes the request and seeks approval from the management to pull out the goods with the necessary documents.

Damages

Nicolas and De Vega Law Offices, cited under article 2226 of the Civil Code, liquidated and ascertained damages remain those approved upon by the parties to a bond, to be compensated in circumstances of breach thereof.

Sales Performance

Poor inventory management has remained the focal aspect in the collapse of many businesses (Chan, 2019). Good and proper investment in inventory control is essential to avoid or minimize losses and sustain profitability. Moreover, Ramilo (2018) recommends setting meaningful and effective marketing objectives that are aligned with customer needs and wants. Indeed, Gupta et al. (2005) states that price is a very effective marketing move with a direct effect on the consumers' perception and the firm's overall profitability. According to Pride et al. (2019), various businesses initiate pricing goals to sustain and/or improve their market stake, comprising the products' total sales versus industry total sales. Biore et al. (2018) state that sales advertising and campaigns can produce sales volume and market share increase temporarily. The source of revenue for retail the likes of concessionaire and other retail businesses is the income generated from the selling of the merchandise, and one of the main assets of the company is the inventories held for sale and concessionaire trade with decisions about knowing full well what are the fast-selling wine & liquor items and understanding these items gave bountiful income rather than putting big discounts for non-moving items (Stevenson, 2019).

Nhorrie F. Wang, PWM's VP for Retail Operations, and Head of Concession Department, testifies that being a concessionaire in the wine & liquor section of supermarkets is a tough game, needs a strong



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presence and consistent brand-building activities that generate good sales turnover and it is imperative to continue all planned campaigns in order to be a market leader. Price-off campaigns, cross-merchandise, and other brand-building campaigns are needed in order to sustain the sales volume and capture more market.

Inventory Control

Inventory control in concessionaire agreements handling wine & liquors is very crucial. It is known that wine & liquors are luxury items that require special product handling and strategic inventory control to avoid spoilage/damages that increase pilferage. Stevenson (2019) confirmed in operations management in the like of wine & liquor managing concessionaires, an important part of the business is their inventories. Undeniably, inventory in wine & liquor concessionaires is the lifeline of the business, and to fulfill customer needs and demands effective inventory control is vital in concessionaire operations. Stocks availability upon request at any given time has a significant and positive influence on sales volume growth in both off-trade such as supermarkets, grocery stores, etc. (32.4%) and on-trade such as hotels, restaurants, bars, and other wine cellars (13.8%) are attributed to the aggressive marketing campaigns and the consistent collaboration with popular eCommerce sites by the leading wine & liquor players to deliver growth, conferred by the recent review of Euromonitor International (2022). Likewise, the company needs to maintain inventory and they felt going to suffer sometimes, having a low level of inventory is risking the company losing sales while having excess inventory is costlier (Meritt, 2019). Similarly, Schwarz (2022) affirmed effective implementation of inventory control procedures gives assurance that a business is operating at optimal financial levels. According to Kazer (2015), prudent planning to make sure merchandise and products are delivered through the distribution channels effectively and efficiently are the works of logistics. Indeed, Stevenson (2019) concluded that successful distribution management entails effective

management of the entire distribution process. Toward rationalization of the processes and maximizing the value of the company's properties and workforces, the company must consider the service of an expert in logistical functions. Partnering with a reputable third-party logistics provider is an option to ensure regular stock replenishment. Philippine supermarkets are stacking up more wines on their shelves that are not selling enough and limiting their profit potential, according to recent consumer research from NielsenIQ. In emerging and developing markets, there is an assortment issue in the fast-moving consumer good (FMCG) categories with about three-fourths or 75% of stock-keeping units contributing to less than 2% of category sales.

Research Philosophy, Framework, Design, and Methodology

Theoretical Framework

The study used the existing concessionaire agreement as the best practices for wine & liquor concessionaire management for supermarkets.

Concessionaire Agreement General Terms and Conditions states that:

1. Term and Termination
 - 1.1. The Concessionaire Agreement is deemed terminated unless renewed by mutual agreement of the parties in writing at least thirty days before the contract expires. The resumption hereof is subject to the settlement of all unpaid obligations by the concessionaire
 - 1.2. Clients may cancel the Agreement for any valid purpose by serving a written notification to the Concessionaire sixty days before the operative date of pre-termination. The pre-cancellation of the contract intends to not



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- prejudice any right, which may accrue by either Party throughout the contract.
- 1.3. Upon cancellation or pre-termination of this Agreement, Concessionaire shall vacate the premises and its employees shall no longer be allowed to enter the store, except for purposes of pulling out of all its products identifying fixtures owned by the parties.
2. **Terms of Payment**
 - 2.1. The rates mentioned in Part I of this Agreement are inclusive of one (1) mass display of Concessionaire items and sampling of Concessionaire items within the premises.
 - 2.2. All Sales of Concessionaire products shall pass through the Client's cash register. The Client shall remit to Concessionaire its net sales in thirty calendar days from receipt of the Statement of Account (SOA).
 - 2.3. The Client will be eligible for an additional one percent (1%) of the total gross sales as an incentive whenever the payment of Concessionaire net sales is settled on or before fifteen calendar days from the specified schedule of payment.
 3. **Use and Care of Designated Area**
 - 3.1. Concessionaire shall use the designated area exclusively for displaying, selling products, and conducting merchandising activities approved by the Client. Concessionaire acknowledges receipt of the designated area in good, sanitary, and clean condition, and assumes to maintain the space in good condition, a sanitary and clean condition during the term of this Agreement.
 - 3.2. The Client has the exclusive discretion to transfer, reassign or relocate the designated area to another space without incurring liability thus allowing a written notice to the Concessionaire for thirty calendar days.
 - 3.3. To maintain peace, order, and security in or around the leased premises, the Client shall maintain its present security force under existing security measures.
 4. **Alteration and Improvement.** The Concessionaire shall not make any alteration, addition, or improvement to the designated area without the written consent of the Client.
 5. **Assignment of Rights.** The commitments of the Concessionaire stipulated in the Contract shall not be given to a third party without the prior written approval of the Client.
 6. **Liabilities and Losses.**
 - 6.1. Concessionaire will be solely answerable for the protection and safety of its personnel, products, and also properties. The Client will not be answerable at any time for any injury or damage in the Concessionaire's product and properties or for any injury of its employees in the store or during transit to its store.
 - 6.2. Concessionaire shall indemnify and hold the Client free and harmless against any claim, action, damage, liability, or expense arising from the sale of Concessionaire's product or any incident whatsoever occasioned by the use of the designated area or by any act or omission of its employees or customers. Concessionaire shall be solely



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- liable to its customers or any person for any complaint against products offered to the Client, such as but not limited to any injury or damage caused by the intake of such products.
- 6.3. If the Client will be held liable as a result of any claim attributable to Concessionaire or its officers, agents, employees, or personnel, Concessionaire undertakes to indemnify the Client of such amount of liability within forty-eight (48) hours from receipt of notice without the need of demand.
7. **Insurance.** Concessionaire, at its own expense, shall carry Comprehensive General Liability insurance for the business activity herein contemplated. Concessionaire shall insure its employees, products, and other properties against fire and/or other perils with an insurance policy company duly accredited by the Client, furnishing the latter a copy of the insurance policy thirty calendar days from the effectivity of the contract.
8. **Monthly Product Inventory.** Concessionaires shall conduct a physical count of its wines and spirits products monthly.
9. **Grocery Policies.** Concessionaire and its representative shall be governed by all rules prescribed by the Client in the management or its grocery and shall conduct its sales with due regard to the rights of the Client.
10. **Signs.** Concessionaires shall be allowed to put signs inside and outside of the grocery with permission of the Client through secured written approval.
11. **Warranty and Representation.** Concessionaire permits to have complete dominance and jurisdiction to set foot into this undertaking with the Client and that the execution of this contract has been validly permitted by all essential business undertakings. Concessionaire further warrants that it will supply adequate, complete, and new stocks that are good quality and priced competitively. In case of any price change, the new price list should be sent to the Client immediately for evaluation and approval. The new price shall take effect on an agreed date.
12. **Operating Parameters.**
- 12.1. The operating hours of Concessionaire shall be from 9:00 AM to 9:00 PM or depending on the operation of the Client, as may be scheduled by the latter;
- 12.2. Concessionaire shall deliver its products in the Receiving Area designated by the Client.
- 12.3. All deliveries should be supported by the delivery documents duly acknowledged by the Concessionaire's authorized representative in the presence of the Client's representative.
- 12.4. A duly approved Gate Pass, Product Pull-out Form, or Stock Transfer Form signed by the Client's Store Manager or the authorized representative should support the pull-out of products by Concessionaire. Concessionaire employees should present the corresponding delivery document as proof of ownership of products to be pulled-out; and
- 12.5. All deliveries and pull-outs shall be logged in the logbook by the Client security on duty. The logbook should be countersigned by the Concessionaire's authorized representative.
13. **Employees.** The concessionaire must assign a sufficient number of employees under its employ. Such employees shall observe all existing rules, regulations, and policies of the Client. Concessionaire employees approved for assignment at the Client must



- undergo the orientation program. However, the Client reserves the right to request the replacement of the Concessionaire’s employees at any time and for any reason whatsoever without any obligation to provide such a reason. There should be no employment relationship between the Client and the employees of the Concessionaire, and it shall be the sole responsibility of the Concessionaire to fulfill all existing labor rules and guidelines.
14. **Trademark.** The Concessionaire warrants that it owns or has the right to use the brand trademarks and logos attached to its products. The Client reserves the exclusive right to disallow the display and sale of any products bearing brands, trademarks, and logos whose ownership and usage are being contested. Moreover, the Concessionaire shall be solely liable for acting or removal of its managers, representatives, and workforces involving brands, and logos and shall indemnify the Client free and harmless for all actions filed by the third parties concerning the said matter.
 15. **Applicable Taxes.** The applicable documentary stamp tax and any other taxes arising from this undertaking will be for the statement of the Concessionaire. The Concessionaire will furnish its client a copy of the proof of payment of such taxes fifteen (15) days from signing this Agreement.
 16. **Damages.** Violation of any of the stipulations herein, as well as the rules, regulations, or policies of the Client, entitles the Client to pre-terminate this Agreement, and Concessionaire agrees to pay the Client liquidated damages amounting to Fifty Thousand Pesos (P50,000.00) without prejudice to any rights granted herein or applicable laws. The Concessionaire shall not make any alteration or improvement to the designated area in the absence of written approval from the Client.

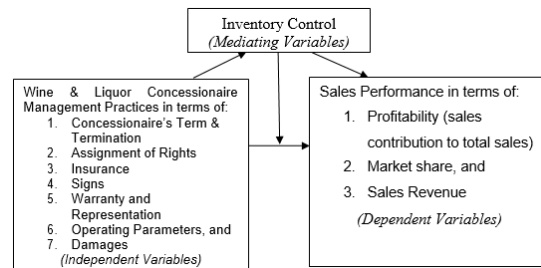
17. **Applicable Law.** This undertaking shall be administered by and interpreted in line with the decrees of the Republic of the Philippines.
18. **Venue in Case of Suit.** In case of litigation, the parties agree that the venue of all actions shall be in the proper courts of Pasay City to the exclusion of all other venues.

Conceptual Framework

The conceptual framework discussed the course of the study and makes use of causal relationships where the system of three frames involves the independent variables, dependent variables, and mediating variables.

Figure 4:

Paradigm of the Study



Research Design and Methodology

Causal research design was employed in this study to measure the extent of the relationship and influence of concessionaire management practices on sales performance and the mediation effect of inventory control between concessionaire management practices and sales performance relationship based on the essential facts gathered through investigations and surveys.

To expedite the analyses and interpretation of data, the direct and indirect (mediating) hypothesized relationships were measured using partial least squares – structural equation modeling (PLS-SEM).



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In assessing the hypotheses using PLS-SEM, the evaluation of the measurement model which includes scrutiny of the validity and reliability of the latent construct was done in the first stage. Furthermore, the evaluation of the structural model which includes assessment of the parameter estimates such as path coefficients, p-values, standard error, effect sizes, collinearity, predictive relevance, and coefficient of determination is the second and final stage.

Participants of the Study

Three hundred twenty-nine (329) supermarkets were distributed to two hundred thirty-one (231) Robinsons Group (Robinsons Supermarkets, The Marketplace, Shopwise), fifty-two (52) Ever Supermarkets, thirteen (13) All Day Supermarkets, twenty-one (21) MerryMart Grocery, four (4) Tropical Hut Supermarkets, and forty-three (43) Waltermart Supermarkets engaged in concessionaire agreement for their Wine & Liquor section.

Table 1

Distribution of Respondents

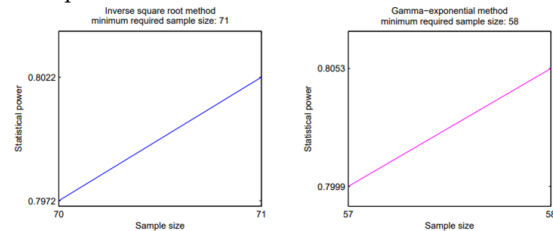
Account	No. of Respondents
Robinsons Group	196
Ever Supermarkets	98
MerryMart Grocery	11
All Day Supermarkets	15
Tropical Hut	9
TOTAL	329

To calculate and assess the competence of the sample size (n=329), inverse square root (uses the inverse square root of the size of the sample size in estimating standard error) and gamma-exponential methods (uses gamma and exponential smoothing

function corrections in estimating standard error) were applied (Kock & Hadaya, 2018).

Figure 5

Sample Size Estimates



The minimum absolute significant path coefficient is 0.296, 0.50 significance level and a power level of 0.800, based on statistical software WarpPLS version 7.0 (Kock, 2020), seventy-one (71) is the sample size estimation for the inverse square root method and the gamma-exponential method is fifty-eight (58) in Figure 5. Hence, the three hundred twenty-nine (329) actual sample size is enough to expound on the results of the structural model.

The convenience sampling method was used in this study where the first available primary data source was used by the researcher to participate in the study.

Research Instruments

Survey questionnaires were utilized to gather imperative data from respective respondents. The survey questionnaires had three parts. The first part consisted of wine & liquor concessionaire management practices based on the concessionaire's terms and termination, assignment of rights, insurance, signs, warranty and representation, operating parameters, and damages. The second part consists of the sales performance in terms of profitability (sales contribution to total sales), market share, and sales revenue. And the last part states the inventory control.

Likewise, a five-point Likert Scale was adapted to measure the effectiveness of wine & liquor



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concessionaire management practices based on the concessionaire’s terms and termination, assignment of rights, insurance, signs, warranty and representation, operating parameters, and damages. Each category has assigned verbal interpretation of “Ineffective” equivalent to 1 and “Very effective” equivalent to 5.

To measure the influence of wine & liquor concessionaire management practices and inventory control on sales performance, a four-point Likert scale was used, ranging from bad performance (.99 and below) to excellent performance (2.1% and above).

To measure the influence of inventory control on wine & liquor concessionaire management practices and sales performance, a five-point Likert Scale was administered.

Since there is no existing measurement for wine & liquor concessionaire management practices, factor analysis was performed. In scale development, the preliminary stage is defining the construct and content domain (Netemeyer et al., 2003). From the qualitative interview and literature review conducted, seventy (74) items were generated. These items were screened and reviewed and generated fifteen (15) dimensions. The items were floated to two hundred (200) respondents to explore the loadings and dimensionality of the new scale.

The seventy-four (74) items generated underwent exploratory factor analysis (EFA) thru the maximum likelihood extraction method, Promax Rotation, via Jamovi Statistical Software. Only those items that loaded 0.50 were included in the analysis. And based on the results, only seven (7) dimensions emerged namely – term and termination (5 items), assignment of rights (2 items), insurance (4 items), signs (4 items), warranty & representation (3 items), operating parameters (5 items), and damages (5 items) (see appendix 2 – EFA 1).

From the seven (7) dimensions, twenty (28) items emerged from EFA, and another round of

exploratory analysis was done. Based on the results, the following emerged - term and termination (4 items), assignment of rights (2 items), insurance (3 items), signs (3 items), warranty and representation (3 items), operating parameters (4 items), and damages (5 items) (see appendix 3 – EFA 2).

Table 2

Convergent Validity and Composite Reliability

Lower-Order Reflective Construct/Item	Factor Loading	Average Variance Extracted	Composite Reliability
<i>Term and Termination</i>			
TT1	0.814	0.647	0.880
TT2	0.851		
TT3	0.758		
TT4	0.790		
<i>Assignment of Rights</i>			
AR1	0.917	0.840	0.913
AR2	0.917		
<i>Insurance</i>			
IN1	0.782	0.684	0.866
IN2	0.856		
IN3	0.841		
<i>Signs</i>			
SI1	0.840	0.733	0.892
SI2	0.888		
SI3	0.839		
<i>Warranty and Representation</i>			
WR1	0.851	0.700	0.875
WR2	0.837		
WR3	0.823		
<i>Operating Parameters</i>			
OP1	0.817	0.706	0.906
OP2	0.841		
OP3	0.880		
OP4	0.822		
<i>Damages</i>			
DA1	0.812	0.695	0.919
DA2	0.847		
DA3	0.851		
DA4	0.823		
DA5	0.836		
<i>Sales Performance</i>			
SP1	0.848	0.784	0.916
SP2	0.890		
SP3	0.917		
<i>Inventory Control</i>			
IC1	0.724	0.616	0.865
IC2	0.810		
IC3	0.805		
IC4	0.797		

All factor loadings are significant (<0.001).

From the seven (7) dimensions (24 items) that emerged from EFA round 2, each construct was tested using PLS-SEM for validity and reliability (see Tables 2, 3, and 4), via WarpPLS 8.0 statistical software. This stage is called confirmatory factor analysis (CFA).

Reliability and validity of the latent constructs were taken into account in the assessment of the measurement model. In measuring the reliability of the latent constructs, composite reliability (CR) test was performed. Concurrence to Kock (2014) and Kock and Lynn (2012), the threshold for internal consistency of items test is 0.70. Results in Table 2 shows all lower-order reflective constructs – terms



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and termination (CR = 0.880), assignment of rights (CR = 0.913), insurance (CR = 0.866), signs (CR = 0.892), warranty and representation (CR = 0.875), operating parameters (CR = 0.906), damages (CR = 0.919), sales performance (CR = 0.916), and inventory control (CR = 0.865) – exhibit reliability coefficients greater than 0.70, hence internal consistency of items among variables is present.

With regard to validity, both convergent and discriminant validity tests were performed. In the assessment, the convergent validity of the latent constructs, factor loadings, and average variance extracted (AVE) was gauged. According to Amora (2021), each item must load at least

0.50 and must be significant (p<.05). Moreover, the AVE of each latent construct must be at least

0.50. As seen in Table 2, all factor loadings are higher than the 0.50 requirement and are all significant. Additionally, the AVEs of all the variables are as well bigger than the 0.50 threshold, therefore, convergent validity among lower-order reflective constructs is present.

Furthermore, the heterotrait-monotrait ratio of correlations (HTMT) was used to measure the discriminant validity of the latent constructs. According to Henseler et al., (2015), the threshold for HTMT is 0.85. Results in Table 3 display all lower-order reflective constructs with load HTMT ratios of less than 0.85, therefore, discriminant validity among variables is observed.

Table 3

Discriminant Validity

	TT	AR	IN	SI	WR	OP	DA	SP	IC
TT									
AR	0.549								
IN	0.439	0.507							
SI	0.468	0.486	0.548						
WR	0.321	0.243	0.246	0.317					
OP	0.494	0.526	0.550	0.560	0.343				
DA	0.645	0.608	0.621	0.595	0.365	0.664			
SP	0.159	0.077	0.079	0.059	0.267	0.081	0.061		
IC	0.387	0.269	0.454	0.400	0.395	0.423	0.503	0.358	

TT-term and termination; AR-assignment of rights; IN-insurance; SI-signs; WR-warranty and representation; OP-operating parameters; DA-damages; SP-sales performance; IC-inventory control

The researcher conducted a non-directive interview through spontaneous engagement with the respondents and did casual observation on-site and witnessed the ongoing behavior of wine & liquor concessionaire management practices.

Scope and Limitations

The study was limited only to the store managers; assistant store managers, department heads, and/or assistant department heads with direct involvement in the day-to-day operations of the wine & liquor section of supermarkets namely; Robinsons Group (Robinsons Supermarkets, The Marketplace, & Shopwise), Ever Supermarkets, All Day Supermarkets, MerryMart Grocery, Tropical Hut Supermarkets and Waltermart Supermarkets who are engaged in concessionaire agreement for their wine & liquor section. Wine cellars (Winery.ph, Wine Depot, Titania Wine Cellar, The Artisan Cellar Door, Ralphs Wine, and Liquor Stores, etc) and other supermarkets (Landers, S & R, Puregold, Landmark, etc) were not covered in this study because they were dealing an outright terms, not into concession agreements, hence, concessionaire management practices are not in effect. Future researchers opt to expound the study by tapping in-store marketing campaigns and supply chains as indicators affecting the relationship between wine & liquor concessionaire management practices and sales performance.

Data Results and Analysis

Wine & Liquor Concessionaire Management Practices' Significant and Positive Influence on Sales Performance

In the conceptual framework, wine & liquor concessionaire management practices as a variable are treated as a higher-order formative construct since it contains seven (7) indicators/dimensions – term and termination, assignment of rights, insurance, signs, warranty and representation, operation parameters, and damages. In evaluating the higher-order formative construct, a disjoint two-



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stage method was used (Agarwal & Karahanna, 2000; Becker et al., 2012).

The measurement model assessment for wine & liquor concessionaire management practices includes evaluation of factor weight, p-values, variance inflation factor (VIF), and full collinearity VIF. According to Ramayah et al. (2018), each factor weight must be significant ($p < .05$). Additionally, each indicator must have a VIF of lower than 3.30 (Cenfetelli & Bassellier, 2009). In terms of full collinearity VIF, a measure of discriminant validity for higher-order formative constructs (Rasoolimanesh et al., 2017), the threshold is 3.30 (Kock, 2015). Based on the findings in Table 4, wine & liquor concessionaire management practices as a higher-order formative construct passed the requirements for measurement model assessment.

Table 4

Measurement Model Assessment for a Higher-Order Formative Construct

Higher-Order Formative Construct	Indicator	Factor weight	p-value	Variance inflation factor	Full collinearity VIF
Concessionaire Management Practices	Term and termination	0.204	<0.001	1.552	1.273
	Assignment of rights	0.204	<0.001	1.523	
	Insurance	0.200	<0.001	1.497	
	Signs	0.206	<0.001	1.526	
	Warranty & representation	0.131	<0.008	1.142	
	Operating parameters	0.220	<0.001	1.711	
	Damages	0.243	<0.001	2.193	

The structural model, path coefficients, p-values, standard error, effect sizes, collinearity, predictive relevance, and coefficient of determination are assessed and evaluated.

The structural model's parameter estimates were shown in Figure 6 and Table 5. The results reveal that wine & liquor concessionaire management practices (concessionaire's term and termination, assignment of rights, insurance, signs, warranty and representation, operating parameters, and damages) are not positively and significantly related to sales performance ($\beta = -0.048$, $p = 0.190$). The p-value is above the margin of error (.05 or 5%); fails to accept the null hypothesis therefore the decision is that H1 is not supported.

Based on the measurement model assessment for wine & liquor concessionaire management practices, the seven dimensions of wine & liquor concessionaire management practices – term and termination, assignment of rights, insurance, signs, operating parameters, and damages are all significant with $p < .01$ and warranty and representation ($p < .008$) as well as relevance in explaining the primary dimensions of wine & liquor concessionaire management practices of wine & liquor section of the supermarket. Remarkably in Table 4, damages exhibit the highest loading and weight (0.243) carrying the stronger dimension among other dimensions as perceived by store managers, assistant managers, and department heads of the supermarket.

The second important dimension of wine & liquor concessionaire management practices is operating parameters. Indicators of operating parameters such as concessionaire's operating hours, supermarket's receiving area, and the process of wine & liquor deliveries and pull-outs in the supermarkets are significant factors in the supermarket's processes. The result is supported by the statement of San Mateo as being practiced by Philippine Wine Merchants where deliveries of wines and liquors are delivered in the receiving area/loading docks of the supermarket; PWM merchandisers receive the deliveries witnessed by the stores' receiving personnel. Cristal, however, attests that the pull-out of merchandise in the supermarkets passes through a strict process. The merchandiser and/or store managers coordinate with PWM head office regarding the request for pull-out (both good and bad items). The key account executive and/or account coordinator processes the request and seeks approval from the management to pull out the goods with the necessary documents.

The other dimensions of wine & liquor concessionaire management practices – signs, term and termination, assignment of rights, and insurance came third, fourth, fifth, and sixth respectively. Sub-dimensions vary in terms of their importance to the above-mentioned primary



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dimensions which are supported by the study of Bilousko (2021) stating that correct merchandise display in-store attracts the customer's attention and has a direct impact on sales growth. In-store merchandising is a set of measures subject to the laws of merchandising, marketing, and retailing aimed at ensuring a comfortable search for goods by customers, attracting attention to a certain group of goods, increasing sales, enhancing the image and reputation of the store/retail outlet/network and stimulating customer loyalty.

The findings show in Table 4 that warranty and representation reflect the lowest loading and weight (0.131) perceived by the supermarket's store managers, assistant store managers, and department heads. According to Ms. Nhorrie F. Wang, PWM's VP for Retail Operations and head of the Concession Department, being a concessionaire of the wine & liquor section of supermarkets is a tough game. Strong presence and consistent brand-building activities are important factors that generate good sales turnover and it is imperative to continue all planned campaigns in order to be a market leader. Price-off campaigns, cross-merchandise, and other brand-building campaigns are needed in order to sustain the sales volume and capture more market.

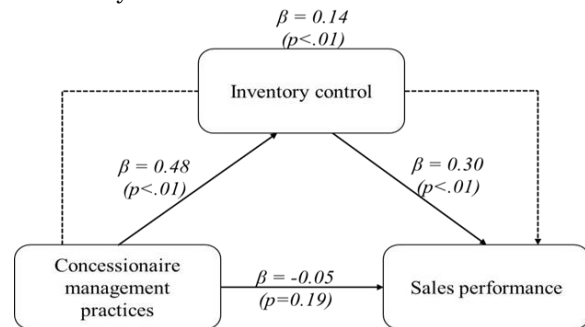
According to Pride and Ferrel (2019), various businesses initiate pricing goals to sustain and/ or improve their market stake, comprising the products' total sales versus industry total sales. A company may improve its market share although the total wine & liquor industry sales remain breakeven or declining. On the contrary, volume sales of companies may intensify though the aforementioned market share declines the overall market heightened.

Concessionaires are expected to supply adequate, complete, and new stocks that are good quality and priced competitively. Sales performance gauges the effectiveness of every business endeavor, and it is the capability to realize sales targets and a company's sales performance in terms of

profitability and sustainability. It can be measured in numerous methods depending on the sales function and sales situation, such as sales revenue, profitability, and market share.

Figure 6

The Study's Structural Model



Wine & Liquor Concessionaire Management Practices' Significant and Positive Influence on Inventory Control

Figure 6 and Table 5 show the wine & liquor concessionaire management practices' significant and positive influence on inventory control and further reveal that wine & liquor concessionaire management practices (concessionaire's term and termination, assignment of rights, insurance, signs, warranty, and representation, operating parameters, and damages) have a significant and positive influence on inventory control ($\beta = 0.484$, $p < 0.001$), the p-value is below the margin of error (.05 or 5%). Based on the results the relationship between wine & liquor concessionaire management practices exhibits a medium effect on inventory control ($f^2 = 0.234$); thus, H2 is supported.

The results of the study show that wine & liquor concessionaire management practices have a positive influence on inventory control. Based on the path coefficient, the causal link between wine & liquor concessionaire management practices and inventory control showcased a robust impact. The higher the acquiescence of concessionaire management practices in the wine & liquor section



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of the supermarket, the higher the impact on inventory control where the concessionaire implements strategic inventory control to avoid stock-outs that cause loss of sales, customer goodwill, and other economic advantages. The concessionaire strictly monitors store-level minimum stocking level per product and implements first-in-first-out (FIFO) inventory to avoid spoilage and obsolescence. Inventory levels are carefully planned in order to balance the cost of holding inventory and the cost of providing a reasonable level of customer service.

Based on the recent review conducted by Euromonitor International, sales of both still red and wine wines in the off-trade channel (supermarkets, grocery stores, etc) are dominated between the P301 to P475 price range occupying 69-70% share of the total volume sales in off-trade channels. This indicates that the saleable wines in the off-trade channel are mid-range wines, manageable for a wine & liquor concessionaire to maintain stocking level at its optimal level. Indeed, inventory in wine & liquor concessionaires is the lifeline of the business and in order to fulfill customer needs and demands, effective inventory control is vital in concessionaire operations. The utilization of an automated inventory control system and inventory control techniques are the best option to manage a large volume of inventory across wine & liquor concessionaire stores. There are tips for inventory control best practices that can be applied: (1) use “real-time” inventory monitoring, which ensures precise and timely information on inventory status in synched across all channels; (2) ABC analysis, which categorizes inventory items according to the item’s contribution to total sales, for example, the red and white wines price range of P301 to P475 can be classified under A items with the highest sales volume; price range of P276 to P300 and price range of P476 to P675 for white wine & red wine respectively can be classified under B items means a group with lesser consumption cost than A and above than C, and so on and so forth; (3) set reorder points, where the concessionaire can set levels inventory per the requirement of each store

will trigger when certain items reach the minimum level or below minimum; at the same time able to identify lead time from the time the order was placed until the goods were received; and finally, (4) perform regular audits, though inventory control system is in place, consistent monitoring of items for possible theft, pilferage, spoilage and erroneous must be done to make sure the systems communicate precisely and continuously to accounting team the amount and count of inventory.

Table 5

Hypothesis Testing Results

Hypothesis	Path coefficient	P-value	Standard Error	Effect	
				size	Decision
Direct effects					
H1. CMP \square SP	-0.048	0.190	0.055	0.007	Not supported
H2. CMP \square IC	0.484	<0.001	0.051	0.234	Supported
H3. IC \square SP	0.296	<0.001	0.053	0.093	Supported
Indirect effect					
H4. CMP \square IC \square SP	0.143	<0.001	0.038	0.022	Supported

CMP-concessionaire management practices; SP-sales performance; IC-inventory control.

The direct hypothesized relationships are also measured using effect sizes. Cohen (1988) recommends the use of the following in interpreting effect sizes (f^2) – 0.02 – small effect; 0.15 – medium effect; and 0.36 – large effect.

Inventory Control’s Positive and Significant Influence on Sales Performance

Moreover, Figure 6 and Table 5 show inventory control has a positive and significant influence on sales performance. The results establish that inventory control is found to have a correlation and direct effect on sales performance as to profitability (sales contribution to total sales), market share, and sales revenue ($\beta = 0.296$, $p < 0.001$), the p-value is below the margin of error (.05 or 5%) and notably, the relationship of inventory control on sales performance has a small effect ($f^2 = 0.093$).

The results are supported by the study by Schwarz (2022), stating that effective implementation of inventory control procedures gives assurance that a



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business is operating at optimal financial levels and that products can provide customer satisfaction by satisfying their needs and expectations. If a company engages in concessionaire management, it needs to maintain the required inventory level and apply stringent inventory control measures. This could generate favorable sales which may result in higher profits for the company.

Philippine supermarkets are stacking up more wines on their shelves that are not selling enough and limiting their profit potential, according to recent consumer research from NielsenIQ. In emerging and developing markets, there are assortment issues in the fast-moving consumer goods (FMCG) categories with about three-fourths or 75% of stock-keeping units contributing to less than 2% of category sales. In the case of supermarkets, 79% of wine & spirits product stocks on supermarket shelves contribute to below 2% of the total category sales, noting the surplus in non-performing products in this single category alone.

To address the glut in non-performing products, in conformance with the article written by McIntosh, retail businesses like wine & liquor concessionaires depend on sales to generate profits and sales revenue. Businesses must plan and forecast the sales that secure profits for the company. Increment in total sales performance can be guaranteed when the company implements practical inventory control, it should refrain from delivering more unnecessary stocks to the store and review the fast-selling SKU per store; it should acquire a limited quantity of products; it should apply the balance in purchasing of product between buying too many products at the same time buying too few; and lastly, it should increase complementary sales to offer wine accessories.

In general, according to Lou-Ann Navalta, Analytics leader of the Philippines at NielsenIQ, retailers, and even wine & liquor concessionaires can resolve their assortment woes through careful data-driven analysis of their portfolio to determine which ones are fast-selling and incremental to the category.

The result of the study confirms that inventory control has a significant and direct influence on sales performance which is backed up by the study by Chan (2019) that good and proper investment in inventory control is essential to avoid or minimize losses and sustain profitability.

This was the reason why the correlation between sales performance and inventory control is significant with the mere reason that a business owner can easily know the inventory status.

Mediating Influence of Inventory Control in the Relationship between Wine & Liquor Concessionaire Management Practices and Sales Performance

Hypothesis testing also includes the measurement of the mediating effect of inventory control on the link between wine & liquor concessionaire management practices, and sales performance. Finally, Figure 6 and Table 5 present the mediating influence of inventory control in the relationship between wine & liquor concessionaire management practices, and sales performance; where the results prove that inventory control acts as a mediator in the relationship between wine & liquor concessionaire management practices (concessionaire's term and termination, assignment of rights, insurance, signs, warranty and representation, operating parameters, and damages), and sales performance as to profitability (sales contribution to total sales), market share and sales revenue ($\beta = 0.143$, $p < 0.001$) where the p-value is below the margin of error (.05 or 5%) with small effect size ($f^2 = 0.022$). Hence, H4 is supported.

According to Stevenson (2019), in operations management like the wine & liquor managing concessionaire, an important part of the business is their inventories. It delivers customer satisfaction on top of being the main aspect of the operation and assumes a crucial role in the success or failure of a business. Therefore, it is significant to manage inventories and to constantly monitor inventory levels throughout a supply chain down to the



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concessionaire outlets. More importantly, there is a significant and positive influence on wine & liquor concessionaire management practices toward sales performance through the mediating effect of inventory control.

Undeniably, inventory in wine & liquor concessionaires is the lifeline of the business, and to fulfill customer needs and demands effective inventory control is vital in concessionaire operations. Stocks availability upon request at any given time has a significant and positive influence on sales volume growth in both off-trade such as supermarkets, grocery stores, etc. (32.4%) and on-trade such as hotels, restaurants, bars, and other wine cellars (13.8%) are attributed to the aggressive marketing campaigns and the consistent collaboration with popular eCommerce sites by the leading wine & liquor players to deliver growth, conferred by the recent review of Euromonitor International (2022).

Indeed, successful distribution management entails effective management of the entire distribution process. For a company that engages in concessionaire agreements catering to supermarkets with nationwide branches, the effective supply chain is at stake. Different options must be considered. Toward rationalization of the processes and maximizing the value of the company's properties and workforces, the company must consider the service of an expert in logistical functions. Partnering with a reputable third-party logistics provider is an option to ensure regular stock replenishment.

Part of the assessment of the structural model is testing full collinearity VIF, R², and Q². Full collinearity VIF is suggested by Kock (2015) as a way to perform a common method bias test that gauges the structural model and whether vertical and lateral collinearity exists. To ensure that the structural model is free from any collinearity problem, FCVIF must be at most 3.30. Based on the findings in Table 6, all latent constructs – wine & liquor concessionaire management practices (FCVIF

= 1.273), sales performance (FCVIF = 1.100), and inventory control (FCVIF = 1.385) passed the common method bias test.

Table 6

FCVIF, R², and Q²

Latent construct	FCVIF	R ²	Q ²
Concessionaire management practices	1.273		
Sales performance	1.100	0.085	0.102
Inventory control	1.385	0.234	0.231

The coefficient of determination (R²) is also measured. Chin (1998) recommends the following in interpreting R² values wherein substantial = 0.67; moderate =0.33; and weak =0.19. Based on the results, the model is within the weak to moderate levels of R² coefficients.

Predictive relevance is also measured using Q². According to Kock (2022), the Q² values in the structural model must be greater than zero. Based on the results, the model passed the requirement for predictive relevance.

Based on the survey results, inventory control acts as a mediator on the relationship between wine & liquor concessionaire management practices and sales performance. Therefore, the researcher highly recommends to the concessionaire management invest in inventory control software/system that provides near-real-time data on inventory levels across all concession stores; accurate and vital information that helps avoid overstocking (non-moving wine & liquor products) and understocking (fast-selling wine & liquor products) in per store level leading to lost sales or missed opportunities and further suggests that effective inventory control must be practiced; in-store wine & liquor stocks are carefully managed and make sure efficient and timely delivery of per store requirements by partnering to a reputable third party logistics provider.



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Discussion, Conclusions, Recommendations

The findings of the study confirmed that wine & liquor concessionaire management practices based on the concessionaire's term and termination, assignment of rights, insurance, signs, warranty and representation, operating parameters, and damages had no significant and positive influence on sales performance in terms of profitability (sales contribution to total sales), market share and sales revenue. There was a negative path coefficient in the direct causal link between wine & liquor concessionaire management practices and sales performance which is attributed to damages (highest factor loadings and weight) may be interpreted as the higher the exposure of concessionaire to damages charges affect or decrease in sales performance; while, warranty and representation (lowest factor loading and weight) need smart technique in enticing patrons using eCommerce and social media to boosts sales performance in off-trade (supermarkets, grocery stores, etc.), and other marketing campaigns and radio ads fueled the massive patronage of wine & liquor products in the supermarkets and strong presence and consistent brand building activities are important factors that generated good sales turn over and it is imperative to continue all planned campaigns to be a market leader.

The wine & liquor concessionaire management practices were significantly and positively related to inventory control. The wine & liquor concessionaire's utilization of an automated inventory control system and inventory control techniques are the best option to manage a large volume of inventory across wine & liquor concessionaire stores/supermarkets by infusing inventory control best practices like the use of real-time inventory tracking, the ABC analysis, setting reorder point, and performing regular audits.

Inventory control had a significant and direct effect on the sales performance as to profitability (sales contribution to total sales). Market share, and sales revenue thus, implementation of proper inventory

control procedures ensured that wine & liquor concessionaire business was operating at optimal financial levels and products were able to provide customer satisfaction by satisfying their needs and expectations through strategic inventory control such as reducing the oversupply of non-moving wine & liquor products, creating demand, reducing shortages, and increasing complementary sales, offering wine & liquor accessories that compliment to the wine & liquor products. Likewise, the alcoholic industry was embarking on a new era of category convergence as previously "pure" beer, wine, spirits, and soft drinks players embraced more comprehensive tactics to target a broader scope of consumers' tastes, preferences, and occasions. A recent review revealed that people are changing with increasing occurrence between alcoholic drinks options or trialing completely new beverages. Drinks were addressing the developing shopper practices by shifting into untapped categories to expand and diversify their portfolios. Diversification and modification gave enhanced positions on beverage-alcohol categories in response to varying consumer perceptions and preferences by constantly offering wide selections and "value for money" wine & liquor products. To advance drive sales, players were challenged to focus and improve on in-store promotions to encourage new customers to try the products as well as prevent existing customers from switching to other alcoholic drinks.

The results proved that inventory control acts as a mediator in the relationship between wine & liquor concessionaire management practices (concessionaire's term and termination, assignment of rights, insurance, signs, warranty and representation, operating parameters, and damages), and sales performance in terms of profitability (sales contribution to total sales), market share and sales revenue. There was a significant and positive influence on wine & liquor concessionaire management practices toward sales performance through the mediating effect of inventory control. Undeniably, inventory in the wine & liquor concessionaires was the lifeline of the business, and to fulfill customer needs and demands



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effective inventory control was vital in concessionaire operations. Stocks availability upon request at any given time had a significant and positive influence on sales volume growth in both off-trade such as supermarkets, grocery stores, etc. and on-trade such as hotels, restaurants, bars, and other wine cellars that were attributed to the aggressive marketing campaigns and the consistent collaboration with popular eCommerce sites by the leading wine & liquor players to deliver growth. Successful distribution management entailed effective management of the entire distribution process. A company that engaged in concessionaire agreement catering to supermarkets with nationwide branches, the effective supply chain was at stake. Toward rationalization of the processes and maximizing the value of the company's properties and workforces, the company must consider the service of an expert in logistical functions. Partnering with a reputable third-party logistics provider is an option to ensure regular stock replenishment.

The study provides a deeper perspective on how to maximize the potential of effective wine & liquor concessionaire management practices for sales performance through strategic inventory control.

The researcher recommends to the wine & liquor concessionaire hype the increasingly popular and prominent eCommerce by tapping and collaborating with the supermarket's eCommerce platform showcasing selected and fast-selling SKUs as another source of sales growth.

Strengthen a good business relationship with supermarket owners and offer promising and sustainable business partnerships by taking into consideration the changes in consumer preferences and increasing competition by constantly offering wide selections and "value for money" wine & liquor products.

Evidently, inventory control mediates the relationship between wine & liquor concessionaire management and sales performance, the researcher

highly recommends to the concessionaire management to invest in inventory control software/system that provides near-real-time data on inventory levels across all concession stores; accurate and vital information that helps avoid overstocking (non-moving wine & liquor products) and understocking (fast-selling wine & liquor products) in per store level leading to lost sales or missed opportunities.

The researcher also suggests that effective inventory control must be practiced; in-store wine & liquor stocks are carefully managed and ensure efficient and timely delivery of per-store requirements by partnering with a reputable third-party logistics provider.

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A Functionality Assessment of the Disaster Response Systems of Agusan del Norte Municipalities

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Abstract

The Disaster Response System warrants the community with protection that safeguards life and properties. With the adverse circumstances and intricacies brought about by disasters, the different response systems wrestle along the lines to save lives. This study aimed to determine the functionality of the three disaster response systems, firstly, the Emergency Operation Center in terms of location/Facility, Communication/Network, Logistics, and Coordination, secondly, the Incident Command System in terms of Operations, Command and Control, Logistics, Coordination, thirdly, the Disaster Response Cluster in terms of Operation, Accountability, and Coordination. It is the assumption of this study that the respondent's profile and the frequency of the activation of the disaster response systems affect its functionality.

The study was conducted in the municipalities of Agusan del Norte, with the Municipal Disaster Risk Reduction Officers and its staff as the main respondents. This undertaking employed the self-made survey instrument, distributed through the google form platform. The quantitative correlational research design is used, utilizing Chi-Square Test and Dependent t-Test. The findings of the study revealed a not significant relationship between the respondent's profile and the functionality of the three disaster response systems. A not significant relationship resulted between the frequency of the activation of the Emergency Operation Center and the Incident Command System, and a significant relationship was established between the frequency of activation and disaster response cluster.

“A Strengthening Programs on Disaster Response Cluster”, and “A Pre-Event Preparation Training” is the proposed recommendation based on the foregoing findings.

Keywords: EOC, ICS, Disaster, Response Systems, Functionality.

Relevant SDGs: SDG 1 No Poverty, SDG 9 Industry, Innovation and Infrastructure, SDG 11 Sustainable Cities and Communities, SDG 17 Partnership for the Goals.

Introduction

This section comes forward with the background of the study, and its objectives and limitations. The

Disaster Response System warrants the community with protection that safeguards life and properties. The disaster response system enables government agencies to come around and fulfill their calls, goals, and mission. Despite the intricacies brought about



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by disasters, the different response systems wrestle along the lines to save lives.

The Business Dictionary provides a more comprehensive definition for "disaster response" which is an aggregate of decisions and measures to (1) contain or mitigate the effects of a disastrous event to prevent any further loss of life and/or property, (2) restore order in its immediate aftermath, and (3) re-establish normality through reconstruction and re-rehabilitation shortly thereafter. The first and immediate response is called emergency response. Whereas, Johns Hopkins and the International Federation of Red Cross and Red Crescent Societies (IFRC) expressly state: "The word disaster implies a sudden overwhelming and unforeseen event. At the household level, a disaster could result in a major illness, death, a substantial economic or social misfortune. At the community level, it could be a flood, a fire, a collapse of buildings in an earthquake, the destruction of livelihoods, an epidemic, or displacement through conflict. When occurring at the district or provincial level, a large number of people can be affected. Thus, the latter definition of disaster encompasses the colossal areas that can be affected by disasters. The enormous and monstrous effects of disasters propel government agencies in initiating different disaster response mechanisms.

Republic Act 10121, known as the Philippine Disaster Risk Reduction and Management (DRRM) Act of 2010, is an act mandated to strengthen disaster management in the Philippines, a country prone to natural hazards. This law carries the framework of thematic areas, one of which is disaster response, wherein all actions are directed to response programs. The Philippines is prone to natural disasters as it lies along both the typhoon belt and the Pacific ring of fire. In the current decade, thousands of lives have been lost, millions of people have been displaced and hundreds of billions worth of damages have been incurred due to disaster events. And the most recent Typhoon "Odette" wrecked the lives and properties of many Filipinos across regions. Disaster response was initiated,

utilizing the different response systems solely or jointly. Response measures according to Carter (2008) are usually those which are taken immediately prior to and following a disaster impact.

With the foregoing directive of RA 10121 along the thematic area of Disaster Response wherein disaster response systems are created, the frequency of the activation is said to improve the services rendered. Every disaster is different and can vary in size, severity, and damage. When a catastrophic disaster strikes, it can overwhelm the local and state governments to the point that they cannot provide the necessary resources. During these disasters, the government through its component agency steps in to provide help— through response support, utilizing the different response systems. "Typhoon Odette" gave a tangible manifestation of what a disaster response would be like. The distraught felt by the affected population was personally observed by the researcher when she visited the Province of Dinagat Islands, an island in Mindanao, that was placed on ground zero after the typhoon. As a member of the Incident Management Team deployed to augment the Emergency Operations Center activated in the Province of Dinagat Islands, it was then that the researcher contemplated conducting the study on the functionality of the different disaster response systems, whether or not they serve useful for their intended purpose.

Intuitively, the researcher considered that demographic profiles like age, gender (sex), position/designation, training attended, and municipality class could affect the functionality of the response systems. For instance, a study identifies that the female employees are facing lesser conflict than the male employees against their managers within the organization. That there is a correlation between gender and conflict management with the superior towards the work. Furthermore, there is a significant variance between age and response towards appraisal system, succession planning, and employee engagement (Sasumathi, 2015). Also, the researcher



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contemplated apart from the demographic profiles of the respondents the frequency of activation could as well influence the functionality of the response systems. There is emerging evidence that theories may operate differently within and across sexes, genders, and other intersectional characteristics under various circumstances (Tannenbaum, 2016). Thus, the researcher believed that the functionality of the disaster response systems is influenced by the demographic profiles mentioned along with the frequency of activation.

To establish further the need to study demographic profiles, particularly on age is the premise of the person-environment-fit theory. According to this theory, functions are affected by ego strength, mobility, health, cognition, sensory perception, and the environment, and competency changes one's ability to adapt to environmental demands (Lange and Grossman, 2006).

Another factor that may influence the attainment of the functionality of the teams carrying the organization's function is gender/sex (Tibaul, et al, 2010), stating further women presently display lower record values compared to men. A related construct or factor that may also affect the functionality of the team or organization is the position held by the person, who carries better the function in the organization.

The researcher's assumption is that training improves the performance of the team thereby the functionality is attained. According to Uma (2013), training would not only be helpful for individual competency. It is more helpful for the organization's productivity.

Another construct that the researcher considered to affect the functionality of the disaster response systems is the class of municipality. Hence, this construct deals with the revenue the researcher came to a deduction that the response teams carry out the functions on what the logistics and other resources of the municipality/town have in possession.

Summary of the background of the study

With the foregoing prepositions the researcher delved and searched into studies conducted on the functionality of the different disaster response systems in the global context, national, regional, and provincial/municipal levels but in vain. The researcher found none, the non-existence of related literature of this kind compels the researcher to embark on the study of the functionality of the disaster response systems. The output of this study may be the basis for designing intervention programs or crafting recommendations on disaster response.

Statement of the problem

The study aims to determine the functionality of the disaster response system of the Province of Agusan del Norte and its municipalities. Specifically, it seeks to answer the following questions:

1. What is the profile of the respondent in terms of the following;
 - 1.1. Age
 - 1.2. Gender
 - 1.3. Position/Designation
 - 1.4. Training attended
 - 1.5. Municipality Class?
2. What is the frequency of activation of the following disaster response system;
 - 2.1. Emergency Operations Center
 - 2.2. Incident Command System
 - 2.3. Disaster Response Cluster?
3. What is the level of functionality of the disaster response system under the Emergency Operations Center along with the following indicators;
 - 3.1. Location/Facility
 - 3.2. Communication/Network
 - 3.3. Logistics
 - 3.4. Coordination?
4. What is the level of functionality of the disaster response system under the Incident Command System along with the following indicators;



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- 4.1. Operations
- 4.2. Command and Control
- 4.3. Logistics
- 4.4. Coordination?
5. What is the level of functionality of the disaster response system under the Disaster Response Cluster along with the following indicators:
 - 5.1. Operation
 - 5.2. Accountability
 - 5.3. Coordination
6. Is there a significant relationship between the respondents' profile and the level of functionality of the three disaster response systems, namely; Emergency Operations Center, Incident Command System, and Disaster Response Cluster?
7. Is there a significant relationship between the frequency of activation and the functionality of the disaster response systems namely; Emergency Operations Center, Incident Command System, and Disaster Response Cluster
8. Is there a significant difference in the level of functionality among the three disaster response systems, namely; Emergency Operations Center, Incident Command System, and Disaster Response Cluster.
9. On the basis of the findings, what recommendations can be designed?

Hypothesis:

At 0.05 Level of significance;

1. There is no significant relationship between the respondents' profile and the level of functionality of the three disaster response systems, namely; Emergency Operations Center, Incident Command System, and Disaster Response Cluster.
2. There is no significant relationship between the frequency of activation and the functionality of the disaster response systems namely; Emergency Operations Center, Incident Command System, and

- Disaster Response Cluster
3. There is no significant difference in the level of functionality among the three disaster response systems, namely; Emergency Operations Center, Incident Command System, and Disaster Response Cluster.

Objectives

The study on the functionality of the disaster response systems, namely; Emergency Operations Center, Incident Command System, and Disaster Response Cluster sought to:

1. Determine the profile of the respondent in terms of age, gender, position/ designation, training attended, and municipality class.
2. Determine the frequency of activation of the following disaster response system; namely; Emergency Operations Center, Incident Command System, and Disaster Response Cluster.
3. Determine the level of functionality of the disaster response system under the Emergency Operations Center along with the indicators of Location/ Facility, Communication/Network, Logistics, and Coordination.
4. Determine the level of functionality of the disaster response system under the Incident Command System along with the indicators of Operations, Command and Control, Logistics, and Coordination.
5. Determine the level of functionality of the disaster response system under the Disaster Response Cluster along with the indicators of Communication, Coordination, Logistics, and Facilities.
6. Determine the relationship between the respondents' profile and the level of functionality of the three disaster response systems, namely; Emergency Operations Center, Incident Command System, and Disaster Response Cluster?
7. Determine the relationship between the



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frequency of activation and the functionality of the disaster response systems namely; Emergency Operations Center, Incident Command System, and Disaster Response Cluster

- Determine the difference in the level of functionality among the three disaster response systems, namely; Emergency Operations Center, Incident Command System, and Disaster Response Cluster.
- Describe the recommendation that will be designed.

Significance of the Study

The findings of the study will be beneficial to the following sectors:

- Provincial Disaster Risk Reduction and Management Office of Agusan Del Norte. DRRMO - Agusan del Norte. The result of this study may be used as the basis for the enhancement of its existing Manual of Operations to a more comprehensive and tailor-fitting version considering the recommendations of the study.
- Disaster Response Systems Responders. The output of this study will be beneficial to responders inasmuch as clear guidelines and protocols can be crafted.
- Local Government Units/Provincial/Municipal Disaster Risk Reduction and Management Offices. The output of this undertaking could be the point of reference for setting clarity of the implementation of the disaster response plan mechanisms.
- Academe. The study will serve as a reference for academics on DRRM integration into curriculums. Appreciating the importance of pre-disaster phases mechanisms to prevent disaster response operations. It will also provide data on the level of LGUs' capacity to perform and implement the three (3) disaster response systems that may be the basis for future

research conducted under academic institutions.

- Future Researcher. The study will serve as a reference for a researcher whose interest is Philippine Disaster Response. It will initially provide them with information that was taken from the local level where the primary actors during the DRRM response phase are the respondents.
- The study also is significant to the SDG 1 No Poverty, SDG 9 Industry, Innovation and Infrastructure, SDG 11 Sustainable Cities and Communities, SDG 17 Partnership for the Goals.

Scope and Limitations

The study has dealt mainly with the functionality of the disaster response systems namely; the Emergency Operations Center, Incident Command System, and Disaster Response Cluster along with the specific indicators referred to under the statement of the problems in the preceding pages, in the municipalities of Agusan del Norte.

The research focused on the functionality of the disaster response systems, and the key actors/respondents involved in the different disaster response systems or activities. Hence the conduct and distribution of the instrument took at the time post-typhoon "Odette", the survey utilized the online platform google forms.

Literature Review

This section will provide relevant information pertaining to the historical background and related local and international studies on the different disaster response systems; namely; Emergency Operations Center, Incident Command System, and Disaster Response Cluster. Furthermore, this chapter will take into the methods used in assessing the core of the studies, which might be relevant to the proposed research study.



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Demographic Profile

The demographic has been said to influence many factors in organizational management. For example, age, highest educational attainments, and length of service were significant to job satisfaction, while sex and civil status were noted to have a significant difference in satisfaction (Usop, 2013). Furthermore, according to Mison and Bernabe, (2004) there are few differences between males and females that will affect their work performance. Demography theory as per the author (Korac-Kakabadse, et al, 2004) suggests that attributes such as age, tenure, occupation, gender, and level of experience are compositional characteristics that influence interpersonal and group dynamics. Contrasting findings of the study on leadership styles revealed age, tenure, and highest level of education attained are not significant factors in differentiating the leadership styles (transformational or transactional) overall and the subscales of the business leader respondents. In this present study, and parallel to the preceding studies the researcher conceived that the demographic profiles may influence the functionality of the disaster response systems hence the respondents are the ones carrying out the functions of the different systems.

Emergency Operations Center

The emergency operations center is a physical or virtual location from which coordination and support of incident management activities are directed. An EOC may be housed in a temporary facility or in a permanently established, central facility—perhaps a building that supports another government agency within the jurisdiction. EOC team structure and composition can vary widely (<https://www.fema.gov/>). Moreover, an emergency operations center (EOC) is a central command and control facility responsible for carrying out the principles of emergency preparedness and emergency management, or disaster management functions at a strategic level during an emergency, and ensuring the continuity of operation of a company, political subdivision or other organization

(Odell et al, 2018). An EOC is responsible for the strategic direction and operational decisions and does not normally directly control field assets, instead leaving tactical decisions to lower commands. The common functions of EOCs are to collect, gather and analyze data; make decisions that protect life and property, maintain continuity of the organization, within the scope of applicable laws; and disseminate those decisions to all concerned agencies and individuals (www.ready.gov). According to Neal (2005) the EOCs have dedicated areas for offices, operations, and meetings, however, the respondents in the study recommended that EOCs should have sleeping areas, showers, cooking facilities, and restrooms. The biggest challenge faced by the respondents in the study was the noise level in the operations room, which hinders communications decision-making. Most have attempted various strategies with some success to tackle this issue.

Activation of the EOC facilitates overall response operations by providing the working platform and resources to support response staff through established structures, capabilities, and procedures. The EOC also provides the opportunity to bring relevant response partners together to establish common objectives and strategies, thus creating unity of effort (Pillai et al, 2014). The main functions of EOC include: providing direction, coordination, and support to emergency operations; carrying out disaster management functions at a strategic level in an emergency situation; ensuring the continuity of operation of a company, political subdivision, or other organization; collecting, gathers, and analyzes data; makes decisions that protect life and property; maintains continuity of the organization, within the scope of applicable laws; and disseminates those decisions to all concerned agencies and individuals (<https://definitions.uslegal.com/e/emergency-operations-center/>). The structure and functions largely depend on the requirements of the individual jurisdiction.

In the Philippines, the Philippines Disaster Resilience Foundation (PDRF) operates the first



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private sector-led Emergency Operations Center (EOC) in the region. The EOC is a 24/7 self-sufficient operations hub geared towards training for disaster preparedness and the coordination of relief and response efforts during major disasters. Using advanced communications software and technology, the hub monitors climate-related and natural hazards in close coordination with deployed resources in the field. It also complements government efforts, providing commercial and civic inputs to total disaster efforts (<https://www.pdrf.org/>). Further, the EOC communicates information to response team members in the field, giving them greater insight into their work.

Generally, all EOCs have the following three hallmarks: (1) an EOC supports resource needs and requests, including allocation and tracking, (2) an EOC provides coordination and policy direction, and (3) an EOC coordinates plans and determines current and future needs.

A study conducted by Neal (2005) revealed that convenience and availability determine the EOC site selection. The EOCs in the study have dedicated areas for offices, operations, and meetings. In a perfect world, the respondents in the study recommended that EOCs should have sleeping areas, showers, cooking facilities, and restrooms. The biggest challenge faced by the respondents in the said study was the noise level in the operations room, which hinders communications and decision-making. Most have attempted various strategies with some success to tackle this issue. A combination of allotted space, resources, personal experience, and advice from others strongly influence EOC design and configuration.

Another study by (Perry 1995) addressed the issue of the structure and function of the community Emergency Operations Centers (EOC), the findings held up to the view that there was some confusion among some emergency responders and particularly among public officials regarding the role and function of the EOC. In part, this emerges because

many EOCs at different levels operate in conjunction with any given disaster. It is argued that the community EOC is best seen as an overarching organization into which information from more specialized EOCs – such as those operated by fire and police departments – flows, and from which the overall response to the disaster is directed. There is also a tendency to define the functions of the community EOC narrowly. Such definitions typically understate the importance of such activities as damage assessment and public information, and consequently leave the responsibility for these and related critical functions somewhat ambiguous. Wenger et al (1989) yielded similar findings that EOCs focused on the incident information passed to the mass media and public, yet, the use of EOCs particularly in smaller jurisdictions, remains sporadic, sometimes improvisational, and poorly understood.

An audit of the United States local and state jurisdictions in 2002 indicated that a variety of command-and-control difficulties persist in connection with EOC implementation (the United States General Accounting Office, 2003). There is also some information that suggests that EOC standards and use are challenges in the United Kingdom (Alexander, 2003), sporadic and improvisational use of EOCs may be traced to three factors. First, large incidents that absolutely require an EOC are infrequent and small incidents can be handled with minimal EOC functionality or with the EOC functions assumed by other organizations. Second, local emergency managers sometimes take a narrow view of the jurisdictional emergency management system, failing to include needs for political concurrence with the response and citizen needs for information normally met in an EOC. Finally, many emergency managers do not fully understand the functions and structure of the EOC. As a management structure, the EOC becomes crucial when managing a disaster event requires the resources of many agencies that may be local or may come to the jurisdiction from elsewhere (Tierney, Lindell, and Perry, 2001).



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Historically, these large-scale incidents are low probability events such as earthquakes, volcanic eruptions, wildfires, floods, and some technological accidents (nuclear power plants). These circumstances create the situation where an effective EOC is absolutely needed for successful consequence management according to Rudman (2003).

Incident Command System

The development of the Incident Command System (ICS) started back in the 1970s ensuing from the string of dreadful fires in suburban California. Lives and properties were ill-fated. The personnel entrusted to uncover the causes of the disaster discovered that incident failures could rarely be attributed to a lack of resources or failure tactics. Surprisingly, a contradictory result from other studies conducted, found that incident failures were far more likely to result from inadequate management than from any other single reason, weaknesses in incident management were often due to a lack of personnel accountability, including unclear chains of command and supervision, poor communication due to both inefficient uses of available communications systems and conflicting codes and terminology, lack of an orderly, systematic planning process, No common, flexible, predesigned management structure that enables commanders to delegate responsibilities and manage workloads efficiently, no predefined methods to integrate interagency requirements into the management structure and planning process effectively. A poorly managed incident response can be devastating to our economy, the food supply, and our health and safety.

The Incident Command System (ICS) is a standardized approach to the command, control, and coordination of emergency response providing a common hierarchy within which responders from multiple agencies can be effective (Federal Highway Administration, Office of Operations, 2008). It further provides guidance on how to organize assets to respond to an incident and the processes to

manage the response to an incident and the processes to manage response through its successive stages. All response assets are organized into five functional areas: Command, Operations, Planning, Logistics, and Administration/Finance.

ICS is the model tool for command, control, and coordination of response and provides a means to coordinate the efforts of individual agencies as they work toward the common goal of stabilizing the incident and protecting life, property, and the environment. ICS uses principles that have been proven to improve efficiency and effectiveness in a business setting and applies the principles to emergency response. Hence, ICS has considerable internal flexibility. It can grow or shrink to meet different needs. This flexibility makes it a very cost-effective and efficient management approach for both small and large situations. Given the foundational and fundamental role that the Incident Command System (ICS) is intended to play in on-scene response efforts across the United States, Jensen and Thompson (2016) conducted a study to determine what is known about the system and how this is known, while undertaken using different methodological approaches, the result of the research suggests that ICS system is limited in its usefulness.

Lutz and Lindell (2008) examined the degree to which the use of the Incident Command System (ICS) influenced the performance of Texas emergency operations centers (EOCs) during Hurricane Rita. Staff in evacuation, transition, and host county EOCs completed a questionnaire that assessed demographic variables, EOC physical environment, ICS experience, ICS implementation, and team climate. The results indicated that the duties each ICS section performed varied substantially from one EOC to another. Moreover, ICS experience and ICS implementation lacked statistically significant correlations with team climate, even though EOCs' physical environments did. Finally, staff from emergency relevant agencies (e.g., public works and social services) seemed to have more problems with ICS than did staff from



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emergency mission agencies (e.g., fire and police departments). Thus, there needs to be further study of ICS application in emergencies other than structural and wildland fires, as well as the development of new ICS training materials for emergency relevant agencies to supplement the current ICS training materials for emergency mission agencies.

In the Philippines, the Incident Command System was introduced along with other ASEAN delegates in 2003 during the 1st ASEAN Committee on Disaster Management Meeting (ACDM) held in Brunei Darussalam. According to Cabag (2012), the adoption of the ICS concept led to the formulation of laws and facilitated the participation of other LGUs. The ICS has been proven as an effective modality in disaster response. It can be seen that a number of LGUs have not implemented this due to certain causes. One of them is the need for financial and logistical resources that some municipalities need in their day-to-day operations for political reasons.

Furthermore, William et al (2021) had in their findings that the incident command system intended to ameliorate these potential problems by designing a framework that could be replicated at future events and incorporate responders from different regions and backgrounds. The mutual understanding of the system and its components aids responding agencies in coordinating their efforts.

Documentation on the effects of Hurricane Katrina tested the limitations of the ICS. The disaster was so overwhelming and the extent of damages also severed or limited the capacities of responders. Damage to properties and the growing number of casualties vis-à-vis the number of responders and the poor conditions of some of their equipment created problems. Incidences of looting and theft made law enforcement helpless and led to the augmentation of homeland security forces and eventually the hiring of private security contractors just to provide peace and order to a community of panic-stricken citizens. The main issue seen here

was that there was less clarity on the command aspect of the incident. Certain groups when tapped, only respond directly to other groups and are not aligned with the ICS modality (Moynihan, 2007).

Banner (2004) expressed that the ICS and other models of this system exist in other agencies in the US. The names are very different but the concepts are the same. He also stated that in some scenarios a predominantly civilian ICS may have very limited capacity in handling other crisis situations wherein the use of military resources comes into play. Hurricane Katrina proved to have major consequences. Though Katrina is no longer around the devastation it left showed another form of catastrophe, peace, and order. Moynihan (2007) and Banner (2004) agreed that the changes in ICS operations led to sourcing out from private security services.

Freeman (2005) expressed that in the expedition of the Hospital Emergency ICS in the Pensacola Naval Hospital during Typhoon Ivan tested the system in a hospital scenario. Though it was assumed that a military hospital can handle many of the disaster situations that may come their way, the lines of responsibility and task became blurred since some of the personnel and even non-hospital responders got mixed up with each other. To remedy this, a color-coded scheme was used to identify the specific functions and tasks of hospital responders (i.e., first aiders, doctors, surgery, and the like). She also expressed that sourcing out and control of medical resources would take its toll if assigned personnel would not be the ones handling the situation as a control to allocate these resources are compromised during large scale emergency situations.

Disaster Response Cluster System

The cluster approach was first adopted by the Philippine Government in 2007 through the NDCC Memorandum Circular No.5. In August 2008, then NDCC used the Response Cluster System to address the concerns of the internally displaced population (IDP) in Mindanao. In the aftermath of Typhoon



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Ondoy, (international name Ketsana) in 2009, the government requested international humanitarian assistance utilizing the Response Cluster System. Continuing refinement in the clustering of agencies happened in the succeeding years, the Response Cluster System was used in various disaster response operations across the country such as Typhoon Pablo, Bohol Earthquake, Zamboanga Siege, Typhoon Ruby, and Typhoon Lawin. Livelihood was taken out from the Response Cluster (RC) because it was deemed fit to be included in the Recovery and Rehabilitation Phase. Currently, the Philippine Government recognizes the following eleven (11) Emergency Response Clusters, and their respective lead agencies (1) SRR: Search Rescue and retrieval, AFP, (2) Health, with Sub-Clusters on Medical and Public Health Services, Water-Sanitation Hygiene (WASH), Mental Health and Psycho-Social Support Services (MHPSS), and Nutrition (DOH), (3) IDPP: Internally Displaced Persons Protection (DSWD), (4) CCCM: Camp Coordination and Camp Management (DSWD), (5) FNFI: Food and Non-Food Items (DSWD), (6) LOG: Logistics with Sub-Clusters on Warehousing, Transportation, & Services (OCD), (7) Law and Order, PNP, (8) Emergency Telecommunication, (9) Education, DepED, (10) Philippine International Humanitarian Assistance, DFA, and (11) Management of the Dead and Missing, DILG There are three (3) most important values of the Cluster-Approach System, these are; leadership, predictability, and accountability. Under the system, government agencies are organized into clusters that work together towards agreed common humanitarian objectives.

On the other hand, the cluster approach is a coordination mechanism implemented by the United Nations (UN) in 2005 to improve the effectiveness of humanitarian responses during and after disasters. To date, more than 36 countries have used the UN cluster system. Yet, studies investigating the efficacy of this coordination mechanism at a national level are limited. Research adopting a long-term approach to the cluster by exploring whether this system provides an effective coordination system is

almost non-existent. The Philippines is one of the first countries worldwide to have adapted the cluster system. It modified the cluster system to make it suitable for the national context and highlights positive and negative outcomes as well as remaining challenges (Abaya, 2019). The disaster response cluster system has placed disaster response in the hand of the local LGU LCEs (NDRRMC, 2011). However, it can be seen that politicizing these modalities can be a detriment to disaster response effectiveness.

The disaster response cluster approach itself involves the coordination and allocation of activities between the organizations based on their particular fields of interest and expertise (Dunham 2014; Humanitarian Response, n.d.a). It also involves having the response systems and the roles and responsibilities of various agencies in place ahead of time, before a disaster hits to facilitate timely action (Dunham 2014).

Thus, the cluster system is a network of organizations that come together to mobilize a well-rounded response in the event of a disaster, provided that assistance has been requested and/or permission has been granted (Humanitarian Response n.d.c). Each of the contributing partners brings their own knowledge, experience, and capabilities in at least one of the key sectors of emergency response.

The Response Cluster (RC) and IMT are the two (2) main operating arms of the Response Pillar. Its activities start with its official activation through a Memorandum Order approved and signed by the Vice-Chairperson for Response and the Executive Director, NDRRMC respectively. Its activations are based on the result of PDRA-APP including the elevation of alert status from BLUE ALERT to RED ALERT and/or as directed by the appropriate authorities. Activities within this phase include response operations of RC as the “resource provider” and IMT as the “resource employer”, and Rapid Damage Assessment and Needs Analysis (RDANA).



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Moreover, the cluster system is the aggregation of responding government agencies, humanitarian organizations, faith-based organizations, and private and civil society organizations, including volunteers according to their specific line of services or expertise during emergency response. It defines the roles and responsibilities of each cluster toward a more systematic delivery of response and services. There are three (3) most important values of the Cluster-Approach System, these are; leadership, predictability, and accountability. Under the system, government agencies are organized into clusters that work together towards agreed common humanitarian objectives (<https://ndrrmc.gov.ph/>).

Synthesis and Gaps

The related literature provided in this chapter appeared to be in a state of meagerness to substantiate the functionality of the three Emergency Response systems. The Emergency Operations Center and Incident Command Systems, although there are studies conducted, however, few studies on Disaster Response Cluster were reviewed for analysis, and none has conducted its functionality. It is therefore imperative to obtain its functionality as perceived by the responders, in this study, the responders referred to are the Municipal Disaster Risk Reduction Officers, being present on these response systems.

Research Philosophy, Framework, Design, and Methodology

This section provides the concept and the theory on which the study is anchored. The constructs of functionality include the indicators that are related or dependent on factors herein mentioned, in the different disaster response systems namely; Emergency Operations Center, Incident Command System, and Disaster Response Cluster. Also, it describes and explains the logic behind the gathering and analysis of research data. It presents the specific procedures in doing the research study. It includes detailed discussions of the research locale, research design, description of the population

sampling or respondents, description of the research instrument, data collection, and methods of analysis.

Theoretical Framework

The research work espouses the “Functionalist Theory”. A theoretical perspective that focuses on the functions performed by social structures or organizations (Crossman, 2020). Within this theory, function refers to the extent to which a given activity promotes or interferes with the maintenance of a system as it is in the case of disaster response systems, wherein each has its own functions to deliver. Functionalism posits that society is more than the sum of its parts; rather, each aspect of it works for the stability of the whole. Durkheim envisioned society as an organism since each component plays a necessary role but can't function alone. When one-part experiences a crisis, others must adapt to fill the void in some way.

Corollary to the presupposition of the functionalist theory, disaster response systems hold identified tasks, functions, roles, and responsibilities. For instance, one system is activated, the Emergency Operation Center (EOC) the operation stands in paucity in the vastness of the action and response needed in a given disaster.

In functionalist theory, the different parts of society are primarily composed of social institutions, each designed to fill different needs. In this undertaking, the three disaster response systems are under scrutiny. According to functionalism, a system only exists because it serves a vital role and tasks in the functioning of society. If it no longer serves a role, an institution where the system lies will die away, it is in this stance that the researcher acquiesces to the presupposition of functionalist theory, in identifying the needs it may have in the task, team maintenance, and individual. In the same manner, as assessing the functionality of disaster response systems to be in extant and commodious



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Figure 1

Theoretical Framework

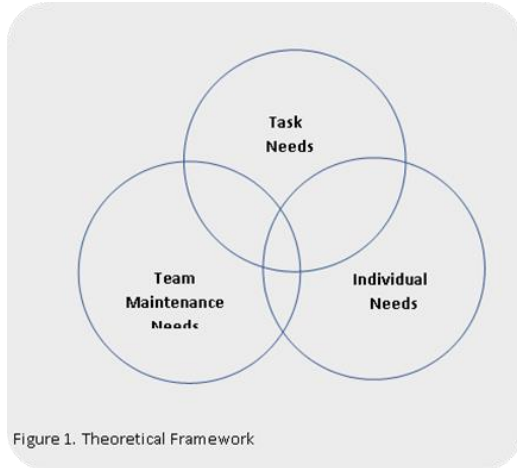


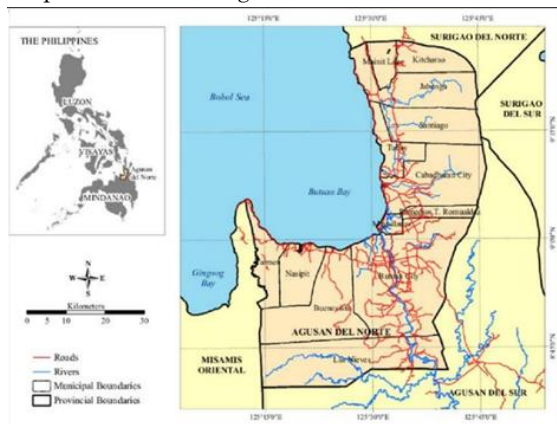
Figure 1. Theoretical Framework

Research Locale

The study covers the municipalities of the province of Agusan del Norte namely: Buenavista; Cabadbaran City; Carmen; Jabonga; Kitcharao; Las Nieves; Magallanes; Nasipit; Remedios T. Romualdez; Santiago; and Tubay.

Figure 3

Map of Province of Agusan del Norte



Agusan del Norte is situated in Mindanao's western section of Caraga. It is bordered on the northwest by the Butuan Bay; northeast by Surigao del Norte;

mid-east by Surigao del Sur; southeast by Agusan del Sur, and southwest by Misamis Oriental. Agusan del Norte has a total land area of 2,730.24 square kilometers or 1,054.15 square miles. When Butuan is included for geographical purposes, the province's land area is 3,546.86 square kilometers (1,369.45 sq mi).

Table 1

Province of Agusan del Norte Demography, Land Area and No. of Barangays

City/ Municipality	Population		Area		Density		No. of Brgys.
	2015	2020	km	sq mi	km ²	sq mi	
Buenavista	61,614	68,892	475.61	183.63	130	340	25
Cabadbaran City	73,639	80,354	214.44	82.80	340	880	31
Carmen	20,839	23,172	311.02	120.09	67	170	8
Jabonga	23,184	24,855	293.00	113.13	79	200	15
Kitcharao	18,659	21,278	171.92	66.38	110	280	11
Las Nieves	28,414	30,240	582.69	224.98	49	130	20
Magallanes	21,007	22,293	44.31	17.11	470	1,200	8
Nasipit	41,957	44,822	144.40	55.75	290	750	19
Remedios T. Romualdez	16,058	17,155	79.15	30.56	200	520	8
Santiago	24,200	28,657	275.61	106.41	88	230	8
Tubay	24,932	25,785	138.09	53.32	180	470	13
Agusan del Norte	354,503	387,503	2,730.24	1,054.15	130	340	166
Butuan City	337,063	372,910	816.62	315.30	410	1,100	86

(PSA, 2015 and 2020 Census)

The central portion of the province forms the lower basin of the third-longest river in the country, the Agusan, its mouth located at the Butuan Bay. Consequently, the terrain surrounding the river features flat to rolling lands. Mountainous terrain dominates the northeastern and western areas. Also, the country's fourth-largest lake, Lake Mainit, is situated at the northern border between the province of Surigao del Norte. Agusan del Norte comprises 10 municipalities and 1 component city. The city of Cabadbaran is the officially designated capital of the province per Republic Act 8811. The highly urbanized city of Butuan is geographically within but administratively independent from the province.

The population of Agusan del Norte in the 2020 census was 387,503 people, making it the country's 64th most populous province. It had a density of 140 inhabitants per square kilometer of 360 inhabitants



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per square mile. When the highly urbanized city of Butuan is included for geographical purposes, the province's population is 691,566 people, with a density of 195 inhabitants per square kilometer (510/sq mi).

The economy of the province is dominantly agricultural, major crops of which include rice, corn, coconut, abaca, banana, and mango. The province also produces cassava, durian, pineapple, coffee, vegetables, and root crops. The three highest producing crops are coconut, banana, and rice with a corresponding production of 75,184.35 MT, 43,924.92 MT, and 26,151.81 MT, respectively.

According to the 2015 Census, the age group with the highest population in Agusan del Norte is 5 to 9, with 79,616 individuals. Conversely, the age group with the lowest population is 80 and over, with 5,158 individuals. The population of Agusan del Norte grew from 5,545 in 1903 to 387,503 in 2020, an increase of 381,958 people over the course of 117 years. The latest census figures in 2020 denote a positive growth rate of 1.89%, or an increase of 33,000 people, from the previous population of 354,503 in 2015.

Given its demographic profile, the province of Agusan del Norte may be at high risk of experiencing disaster considering also its exposure to various hydro-meteorological, geological, and human-induced hazards. The province has portions of type II and IV climates. The climate, as well as the geographical location of the province, bring about frequent typhoons. All the towns in the province may be affected should a typhoon hit the Pacific Coast. The northern part of the province is more likely to be affected whenever a typhoon is expected to hit the Western Visayas Region. The southwest monsoon also influences the local climate.

On the other hand, flooding is considered as the most frequent hazard event that affects the province of Agusan del Norte (PDPFP 2009 to 2018). The land area prone to flooding represents about 14.56% of the total land area of the province. Alluvial plains

along big rivers such as Agusan, Cabadbaran, Tubay, and Puyo are frequently affected by seasonal flooding. Lake Mainit also overflows during the rainy season, bringing considerable damage to surrounding agricultural lands and communities. The flooding is attributed mainly to the low physiography of rivers, the inability of the rivers to cope with high flood discharge, and the poor vegetative cover in the headwaters of these rivers. Flash floods usually occur during heavy rainfall especially from November to February. The province experienced heavy floods in 1956, 1962, 1966, 1974, and 1975. The floods from November 1980 to March 1981 incurred damages estimated at Php 57 million. With 62,389.26 hectares of agricultural land, flooding has resulted in severe damage to crops, fisheries, livestock, and infrastructures. Moreover, it has threatened human lives and destroyed houses especially those situated along rivers and coastal barangays.

The municipalities of Carmen, Nasipit, Buenavista, Magallanes, Cabadbaran City, and Tubay are identified as areas threatened by storm surges. Accordingly, typhoon Nitang was the strongest typhoon felt in the province, which was able to generate a 2.4-meter surge height. Storm surge incidents have also been recently recorded in the municipalities of Tubay, Buenavista, and Cabadbaran City.

The province is not spared from the effects of both El Niño and La Niña phenomena. PAGASA explains that the absence of typhoons during El Niño is due to weakened easterlies, hence cloud formation is not reinforced. However, the province may still experience rainfall. Aside from the mentioned hazards, the province is also experiencing rain- and earthquake-induced landslides that reportedly blocked major thoroughfares, isolating some parts of the municipalities affected.

In terms of geological hazards, based on the earthquake hazard assessment done by DOST-PHIVOLCS (2016) for the province, the municipalities of Jabonga, Santiago, Tubay, RTR,



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and Cabadbaran City (along with the Butuan City), are transected by the Philippine Fault: Surigao Segment. This is the nearest known active fault traversing the province. In the past few years, earthquakes with 4.1- to 6.0-intensity have been occurring with the frequency of strong offshore earthquakes. It is believed that they can create tsunamis in the coast of Butuan Bay. Some of these earthquakes have a volcanic origin. There are those which have their epicenter near or at Camiguin where two active volcanoes, the Mt. Mambajao and Mt. Hibok-hibok are located. Liquefaction, ground shaking, as well as human-induced hazards such as armed conflict, are also part of the DRRM-related concerns that should be addressed through the implementation of disaster prevention and mitigation measures.

With all this information, the researcher identified the Province of Agusan del Norte to be the research locale of the study because of its level of disaster risk given its susceptibility to natural and human-induced hazards, and how the political system affects its implementation of Programs, Projects, and Activities within its jurisdiction.

Research Design

The study utilized a quantitative research method specifically descriptive- correlation design. It is quantitative since it involves a systematic investigation of the functionality of the three disaster response systems where quantifiable data were gathered and then applied statistical, mathematical, or computational techniques.

Furthermore, the study is descriptive since it aims to get information by describing the following: First, the Respondent's Profile in terms of age, gender, position/designation, training attended, and their respective municipality class. The second is on the frequency the disaster response system was activated. Third, on the functionality of the disaster response systems along with the identified indicators in each disaster response system.

The study also employed a correlation design since it further tests the relationships between the respondent's profile and the level of functionality in its disaster response system. It also tested the difference in the frequency of the activation of its disaster response systems and their functionality.

Respondents of the Study

A purposive sampling technique was employed in the study. The respondents were chosen on the basis of exposure during the disasters where the disaster response systems were activated. Specifically included as respondents are the eleven Municipal Disaster Risk Reduction Officers and their staff.

Research Instrument

The study utilized a researcher-made questionnaire validated by the research adviser as the primary tool for data gathering. The developed research instrument has three parts.

Part I. Profile of the respondent in terms of age, gender, position/designation, training attended, and municipality class.

Part II. Frequency of activation of the following disaster response system; namely; Emergency Operations Center, Incident Command System, and Disaster Response Cluster.

Part III.

A. Level of the functionality of the disaster response system under the Emergency Operations Center along with the indicators of Location/Facility, Communication/Network, Logistics, and Coordination.

B. Level of the functionality of the disaster response system under the Incident Command



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System along with the indicators of Operations, Command and Control, Logistics, and Coordination.

C. Level of the functionality of the disaster response system under the Disaster Response Cluster along with the indicators of Communication, Accountability, and Coordination

The data will then be coded and double entered into Epi data version 3.1 and SPSS version 18 will be used for analysis.

In addition, before starting the actual data collection process, the tools will undergo pilot testing. The purpose of pre-testing is to identify problems with the data collection instrument and find possible solutions. Furthermore, the reliability of the instrument of this study has to be attained, hence, the internal consistency reliability measure Cronbach Alpha coefficient will be applied. It is viewed as the most appropriate measure of reliability when making use of Likert scales (Whitley, 2002). Although no absolute rules exist for internal consistencies, however, most agree on a minimum internal consistency coefficient of .70 (Robinson, 2009). On the other hand, the validity of the instrument that will be used in this study will be measured through its content validity. Content validity as defined is “the degree to which items in an instrument reflect the content universe to which the instrument will be generalized” (Boudreau et al, 2004). The crafted questionnaire will be taken from the different literature, theories, principles, and a few standardized questionnaires following the process of item analysis. After the conduct of pilot testing, reviews, and revisions, the researcher will seek a research expert to evaluate the instrument and establish the content validity of the instrument.

Statistical Treatment of Data

To quantify the responses and to provide tools for the testing of the null hypothesis, the following statistical techniques were used in this study:

- Frequency. It will be used to measure the number of times the observation occurs on the profile of the respondents.
- Percentage. It will be used to identify the profile of the respondents and is a proportion in relation to the whole sample size and is expressed as a part divided by 100.
- Weighted Mean. It will be used to establish a quantitative analysis of the data for problems 3, 4, and 5.
- ANOVA. It is used to compare the means of different groups and shows you if there are any statistical differences between the means. ANOVA can be extended to three or more groups.

Discussion, Conclusions, Recommendations

This section presents the results and discussion of the study following the order of the objectives of this undertaking. This present endeavor sought to answer the problem statement and the specific objectives herein enumerated in the preceding chapter.

Disaster Response Systems

There is a paucity of the definition of disaster response systems. The researcher vivaciously, like the dickens, keeps on searching for the definition of the three words known event in the sphere of disaster management particularly in the domain of disaster response. Thus, the proponent of this study took the liberty of coining a definition upon which substances are taken from the different works of related literature.

Systems encompass all working parts that are required to run a technical process. Therefore, a



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system is an organized assembly of resources and procedures united and regulated by interaction or interdependence to accomplish a set of specific functions. A collection of personnel, equipment, and methods organized to accomplish a set of specific functions. Moreover, a system is a combined form of different components, peoples, and different activities in a systematic manner to accomplish a targeted goal. All the things which are in the system are surrounded by boundaries and the things which lie outside are the environment or the system's environment (<https://www.merriam-webster.com/dictionary/system>)

The aforementioned definition of a system applies to the three disaster responses in the event of calamities and disasters. As a deduction, the subsequent pages will cogitate the systems of the Emergency Operations Center, Incident Command System, and Disaster Response Cluster.

Conclusions

On the basis of the findings of this study, the following conclusions are drawn:

- The level of functionality of Emergency Operations Center, Incident Command System, and Disaster Response Cluster are not influenced by the respondent's profile; gender, position, training attended, and type of municipality class.
- The frequency of Activation of the disaster response system, and disaster response cluster established a relationship and affects functionality. However, the Emergency Operations Center and Incident Command System have insufficient ground/evidence to establish a relationship. The three-disaster response system; Emergency Operations Center, Incident Command System, and Disaster Response Cluster has no difference in their functionality.
- The three-disaster response system; Emergency Operations Center, Incident

Command System, and Disaster Response Cluster has no difference in their functionality.

Recommendations

With the foregoing drawn conclusions from the findings of the study, the researcher highly proposed the following schemes and undertakings:

As much as the disaster response system is independent of respondents' or respondents' characteristics/profiles, the researcher proposed the creation of the program "A Strengthening Programs on Disaster Response Cluster ", whose activities include; re- visiting the disaster response framework specifically encompassing accountability and operation. This intervention would provide a coordination platform that ensures service delivery, and relatively addressed the gaps across clusters.

With respect to the frequency of the activation of the disaster response system that affects the functionality of the response system, a Pre-Event Preparation Training is offered for the recommendation. This training enables the Disaster Response Cluster to create guidelines, processes, and policies to address. The creation of these essential documents provides the responder's adeptness to respond to disastrous events, an illustrative mitigating interposition.

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Forecasting Value-at-Risk During Crises in Select ASEAN Stock Market Indices Through GARCH-EVT Models

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Abstract

This study compared the EVT and GARCH-EVT models to determine the most reliable model with regard to forecasting VaR during a crisis, specifically the Global Financial Crisis and the COVID-19 Pandemic. The paper analyzed the selected ASEAN indices' daily closing prices during the said crises for 16 years, which consisted of Vietnam, Thailand, Malaysia, Indonesia, and the Philippines. The study also determined the crisis that yielded the most extreme values and the index that was the most volatile during the crises. Backtestings, such as Kupiec test and Christoffersen test, as well as descriptive statistics, normality test, and Kruskal Wallis test were used for the research. The findings showed that the EVT-BM and GARCH-EVT-BM models were the most reliable VaR model for all time periods due to its conservative estimations. It was determined that the GFC had the most extreme values with losses as much as -12%. The paper also discerned that Indonesia's Jakarta Stock Exchange Composite Index (JKSE) was the most volatile during the GFC, while Thailand's Bangkok SET50 Index (SET50) displayed the most volatility during the COVID-19 pandemic. These findings can assist investors and financial institutions on the most reliable risk models they can use pre-crisis and during crises that can severely impact their investments, thereby providing them guidance as part of portfolio risk management tool.

Purpose – The study compared the EVT and GARCH-EVT models to determine the most reliable model with regard to forecasting VaR during a crisis, specifically the Global Financial Crisis and the COVID-19 Pandemic. Hence, a quantitative and exploratory research design was employed. Ultimately, the findings of the research would help lessen the impact of losses during an unstable and highly volatile economic period for international investors and portfolio managers.

Design/methodology/approach – The paper analyzed the selected ASEAN indices' daily closing prices during the said crises for 16 years, which consisted of Vietnam, Thailand, Malaysia, Indonesia, and the Philippines. The study also determined the crisis that yielded the most extreme values and the index that was the most volatile during the crises. Backtestings, such as the Kupiec test and Christoffersen test, were used for the research.

Findings – The EVT-BM and GARCH-EVT-BM models were the most reliable VaR model for all time periods due to its conservative estimations. It was determined that the GFC had the most extreme values with losses as much as -12%. The paper also discerned that Indonesia's Jakarta Stock Exchange Composite Index (JKSE) was the most volatile during the GFC, while Thailand's Bangkok SET50 Index (SET50) displayed the most volatility during the COVID-19 pandemic.



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Research limitations/implications – The data collection for the indices was limited to the years available in Eikon and Investing.com, thus only focusing on GFC and COVID-19 pandemic. Additionally, the ASEAN countries that were selected were due to the fact that they are of the same economic level. Future researchers may opt to expand the timeline by adding the AFC, thus allowing to compare the ASEAN stock indices performances from three different economic conditions. They can also consider incorporating other ASEAN countries, such as Singapore, to be able to infer if there are significant differences in terms of investor sentiment and behavior between developed and developing countries

Practical and social implications – The paper can assist investors and financial institutions on the most reliable risk models they can use pre-crises and during crises that can severely impact their investments, thereby providing them guidance as part of portfolio risk management tool.

Originality/value – There is a lack of available literature concerning the use of GARCH-EVT and EVT models in assessing and comparing multiple crises based on a certain set of stock indices. Aside from this, common data sets used in these studies are major global indices such as the Dow Jones Industrial Average, NASDAQ Composite Index, and S&P 500. Lastly, there is limited exploration of GARCH and EVT models in emerging countries, specifically in the Southeast Asian region.

Key Words: GARCH-EVT models, EVT models, Value-at-Risk forecasting, ASEAN stock indices, Global Financial Crisis, COVID-19 pandemic

Relevant SDGs: SDG 8 Decent Work and Economic Growth, SDG 17 Partnership for the Goals

Introduction

This paper focuses on comparing the Extreme Value Theory (EVT) and Generalized Autoregressive Conditional Heteroskedasticity (GARCH-EVT) models as means to determine the VaR during a crisis such as the Global Financial Crisis and the COVID-19 Pandemic. This paper focused on the stock market indices of selected Association of Southeast Asian Nations (ASEAN) countries, namely Vietnam, Thailand, Malaysia, Indonesia, and the Philippines. These were chosen as reference as these nations have similar economic performance and are in the same geographical area.

Rasura (2021) stated that a GARCH model examines the variance in a time-series data. While the EVT model, it can address questions related to the

extreme event as it highlights the outliers of the data, thereby allowing to draw significant conclusions that could have not been answered through normal distribution (Glen, 2016). On the other hand, a GARCH-EVT model incorporates the use of two methods, specifically GARCH and EVT, wherein it identifies a threshold that separates a distribution's tails from the middle part (Echaust & Just, 2020). These two approaches are often combined into one model as it presents better results than a single model. In addition, both enable the measurement of Value at Risk (VaR), which is the measure of the extent of potential losses over a period of time.

The EVT and GARCH-EVT models incorporate two approaches, particularly Block Maxima and Peaks-over-Threshold (PoT). Ferreira & de Haan (2015) defines the Block Maxima method as a division of the collected data set into separate periods of equal



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size and limits attention towards the extreme values. On the other hand, the peaks-over-threshold (POT) method chooses data points above the threshold set. Incorporating these techniques allowed better interpretation of the observations seen during the various financial crises.

To test the reliability of the EVT and GARCH-EVT models, the researchers incorporated the Kupiec Test and Christoffersen test as its benchmark. Karimalis (2016) defines the Kupiec Test as a method that assesses model performance by comparing its predicted and actual values. On the other hand, Holton (n.d.) refers to Christoffersen's test as a method that oversees unusually frequent consecutive exceedances.

It is evident that this paper contributes to the attainment of the 8th and 17th Sustainable Development Goals Namely Decent Work and Economic Growth and Partnership for the Goals. The relevance of the study was that it aimed to help international investors and portfolio managers, who invest in the ASEAN stock markets, to minimize their losses before and during a financial and pandemic crisis. The result of the research can be applied in their investment decisions and help lessen the impact of losses during an unstable and highly volatile economic period. Aside from this, this paper serves as an avenue for portfolio managers and regulators across nations and region to share results that can help mitigate losses. Minimizing risk in the market through the cooperation of multiple entities allow economic stability leading to prospering employment opportunities and improvement of one's quality of life.

Literature Review

The Global Financial Crisis

A great recession refers to a sudden decline in economic status in the late 2000s (Boyle, 2020). The Global Financial Crisis (GFC) in 2008 heavily embodies the characteristics of a great recession. According to Singh (2022), the economic downfall in

2008 can be traced back to deregulation, securitization, growth of subprime mortgages, and increased rates on subprime borrowers. Leniency in the financial market resulted in various loopholes that eventually caused a financial crisis in the United States that affected financial markets all over the world.

Vietnam's stock market index rose from under 250 points in early 2005 to the highest value of 1,200 in later-February 2007 prior to the GFC (Kalra, 2015). However, the crisis offset all the gains of the stock market as its value instantly plummeted. Interestingly, some studies suggest Vietnam's stock market resiliency during the said period. The research conducted by Batten & Vo (2014) determined that the lack of liquidity does not have a significant impact despite it affecting momentum, size, and seasonality. This is because Vietnam and other emerging markets had a lack of integration in the global markets.

On the other hand, Thailand's stock market decreased by 50% due to the decrease of market capitalization of the listed companies which also led to a lower GDP of 37% during the GFC (Slusna, 2014). Aswani (2017) further added that the Thailand Stock Exchange Index (TSE \mathcal{I}) declined and experienced varying performance as caused by the loss of more than 2 billion US dollars in foreign funds.

Angabini & Wasiuzzaman (2010) inferred that the news of the crisis resulted in a decrease of 670 points in Malaysia's stock market index, between the dates of January 14, 2008 and September 12, 2008, which resulted in a drop of 45% in value. Although in a more specific context, Lai et. al. (2014) analyzed the performance of construction companies listed in Malaysia's stock market and concluded that the crisis only affected the profitability of the said companies. The findings strongly support the fact that Malaysia was not vastly affected by the GFC.

For Indonesia, the Jakarta Stock Exchange Composite Index (JKSE) declined by 50% as the



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GFC heavily impacted the sub-manufacturing industry for exports (Nguyen et al., 2021). Robiyantano et al. (2019) mentioned that Indonesia is one of the trading partners of the US for export activities. The confidence of investors of Indonesia's stock market largely decreased because of the heavy reliance of the country towards the US that resulted in them pulling out their stock investments.

Changes in the Philippines' financial system and stock market were also noticeable during this period. Guinigundo & Paulson (2010) disclosed that the Philippine Stock Exchange (PSEi) declined by 224.3 index points or by 9.3% on September 16, 2008. In an article published by LeTran (2021), it indicated that there is no proof that the US stock market had a contagion effect on the Philippine stock market during the GFC. Several reasons include that the remittances sent by overseas Filipino workers (OFW) supported the consumer economy and that the quasi-control system practiced by the government provided prohibitions on foreign trade.

The COVID-19 Pandemic

On January 7, 2020, a new novel coronavirus, which is better known as COVID-19, was first identified by Chinese officials in the Wuhan province (Coronavirus disease pandemic, 2021). At that time, an increasing number of pneumonia-like cases were detected, and many experts postulated that it stemmed from bats, which are also the natural hosts of previous coronaviruses. WHO (2021) mentioned that it is a highly transmissible disease that can result in critical health conditions. As the COVID-19 pandemic was declared, a global economic recession occurred due to lockdowns, isolation, and quarantine systems.

Anh & Gan (2021) conducted a study that explored the effects of the number of COVID-19 confirmed cases during pre-lockdown and lockdown on the daily stock returns of 723 listed firms in Vietnam. Before the implementation of the lockdown, they found that the COVID-19 confirmed cases

negatively impacted stock returns. However, when the lockdown was in place, it had a significant positive impact on the stock performances due to the investor's confidence towards the government's response.

Thailand's stock market was also not spared by the negative impacts of the COVID-19 global pandemic. Panyagometh (2020) analyzed the reactions of the stock price during the pandemic and found abnormal returns for most of the stocks. Because of the reduced economic activities within the country to mitigate the adverse effects of the virus, establishments struggle to maintain their operations. However, some stocks were able to benefit in this period, such as BJC (Berli Jucker) who are distributors of pharmaceutical products and services.

Meanwhile, Chia et al. (2020) determined that the daily confirmed COVID-19 deaths had no significant effect, whereas the daily confirmed COVID-19 cases had minimal significant effect on Malaysia's stock market indices. However, the researchers surprisingly discovered that the Malaysian government's movement restriction measures, known as the Movement Control Order (MCO), had a significant positive effect on all the indices. They reasoned out that the investors had great confidence with the MCO policy to contain the virus.

With regards to Indonesia's stock market, Utomo & Hanggraeni (2021) inferred that the growing daily number of COVID-19 cases and deaths have a negative impact on the stock returns. Whereas, the lockdown measures, despite the level of strictness, have a positive effect on the stock returns. Property and investment sectors were among those that experienced a decline in their financial profits, while consumer goods and mining sectors had better financial performance.

The Philippine stock exchange (PSE) was no exception as it also has been adversely impacted by the COVID-19 global pandemic. Many researchers evaluated the multiple factors that could potentially



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bring a positive influence on the stock market. Ang & Rabo (2021) found that the COVID-19 mini vaccine rollouts done by the Philippine government had a significant positive correlation on Philippine stock returns. Nonetheless, it appeared that three to five days prior to the rollout as well as four to five days following the rollout, the researchers noted a significant negative correlation between the variables.

Measures of Value-at-Risk During Extreme Events

Financial crises, like the GFC and the COVID-19 pandemic, generally display extreme volatility which can naturally be alarming given the unpredictability in prices (Rhiannon, 2020). Investors turn to risk measures to revise their strategies and cope better during times of financial uncertainty. One of the commonly used risk measures is identifying value at risk (VaR). Adamko et al. (2015) defined VaR as the estimated maximum loss given a certain confidence level.

According to Paul & Sharma (2021), the use of Extreme Value Theory (EVT) causes a more accurate representation of measures of the tail-risk observations from the VaR and expected shortfall (ES) during instances of extreme events. The primary use of the EVT is that it does not only consider the central distribution of the data but also takes into account the tail distribution of the data (Bieri, 2020). The study by Bieri (2020) stated that EVT is best used especially because the values perceived as extreme in the data are separated from the middle distribution.

A way to understand EVT is to examine the use of its two primary approaches namely the Block Maxima (BM) and the Peak Over Threshold (PoT) methods. Ferreira & de Haan (2015) explained that the BM approach entails the division of periods into separated periods of identical sizes. For example, the periods can be separated by a definite span of periods or compounding periods such as monthly, quarterly, semi-annually, and annually. One of the abilities to use the BM approach allows the

consideration of the data set entirely (Szigeti et al., 2021). With this consideration, the possibility of attaining the extreme events in the data set is understood from the deliberated results. A Generalized Extreme Value Theory (GEVT) is commonly examined using the BM approach (Pratiwi et al., 2019).

On the other hand, the PoT approach only considers the extreme values above the threshold that the researchers have established for the data (Islam, 2019). Ferreira & Hann (2015) states that the aspect of PoT to set a threshold is what differs from the BM approach as this method factors in the relevant extreme events all over the data from the threshold. Applying the PoT approach also includes the application of the Generalized Pareto Distribution (GPD) which results in decreasing or eliminating the chances of failing to factor extreme points and even mistakenly factor non-extreme points (Bieri, 2020).

To address the problem in volatility modeling, the generalized autoregressive conditional heteroskedasticity or GARCH model can be used to estimate a financial market's volatility (Kenton, 2020). In considering the volatility of the previous period, the GARCH model provides a more accurate estimate of the current volatility and projects volatility clustering within a given time frame (Kumar, 2020). Ghani & Rahim (2019) noted in their paper the popularity GARCH models have as it provides simple but accurate estimations of volatility. Danielsson et al. (2016) and Naik et al. (2020) tested the GARCH model in identifying stock crises patterns and concluded that the model is indeed effective in forecasting a potential crisis.

In terms of its usage in estimating VaR in stock markets, the GARCH model is recommended to be paired with extreme value theory (EVT) models and other methodologies for better assessment of VaR. McNeil & Frey (2000) first proposed the usage of the GARCH-EVT model to first estimate the conditional volatility the data set has then analyze the heavy residuals. The results of their pioneer study showed



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that employing this two-step process exhibits better VaR and ES estimates.

Research Gap

The research gap that was identified was the lack of available literature concerning the use of GARCH-EVT and EVT models in assessing and comparing multiple crises based on a certain set of stock indices. Most research pertaining to a financial crisis uses either the 2008 global financial crisis or a local one; yet there are limited articles that explored the recent COVID-19 financial crash. Aside from this, common data sets used in these studies are major global indices such as the Dow Jones Industrial Average, NASDAQ Composite Index, and S&P 500. Lastly, there is limited exploration of GARCH and EVT models in emerging countries, specifically in the Southeast Asian region.

Research Philosophy, Framework, Design, and Methodology *Theoretical Framework*

The Black Swan Theory highlights notable events that are unexpected and often of great consequences called Black Swan events. Taleb (2007) coined the term proposing that these rare events defy expectations and preparations. Hajikazemi et al. (2016) noted that Black Swan events change the perspective of those who have gone through it. Given that financial crises yield extreme distributions, Singh et al. (2013) recommended the use of EVT models for better analysis of heavy tails.

According to Hayes (2020), the Arbitrage Pricing Theory is a model that predicts an asset's returns based on the relationship of its expected return and macroeconomic variables. The theory has two models as expounded by Chen & Jordan (1993) namely the Factor Loading Model (FLM) and Macroeconomic variable model (MVM). The first model utilizes factors created by factor analysis. The latter approach uses variables that are referred to as innovations.

The Modern Portfolio Theory (MPT) proposed by Markowitz in 1952 assumes that the returns of the assets observe a normal distribution (Rodriguez et al., 2021). In this regard, discovering the peak allocation of assets in a portfolio means that investors are keen to minimize the risks or maximize returns. Rodriguez et al., (2021) established that the MPT is utilized to devise an optimal portfolio using the expected return and the variance-covariance matrix of assets' returns. MPT is usually concerned with risk management of corporate and financial portfolios (Sewando, 2022). Extreme events driven by different factors can cause a significant effect on the spread of the data and its probability (Sewando, 2022).

Ozari et al. (2019), stated that theorizing future events can be done by forecasting unusual and extreme events and can be considered a powerful method used to examine a date and its distribution's tail behavior. Ramadhani et al. (2017) emphasized that the EVT greatly contributes to building a solid theoretical foundation for the construction of a statistical model that could encapsulate and describe the drastic events of a given data. The distinction of the EVT from other statistical methods includes its capability to measure the aspects and features of extremely significant points despite other limitations and insufficient values (Ramadhani et al., 2017). EVT as a powerful model examines and utilizes the tail behavior of distributions (Ozari et al., 2019).

Operational Framework

The figure below presents the operational framework of this study.



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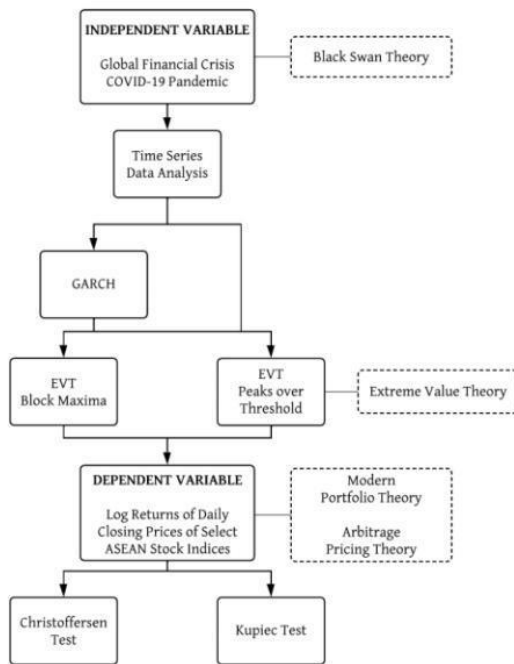
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Figure 1

Operational Framework

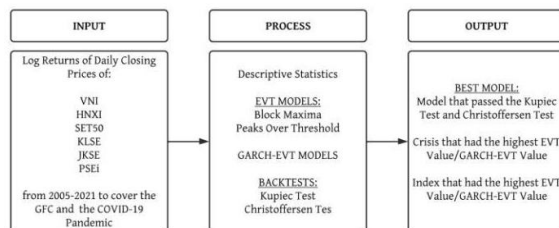


Conceptual Framework

The figure below presents the conceptual framework applied in this study.

Figure 2

Operational Framework



Methodology

The mean, standard deviation, minimum and maximum values, skewness, and kurtosis shed light as to the return series' behavior during each time

period. The return series' histogram and Q-Q plot were taken into consideration in further analyzing the distribution. These measures were applied to each stock market index and period. By doing so, the study was able to identify differences in price behavior prior to and during the crises for each country.

Value at Risk (VaR) is considered to be one of the most important risk tools in the financial industry. Known to calculate a single number portraying the most amount of loss that an individual can lose given a confidence level, its founding computation was established by Harry Markowitz and other mathematicians in relation to portfolio theory (Adamko et al., 2015).

To accurately assess the financial risk or volatility of financial assets' returns through Value at Risk (VaR) or Expected Shortfall (ES), it was determined that the GARCH model paired with EVT was a more reliable measurement (Echaust & Just, 2020). The combination of the theory and model pertains to conditional EVT or GARCH-EVT by McNeil & Frey (2000). This procedure takes into account time-varying volatility as well as the risk on the tail of the distribution which standard EVT and standard GARCH methods fail to do. Modeling the methodology after the study of Sowdagur & Narsoo (2017), the research compared traditional EVT models with the two-step process of GARCH-EVT models. For the latter, the GARCH model was applied first on the return series and the EVT models were applied on the residuals. Doing this would account for the volatility in the return series before modeling the tails.

Moreover, a pre-fit analysis of the return series was done through the autocorrelation function (ACF) and partial autocorrelation function (PACF) plots. Salvi (2019) noted that ACF plots the correlation of present values to its past values while PACF plots the correlation of residuals. This initial analysis allowed the paper to identify which GARCH model to use on the return series. The commonly used model is the GARCH (1,1), wherein the parameters



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were calculated through Maximum Likelihood Estimation which provides the estimates depending on the return series' distribution (Brooks-Bartlett, 2018).

$$t^2 = 0 + 1 \quad 2t-1 + 1 \quad 2t-1$$

Equation 1. GARCH(1,1) Model (Sowdagur & Narsoo, 2017)

Afterwards, the EVT model, particularly the Block Maxima (BM) method, was employed. In this traditional approach, the given data was divided into blocks within the chosen period. As mentioned earlier, the research used bi-monthly blocks for period division. This approach fits a series of extreme data in a series of observations to the GEV distribution (Allen, 2011).

$$\begin{cases} \exp\left[-\left(1+\xi\left(\frac{x-\mu}{\sigma}\right)\right)^{\frac{1}{\xi}}\right] & \text{if } \xi \neq 0 \text{ and } \left(1+\frac{\xi(x-\mu)}{\sigma}\right) > 0 \\ \exp\left[-\exp\left(-\left(\frac{x-\mu}{\sigma}\right)\right)\right] & \text{if } \xi = 0 \end{cases}$$

Equation 2. GEV distribution (Szubzda & Chlebus, 2019).

$$\text{VaR}_{t+1,\alpha}^{\text{BM}} = \begin{cases} \gamma - \frac{\delta}{\xi} (1 - (-\ln(1-\alpha))^{-\xi}) & \text{if } \xi \neq 0 \\ \gamma - \delta \ln(-\ln(1-\alpha)) & \text{if } \xi = 0 \end{cases}$$

Equation 3. VaR-Block Maxima (Mogel & Auer, 2017).

Peaks-over-Threshold (PoT) utilizes the data more effectively as it maximizes the data above the threshold, unlike the BM approach which only considers the highest observations from the blocks (Allen et al., 2011). The PoT approach is concentrated on the factors that overpass a specified threshold u based on the Pickands, Balkema-in Haan Theorem (Ozari et al., 2019). For a large u , the best approach to be used would be the Generalized Pareto Distribution (GPD). The PoT is based on a premise where the GPD can show the tail of the return rate of distribution.

$$\text{GPD}(x; \xi, \mu, \sigma) = \begin{cases} 1 - \left(1 + \xi \frac{x - \mu}{\sigma}\right)^{-\frac{1}{\xi}} & \xi \neq 0 \\ 1 - \exp\left(-\frac{x - \mu}{\sigma}\right) & \xi = 0 \end{cases}$$

Equation 4. PoT GPD Model (Ozari et al., 2019)

The use of backtestings aim to determine the consistency and reliability of results from the VaR models. According to Halilbegovic & Vehabovic (2016), a backtesting procedure entails a comparison between forecasted VaR calculations and real gains and losses. If actual profits and losses exceed VaR, then the VaR model is discerned to have violations or breaches.

The Kupiec Test, specifically the proportion of failures (POF) test, compares the number of expected breaches to the actual number of breaches the model produces (Karimalis et al., 2016). As a result, too little or too many breaches for a given level of confidence would constitute the test to fail the model.

$$LR_{POF} = -2 \log \left(\frac{(1-p)^{N-x} p^x}{\left(1 - \frac{x}{N}\right)^{N-x} \left(\frac{x}{N}\right)^x} \right)$$

Equation 5. Proportion of Failures (POF) Test (Overview of VaR Backtesting, 2015)

The Christoffersen test, or also known as the Interval Forecast test, allows to distinguish violations of the independent observations of the VaR hit sequence. Evers & Rohde (2014) explains that the test simply checks for dependence between consecutive observations or days.

$$LR_{CCI} = -2 \log \left(\frac{(1-\pi)^{n00+n10} \pi^{n01+n11}}{(1-\pi_0)^{n00} \pi_0^{n01} (1-\pi_1)^{n10} \pi_1^{n11}} \right)$$

Equation 6. Christoffersen's Interval Forecast Test (Overview of VaR Backtesting, 2015)



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Data Results and Analysis

Descriptive Statistics and Normality Test

Descriptive statistics were used to illustrate the behavior of the return series before testing the models. The mean of the indices in all the time periods resulted in an average of 0 showing the balancing concept of returns. The increased standard deviation was proven by how far the minimum and maximum values were from the average which can also be explained by the skewness and kurtosis. The histograms and Q-Q plot showed that the data is normally distributed as justified by a p-value of less than 0.05 in the Shapiro-Wilk Test across all time periods.

Table 1

Descriptive statistics of log-returns per index, pre- and during-GFC, and pre- and during-COVID

Index	Mean	SD	Min	Max	Skew	Kurtosis
<i>Pre-GFC</i>						
HNXI	0	0.03	-0.13	0.1	0.1	3.24
VNI	0	0.02	-0.05	0.05	0.07	1.06
SET50	0	0.01	-0.17	0.11	-1.71	34.52
KLSE	0	0.01	-0.05	0.04	-0.7	6.5
JKSE	0	0.02	-0.09	0.09	-0.57	6.66
PSEI	0	0.01	-0.08	0.09	-0.19	5.4
<i>During-GFC</i>						
HNXI	0	0.03	-0.08	0.09	-0.02	0.11
VNI	0	0.02	-0.05	0.05	-0.02	-0.64
SET50	0	0.02	-0.13	0.09	-0.59	4.68
KLSE	0	0.01	-0.1	0.04	-1.37	12.09
JKSE	0	0.02	-0.13	0.11	-0.58	5.22
PSEI	0	0.02	-0.13	0.07	-0.99	7.23
<i>Pre-COVID</i>						
HNXI	0	0.01	-0.07	0.06	-0.39	3.13
VNI	0	0.01	-0.06	0.04	-0.5	2.26

SET50	0	0.01	-0.06	0.07	-0.11	3.86
KLSE	0	0.01	-0.03	0.03	-0.37	2.69
JKSE	0	0.01	-0.07	0.06	-0.41	4.28
PSEI	0	0.01	-0.07	0.06	-0.47	3.52
<i>During-COVID</i>						
HNXI	0	0.02	-0.08	0.05	-1	4.07
VNI	0	0.01	-0.07	0.05	-1.32	4.96
SET50	0	0.02	-0.12	0.09	-1.49	15.51
KLSE	0	0.01	-0.05	0.07	-0.12	7.1
JKSE	0	0.02	-0.1	0.1	-0.56	9.9
PSEI	0	0.02	-0.14	0.07	-1.73	14.35

Table 2

Normality tests using the Shapiro-Wilk Test on log-returns, pre- and during-GFC, and pre- and during-COVID.

Index	SW	P Value
<i>Pre-GFC</i>		
HNXI	0.922	< 0.001
VNI	0.964	< 0.001
SET50	0.836	< 0.001
KLSE	0.923	< 0.001
JKSE	0.918	< 0.001
PSEI	0.95	< 0.001
<i>During-GFC</i>		
HNXI	0.994	< 0.001
VNI	0.987	< 0.001
SET50	0.945	< 0.001
KLSE	0.911	< 0.001
JKSE	0.933	< 0.001
PSEI	0.927	< 0.001
<i>Pre-COVID</i>		
HNXI	0.953	< 0.001
VNI	0.97	< 0.001
SET50	0.959	< 0.001
KLSE	0.968	< 0.001
JKSE	0.95	< 0.001



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PSEI	0.968	< 0.001
<i>During-COVID</i>		
HNXI	0.93	< 0.001
VNI	0.881	< 0.001
SET50	0.804	< 0.001
KLSE	0.926	< 0.001
JKSE	0.875	< 0.001
PSEI	0.853	< 0.001

Distribution Fitting and GARCH Fitting

The EVT identifies the kind of limiting distributions that would best fit the data. The BM method uses the distribution of a sequence of maximas that are simulated using the Generalized Extreme Value (GEV) distributions. Meanwhile, the PoT method uses the Generalized Pareto Distribution (GPD) to model the distribution that surpassed the given threshold.

Interpretation of Back testing

The Kupiec and the Christoffersen tests were used to test the reliability of the models. The Kupiec adopts a likelihood ratio statistic which fails if the model of the ratio surpasses a critical value depending on the confidence level; the study uses a 95% confidence level. Whereas the Christoffersen test determines the probability of VaR violation in consecutive observations. The study adopted two conditions to determine the most reliable model. The first condition stated that the model is deemed highly reliable if both backtests fail to reject its null hypothesis. The second condition can still be reliable if it failed the Christoffersen tests but not the Kupiec test. Campbell (2007) explained that although violations can be detected, a backtests can still pass a model because the nature of violations is not what the test is concerned about. That said, the Kupiec test is held at a greater importance since it concerns itself with the exceedances.

Global Financial Crisis

Table 3

Compiled Backtest Results for Pre-GFC and During GFC

	EVT-BM		EVT-POT		GARCH-EVT-BM		GARCH-EVT-POT		
	KUPIEC	CHRISTOFFERSON	KUPIEC	CHRISTOFFERSON	KUPIEC	CHRISTOFFERSON	KUPIEC	CHRISTOFFERSON	
PRE-GFC	HNXI	REJECT	REJECT	ACCEPT	ACCEPT	REJECT	REJECT	REJECT	ACCEPT
	JKSE	ACCEPT	ACCEPT	ACCEPT	REJECT	ACCEPT	ACCEPT	REJECT	ACCEPT
	KLSE	ACCEPT	ACCEPT	ACCEPT	REJECT	ACCEPT	ACCEPT	ACCEPT	REJECT
	PSEI	ACCEPT	ACCEPT	REJECT	ACCEPT	ACCEPT	ACCEPT	REJECT	REJECT
	SET50	ACCEPT	ACCEPT	REJECT	ACCEPT	ACCEPT	ACCEPT	REJECT	ACCEPT
	VNI	REJECT	REJECT	REJECT	REJECT	REJECT	ACCEPT	REJECT	REJECT
GFC	HNXI	REJECT	ACCEPT	REJECT	ACCEPT	REJECT	ACCEPT	REJECT	ACCEPT
	JKSE	ACCEPT	ACCEPT	REJECT	REJECT	ACCEPT	ACCEPT	ACCEPT	REJECT
	KLSE	ACCEPT	ACCEPT	REJECT	ACCEPT	ACCEPT	ACCEPT	REJECT	ACCEPT
	PSEI	ACCEPT	ACCEPT	ACCEPT	ACCEPT	ACCEPT	ACCEPT	REJECT	ACCEPT
	SET50	ACCEPT	ACCEPT	ACCEPT	ACCEPT	REJECT	ACCEPT	REJECT	REJECT
	VNI	REJECT	REJECT	REJECT	ACCEPT	REJECT	ACCEPT	REJECT	REJECT

In Table 3, the results show that EVT-BM is the most reliable model in both pre-GFC and during GFC; the model was only rejected in HNXI and VNI in both time periods. The next best reliable model is the GARCH-EVT-BM. It was rejected in three indices throughout the two periods. EVT-PoT is somewhat reliable given that it passed the first condition once pre-GFC and twice during GFC. The GARCH-EVT-PoT is the least reliable model given that it did not satisfy the first condition and only exhibited the second condition once in both periods.

COVID-19 Pandemic

Table 4

Compiled Backtest Results for Pre-COVID and During COVID

	EVT-BM		EVT-POT		GARCH-EVT-BM		GARCH-EVT-POT	
	KUPIEC	CHRISTOFFERSON	KUPIEC	CHRISTOFFERSON	KUPIEC	CHRISTOFFERSON	KUPIEC	CHRISTOFFERSON
PRE-COVID	HNXI	REJECT	ACCEPT	ACCEPT	REJECT	ACCEPT	REJECT	REJECT
	JKSE	REJECT	REJECT	ACCEPT	REJECT	REJECT	ACCEPT	REJECT
	KLSE	REJECT	ACCEPT	ACCEPT	REJECT	REJECT	ACCEPT	REJECT
	PSEI	REJECT	ACCEPT	REJECT	REJECT	ACCEPT	ACCEPT	REJECT
	SET50	REJECT	ACCEPT	REJECT	REJECT	REJECT	ACCEPT	REJECT
	VNI	REJECT	ACCEPT	REJECT	REJECT	REJECT	ACCEPT	ACCEPT
COVID	HNXI	REJECT	REJECT	ACCEPT	REJECT	ACCEPT	ACCEPT	REJECT
	JKSE	ACCEPT	ACCEPT	REJECT	REJECT	ACCEPT	ACCEPT	REJECT
	KLSE	ACCEPT	ACCEPT	REJECT	ACCEPT	REJECT	ACCEPT	REJECT
	PSEI	REJECT	REJECT	ACCEPT	REJECT	REJECT	ACCEPT	ACCEPT
	SET50	ACCEPT	ACCEPT	REJECT	REJECT	ACCEPT	ACCEPT	REJECT
	VNI	REJECT	REJECT	REJECT	REJECT	REJECT	ACCEPT	ACCEPT

Moving to the next two time periods, Table 4 shows GARCH-EVT-BM as the only model satisfying the first condition pre-COVID; while it is tied with EVT-BM as the most reliable during COVID. Both models were accepted in JKSE and SET50, but GARCH-EVT-BM was accepted in HNXI while EVT-BM was accepted in KLSE. GARCH-EVT-PoT would be the third reliable model as it satisfied the first condition



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twice during COVID and the second condition once both pre-COVID and during COVID. The least reliable model in these two periods would be the EVT-PoT as only the second condition was satisfied; thrice pre-COVID and twice during COVID.

Evaluation of Indices

Table 5

Summary of Time Periods Which Accepted the Models

	EVT-BM	EVT-PoT	GARCH-EVT-BM	GARCH-EVT-PoT
HNXI	-	Pre-GFC	Pre-COVID COVID	-
JKSE	Pre-GFC GFC COVID	-	GFC COVID	-
KLSE	Pre-GFC GFC COVID	-	Pre-GFC GFC	-
PSEi	Pre-GFC GFC	GFC	Pre-GFC GFC Pre-COVID	COVID
SET50	Pre-GFC GFC COVID	GFC	Pre-GFC COVID	-
VNI	-	-	-	COVID

From the results of the Kupiec and the Christoffersen Tests, it is evident that the EVT-BM and GARCH-EVT-BM tied to be the most reliable model in forecasting VaR. Both models failed to be rejected the same amount across time periods. The least reliable models in the findings are the EVT-PoT and the GARCH-EVT-PoT. EVT-PoT passed both back tests only thrice while GARCH-EVT-PoT passed only twice.

Discussion, Conclusions, Recommendations

The ultimate purpose of back testings is to guarantee that actual losses at a given level of confidence do not exceed projected losses (Argyropoulos & Panopoulou, 2019). Instances of greater actual exceedances than the expected exceedances imply that the model underestimates the risk. Large exceedances tell us that banks will be given larger capital charges. Meanwhile, instances of fewer actual exceedances than expected exceedances imply that fund allocations to risk-taking activities is not efficient.

The findings of the back test highlight the effectiveness of BM over PoT regardless of if it had GARCH as an additional step. Bücher & Zhou (2021) support the mentioned findings as their study observed that the BM method is more efficient for return estimations. The same is mentioned by Szubzda & Chlebus (2019) wherein they note that the BM method performed better during crises as it produced conservative VaR estimations. This aligns with the observation that there are less exceedances during crises which ultimately proves the BM method's reliability. Several studies including Ferreira & de Haan (2015) support the findings that the BM is a superior model for large data sets. A study by Caires (2009) concluded that larger data sets imposed less errors in estimates under the BM method than using the PoT method which also supports the back testing results.

Results indicated that both EVT-BM and GARCH-EVT-BM fared to be the top reliable models. The researchers failed to reject the null hypothesis of these models for both Kupiec Test and Christofferson Test. With regards to adding GARCH as an extra step, the results show little support that it helps provide a better model. As guided by the Arbitrage Pricing Theory, the next two objectives analyzed the crises and its impact on the stock market. The researchers reject the null hypotheses indicating that the select ASEAN stock indices have equal amounts of extreme values during the GFC and COVID-19 pandemic. Both crises do not reflect the same VaR supporting the alternative hypothesis of this research. The GFC period experienced larger losses with a reported average VaR loss at -5%. It is also concluded that at least one of the selected major ASEAN stock indices has experienced the most volatility during the GFC and the COVID-19 pandemic. JKSE was determined to be the most volatile and has the larger average VaR loss during the GFC. On the other hand, Thailand's SET50 was found to be the most volatile ASEAN stock index during the COVID-19 pandemic. The SET50 index also exhibited larger average VaR loss among the rest.



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The comparison of EVT and GARCH-EVT models in this paper can help investors and financial institutions to identify the models' strengths and weaknesses in its application to portfolio risk management. Providing models which aid investors into lesser risks aligns with the Modern Portfolio Theory; these findings can assist them in deciding the most reliable risk models they can use during a global phenomenon. Additionally, these findings can serve as indicators on the indices' market behavior pre-crises and during crises; thereby providing portfolio risk management guidance which are critical tools for managing market risks.

The findings of this paper can be recommended to three vital sectors. First, the Financial Regulators in the ASEAN Region may lack fiscal policies to aid their market in the event of severe losses. Continuous research on risk models which can adequately estimate losses is done to aid financial institutions in adjusting their risk appetite; financial regulators govern and assess these risk estimates to tailor-fit their fiscal policies for the betterment of the market. They may explore what fiscal policies were in place and how it contributed to the market behavior at the time. By reviewing previous and current fiscal policies, they will be able to gather information which will ultimately help them implement effective policies in the future.

Second, this paper can be recommended to Financial Institutions in the ASEAN Region. The forecast of the chances of uncommon and rare occurrences is vital for establishing future inferences. Their interdependency within and among countries can be imputable to risk exposures including economic conditions, financial transactions, interest rates, and many more. Hence, it is vital for financial institutions to measure the magnitude of possible spillovers of crises or extreme events in the future using standardized methods. They could benefit from the improved assessment and can prevent inaccurate decisions in determining capital requirement.

Lastly, the academe may gain insight on this paper for future references. The academe could help by being the avenue of future literature regarding the method. Past studies have already established its importance in different fields other than financial management. Its application can strengthen the established theories and methodology while increasing the scope of fields and sectors that could benefit with probability theory. The growing literature about the EVT from different theoreticians and applied scientists could integrate findings and seek suggestions from one another.

Upon verifying the validity of this research, it shows that the study is of value to the current financial situation. One way to further improve this article by the current researchers is to explore additional models. This approach would provide a better perspective on understanding the performance of the indices. It is also recommended to purchase a subscription for a database containing the stock prices indices for uniformity of source and ease of collecting data.

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Practices of Individual Retail Foreign Exchange Traders in the Philippines

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Abstract

In today's virtual world, the number of internet users is continuously increasing. In the Philippines, it was forecasted that around 77.4% of the population will be using the internet already by the year 2026. Along with this, is the increase in the popularity of online trading specifically in the forex market, it is actually starting to gain attention by the public with the many forex trading platforms available today. Different traders, different personalities, different backgrounds, and different trading practices. Some traders are earning high while some lose their hard-earned money in just a short period of time, and that is the reason why this research came into reality. The main purpose of this research is to serve as the baseline study on the current practices of retail Filipino forex traders. The study also wanted to find out if there was a significant difference on how traders assess the effectiveness of their trading practices in terms of their profiles.

This study used a descriptive method of research and a survey questionnaire was used as a data gathering instrument. Different statistical treatments were applied to analyze data accurately. The findings show a descriptive statistic for the current profile of the respondents and it also revealed that Filipino forex traders today have their different practices, and there's really no single best practice that can lead to consistent profitability in forex trading. It is really based on the trader's skills.

Traders must consider further enhancement on their trading practices, what broker they are using, what type of trader they are, the forex currency pairs they are using, what forex market session they are trading, their state of mind and their money management practices. These are all variables for forex traders to be able to generate profit and/or losses and also to stay in the trading world for a long time.

Key Words: Forex Trading, Trading Practices, Forex Trading in the Philippines, Strategies in Forex Trading, Fundamental Analysis, Technical Analysis

Relevant SDGs: SDG 4 Quality Education, SDG 8 Decent Work and Economic Growth.

Introduction

Financial management is part of business

organizations that deal with analyzing money and investments for better decisions at a corporate level or even in personal financial decisions. It also refers to investments in corporate level and personal



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finance as a type of passive income where you can expect some money inflow without requiring a substantial amount of effort. Some kinds of these investments are stock market investments, investment on bonds, mutual funds, exchange traded funds, options, precious metals, commodity futures, insurance, certificate of deposits, retirement plans, and on our modern times today, cryptocurrencies (Types of Investments | FINRA.org, 2022). These investment types are all part of the financial market. Financial markets are basically a place where trading or exchanging of securities and other financial assets happens (Financial Markets: Role in the Economy, Importance, Types, and Examples, 2022). Since currency trading occurs over the counter, there is no single global authority that regulates it. However, the foreign exchange market, or ForEx as it is more commonly known, is one of those financial markets (Li, 2016).

The forex brokers that facilitate the transaction are subject to regulations from various government financial institutions, such as the Financial Services Authority (FSA), the National Futures Association, and others. the Australian Securities and Investments Commission (ASIC), the Commodity Futures Trading Commission (CFTC), etc. to be able to protect their clients' interests and financial security. Due to the participation of every nation and economy, forex is the largest financial market on the planet. It is also the most volatile market and the market that has the largest volume of transactions every single day.

Forex trading can be done in two ways, first is the institutional trading like the big banks across the globe, financial institutions and hedge funds. Second is the retail trading where individual traders can participate in this highly speculative market with their lower amount of funds compared to institutional trading through forex brokers that facilitates every retail forex transaction. Forex trading has so many advantages compared to other financial markets, specifically the stock market. An advantage of forex trading is 24-hour trading for 5

days a week since there are currency transactions across the globe. If there are businesses open in every country, forex trading transactions can be made. Another advantage is instant execution unlike in stocks that you will need to order first and wait if your order will be completed. Aside from this, forex trading has short selling, a strategy in trading that speculates a decline in a specific securities price which cannot be done in some stock exchanges like the Philippine Stock Exchange (PSE) today. The last of the many benefits of forex trading is the reduced market manipulation. Since forex is a global market, price action manipulation is difficult to perform, and significant sums of money are required to pump or dump the current market values.

Forex trading is a source of income for some traders. They make trading decisions based on three types of analysis: sentiment, technical, and fundamental. Technical analysis examines the best times to buy and sell using price charts that show previous price movements with candlesticks. A set of quantitatively calculated patterns and indicators is used to make decisions. FX fundamental analysis is the study and analysis of current macroeconomic conditions in each country and how they affect each country's currency.

The basis for your decision on whether to purchase or sell a currency pair is economic news and releases. Politics involved. Lastly, sentiment analysis is more on studying and analyzing where the price is heading based on the mass psychology of the market because the market is actually a combination of opinions, ideas and views of all market participants. That's why it is also sometimes called 'market sentiment analysis. Which among these three-forex trading analysis is best to use? No one knows. It all depends on the personality and risk tolerance of every retail trader. These questions are actually a debatable question since the existence of the financial market that the researcher aims to somehow find an answer.

Based on the research conducted by the European Central Bank (ECB), average daily retail volume



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from 2008 to 2012 is increasing and the geographic location of forex retail traders are from Europe which is the largest followed by Asian countries where Philippines is included. Based on their respondent's profile, forex trading is dominated by male traders and based on their study, 84% of retail forex traders believe that they can make money in forex trading but only 30% actually makes money (Davison, 2014). This was the gap that prompted the researcher to conduct this study. The researcher wishes to discover why only a small percentage of forex traders' profit, as well as the strategies and performance evaluations of consistently profitable Filipino forex traders.

Literature Review

In order to properly comprehend the present state of the forex market and the potential consequences of this study, the researcher carefully examines past research and conducts a complete assessment of the relevant literature and studies.

Some researchers conducted their papers with the help of brokerage firms for the data, but some directly tap every trader. Some results show that a certain analysis is better than another and vice versa. Some research shows that forex traders are losing money but some contradictory shows that traders actually make money in forex trading. All of these researches are in different locations, different set up, different profiles of respondents and of different market conditions.

The researcher extends his curiosity and thinks of forex trading performance assessment already conducted in the Philippines but as a result, there's no currently local research paper with the same topic as this paper has found by the researcher. This became a hint for the researcher to conduct this study.

As presented above and on the review of related literature, there's always been a constant debate on what type of analysis and trading practices is best to use to maximize performance in terms of gains

together with the money management and state of mind practices of traders in their trading journey. This is the gap that this paper assessed in local (Filipino traders) context together with the goal of providing the current statistics of the trading conditions of retail traders in the Philippines. This will also be of great assistance to Filipino newbie traders in determining where to begin learning and what skills to hone in order to be a consistently profitable trader in the long run.

Theoretical Framework, Conceptual Framework and Methodology

Figure 1

The MSS (Money Management, Strategies, State of Mind) Model

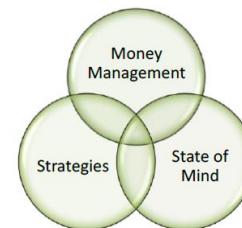


Figure 1 shows the graphical representation of the MSS Model, a three circle Venn diagram with labels "Money Management", "Strategies" and "State of Mind", by Mario Singh on his book "Unlocking the world's largest financial secret: 12 keys to forex freedom"



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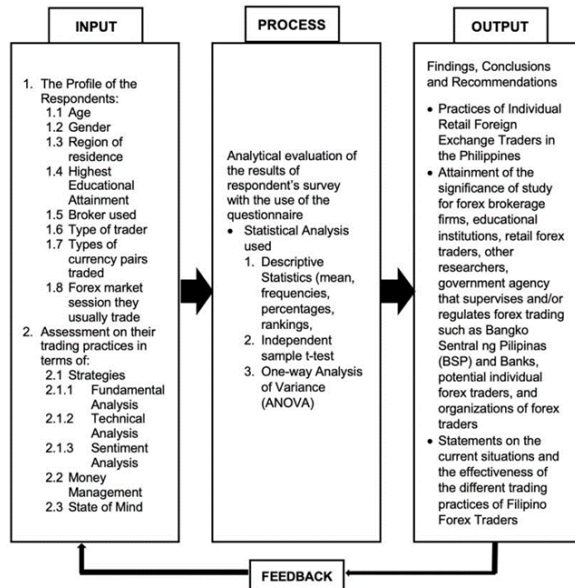
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Figure 2

Research Paradigm



The conceptual framework shows the flow of this study. This conceptual framework includes three (3) frames; the input, the process and the frame for generated output.

The input frame shows the necessary data to be used which will come from the survey questionnaire. First is the demographics of the respondents such as the age, gender, region of residence, educational attainment, broker used, type of trader, type of currency pairs traded, and the forex market session they usually trade. Next is the trader's assessment on the level of effectiveness of their trading practices based on the MSS model – Money Management, Strategies, and the State of Mind.

The process includes the dissemination of survey through social media platforms for Filipino forex traders only, collection, data gathering and data cleaning and the statistical treatments to be used such as the descriptive statistics (means, frequencies, percentages, and rankings), Independent sample t-test, and One-way Analysis of Variance (ANOVA).

The output of this study will be the practices of individual retail foreign exchange market traders, and of course the attainment of the significance of study for forex brokerage firms, educational institutions, retail forex traders, other researchers, government agency that supervises and/or regulates forex trading such as Bangko Sentral ng Pilipinas (BSP) and Banks, potential individual forex traders, and organizations of forex traders.

Methodology

This study used the descriptive (means, frequencies, percentages, and rankings) and inferential (Independent sample t-test, and One-way analysis of variance) statistics as the main instrument to obtain the necessary objective of this research. It will be conducted online through social media platforms with the help of a forex trading organization.

Since there are no government agencies having the database regarding the current number of Filipino forex traders, the population size is unknown. With that, the researcher used sample size for proportion with unknown population. 50% population proportion (for unknown population), 95% confidence level and 5% margin of error. This will result in a 385 number of sample size to be used. The researcher employed simple random sampling, a process whose respondents had an equal chance of selecting a sample size from the population to participate in the study.

The 385 respondents must be all Filipino foreign exchange traders (of legal age) who were already trading with a live account on any broker. Respondents were described according to their demographic profile such as the age, gender, region where they live, educational attainment, broker used, what type of trader they are, types of currency they usually trade, and the forex market session they usually trade. The researcher also tapped the help of a forex trading organization, for their members to participate in the said study.



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This study used a researcher-made survey instrument employed which was done through an online Google form. It was carefully modified for the respondents to answer as honestly as possible and to avoid unclear and confusing answers. The questionnaire was divided into 2 parts. Part I dealt with the profile of the respondents as stated in the description and Part II focused on the assessment on the level of effectiveness of their trading practices.

This paper will serve as a baseline study for the current practices of forex traders in the Philippines. All questions were based on the researcher's extensive knowledge of how the forex market works and how retail traders trade this financial market, as well as his own experience as a forex trader, and, of course, with the assistance of his thesis adviser for cross-checking the questionnaire questions.

Specifically, the researcher used the following references to construct the Part 2 of the questionnaire. For the fundamental analysis, the researcher used the forex market event type categories on ForexFactory.com, a website that provides fundamental and economic information for forex traders real time. For the fundamental market event categories are Growth, Inflation, Employment, Central Bank, Bonds, Housing, Consumer Surveys, Business Surveys, and Speeches; For the Technical Analysis and Money Management questions, the researcher used the "The Trading Code" book by Jason Cam, dedicated to learning about Technical Analysis applied to any Financial Market Trading. Most common technical concepts and indicators used by technical traders are mentioned there. Overall, they are pure price action, Signs of Reversal, Moving Average, Moving Average Convergence Divergence (MACD), Relative Strength Index (RSI), Stochastics (STS), Directional Movement Indicator (DMI), Trendlines, Channel Lines, Fibonacci Retracement Levels, Support and Resistance (SAR) Levels.

For the money management, it delved on placing of stop loss, target price, and trailing stops levels. Also, included there is the assessment of the risk-reward

ratio and the proper lot sizing. Lastly, for the State of Mind questions, the researcher used the four (4) States of Mind while trading mentioned in the book "Unlocking the world's largest financial secret: 12 keys to forex freedom" by Mario Singh, which is also the reference used by the researcher for his Theoretical Framework of the MSS (Money Management, Strategies, and State of Mind) Model. For the research instrument's (questionnaire) test of validity, it is done through an expert opinion. The questionnaire used has been validated by an expert in the field, which is a forex trader also. She found out that the questions in the questionnaire were relevant to the study based on her expertise/experience in Forex Trading herself. The researcher also used the test-retest reliability testing, this basically measured the consistency of results when the same sample is repeated at a different point in time.

The researcher began to conduct the study and distributed the google form links (questionnaire) to the respondents once the researcher's proposal and instrument were accepted. He did this through social media platforms and forex trading forums like the Facebook group for the FNOP community. The researcher took precautions to keep the respondent's data confidential and not breach it. You can be sure that the respondents had enough time to complete the survey. There was no time limit in answering the survey questionnaire. The researcher only needed a total of 385 responses, but he was able to get 390 responses. All responses from those 390 were good and accepted. No responses were rejected for the reason that the researcher properly utilized the data validation features of the Google Form and also, the majority of the questions can be answered through multiple choice or checkboxes only.



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Data Results and Analysis

Figure 1

Respondent's Age

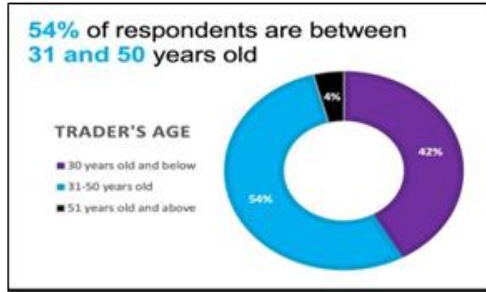


Figure 1 shows that the majority of respondents (54.1%) are between 31 and 50 years old, followed by 30 years old and below (41.8%), and lastly, 51 years old and above (4.1%).

Figure 2

Respondent's Gender

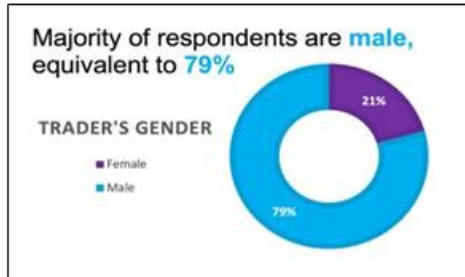
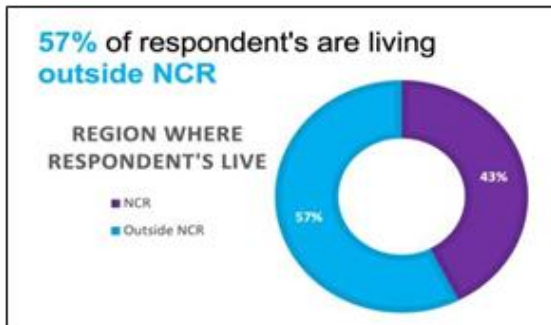


Figure 2

shows that majority of the respondents are male, equivalent to 79.5%. Then the rest are females.

Figure 3

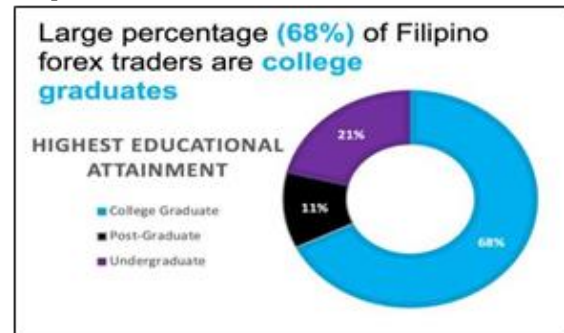
Respondent's Region of Residence



This figure 3 indicates that 57.4% of the respondents are living outside NCR. The rest are living inside NCR.

Figure 4

Respondent's Educational Attainment



This figure shows that a large percentage (67.7%) of Filipino Forex traders are college graduates, followed by undergraduates (21%) and traders with postgraduate degrees (11.3%).

Figure 5

Broker Used in Trading



This figure shows that the majority of Filipino forex traders prefer to use XM as their broker, followed by IC Markets, Pepperstone, FBS, Liteforex, etoro, etc. XM has the highest frequency which is 165, equals to 42.3%, followed by IC Markets which have 77 total frequencies, equivalent to 19.7%. While the two lowest brokers on the list of top 10, are Tickmill and Fx Primus. Tickmill got 23 total frequency which is equivalent to 5.9% and FXPrimus got 21 total frequency which is equivalent to 5.4%.



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Figure 6

Type of Trader



The figure above says that the majority of the respondents are Day Traders (61%), followed by Scalpers (46.4%), Swing Traders (49.2%) and Position Traders (22.1%).

Figure 7

Currency Pairs Traded



Figure 7 shows that a lot of Filipino forex traders prefer to trade major currency pairs (94.1%), over minor pairs (49.2%) and exotic pairs (5.4%).

Figure 8

Market Session Traded

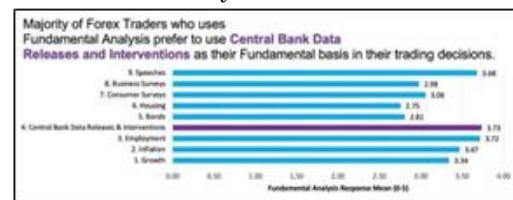


Based on the presented figure above, we can easily say that Filipino forex traders prefer to trade during the London session, overlapping periods of the London and New York session and the whole New York session.

While for the other sessions, the percentage of Filipino forex traders who engaged during those sessions are relatively low compared to the above-mentioned sessions.

Figure 9

Fundamental Analysis



Legend: 5-Extremely Important, 4-Highly Important, 3-Moderately Important, 2-Slightly Important, 1-Not Important, 0-I don't know / I have no idea on this

The figure above says that Filipino forex traders who use fundamental analysis prefer to use Employment, Central Bank Data Releases & Interventions, and Speeches as their fundamental basis in their trading decisions. Because those are the fundamental analysis (economic data releases) who got "Highly Important" as their interpretation.



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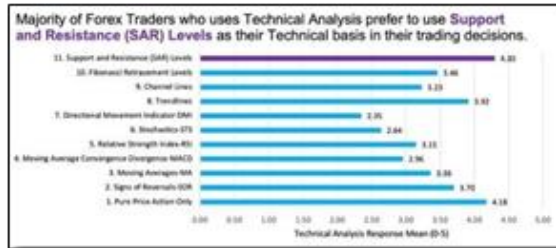
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Figure 10

Technical Analysis

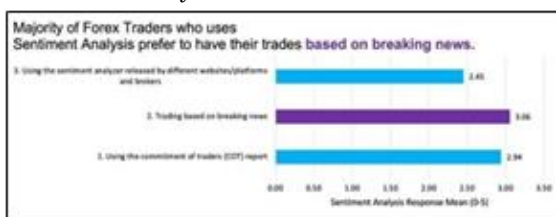


Legend: 5-Extremely Important, 4-Highly Important, 3-Moderately Important, 2-Slightly Important, 1-Not Important, 0-I don't know / I have no idea on this

Based on the figure above, we can easily say that for traders who use technical analysis, they prefer to use support and resistance levels (SAR), pure price action, trendlines, and signs of reversals (SOR) as their technical basis on their trading decisions. Because these technical indicators are the ones who got “Highly Important” on their verbal interpretation.

Figure 11

Sentiment Analysis



Legend: 5-Extremely Important, 4-Highly Important, 3-Moderately Important, 2-Slightly Important, 1-Not Important, 0-I don't know / I have no idea on this

The figure above indicates that Filipino forex traders who uses sentiment analysis prefer to trade based on breaking news and also using the commitment of traders (COT) report over using the sentiment analyzers released by different website/platforms and brokers, for it is only the criteria that got “Slightly Important” on the verbal interpretation.

Figure 12

Money Management



Legend: 5-Extremely Important, 4-Highly Important, 3-Moderately Important, 2-Slightly Important, 1-Not Important, 0-I don't know / I have no idea on this

When it comes to money management, this figure shows that controlling the lot size with specific risk percentage per trade, placing a stop loss and assessing the risk-reward ratio before entering a trade are considered extremely important by a lot of Filipino forex traders over other money management techniques such as placing a target price and using a trailing stop when their position is already on the positive side of their trade and letting their profits run which considers by traders as highly important.

Figure 13

State of Mind



Legend: 5-Extremely Important, 4-Highly Important, 3-Moderately Important, 2-Slightly Important, 1-Not Important, 0-I don't know / I have no idea on this

This figure shows that Filipino forex traders are highly consistent in their ability of resisting from



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different states of mind (fear, hope, greed and ignorance) in trading. The highest mean is the ability to resist fear, followed by greed, ignorance and hope.

Table 1

One-Way Analysis of Variance (ANOVA): Comparison on the Assessment of Respondents on the Effectiveness of their Trading Practices Related to Strategies when Grouped According to Highest Educational Attainment

Strategies	Highest Educational Attainment	Mean	F-test	P-value	Decision	Remarks
Fundamental Analysis	Undergraduate	3.1911	0.379	0.684	Failed to Reject Ho	Not Significant
	College Graduate	3.3194				
	Post-Graduate	3.2146				
Technical Analysis	Undergraduate	3.4390	0.213	0.808	Failed to Reject Ho	Not Significant
	College Graduate	3.3781				
	Post-Graduate	3.3368				
Sentiment Analysis	Undergraduate	2.7846	0.369	0.692	Failed to Reject Ho	Not Significant
	College Graduate	2.8497				
	Post-Graduate	2.6818				

Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise fail to reject null hypothesis.

The table 1 above shows that there's no significant remarks on the effectiveness of the trading practices used by Filipino forex traders related to strategies (fundamental analysis, technical analysis, and sentiment analysis) on whatever educational attainment they have as a trader. Based on one-way analysis of variance (ANOVA), all comparisons failed to reject the null hypothesis, meaning, those are all not statistically significant.

Table 2

Independent Sample T-test: Comparison on the Assessment of Respondents on the Effectiveness of their Trading Practices Related to Strategies When Grouped According to the Broker they are using in trading

Strategies	Broker	Mean		t-test	P-value	Decision	Remarks
		C	NC				
Fundamental Analysis	XM	3.33	3.25	0.598	0.550	Failed to Reject Ho	Not Significant
	IC Markets	2.78	3.40	-3.872	0.000	Reject Ho	Significant
	Pepperstone	3.09	3.32	-1.287	0.199	Failed to Reject Ho	Not Significant
	FBS	3.25	3.29	-0.208	0.835	Failed to Reject Ho	Not Significant
	Liteforex	3.48	3.25	1.166	0.244	Failed to Reject Ho	Not Significant
	Etoro	3.26	3.28	-0.105	0.916	Failed to Reject Ho	Not Significant
	Exness	2.96	3.31	-1.508	0.132	Failed to Reject Ho	Not Significant
	Vantage FX	3.34	3.28	0.256	0.798	Failed to Reject Ho	Not Significant
	Tickmill	3.12	3.29	-0.636	0.525	Failed to Reject Ho	Not Significant
Technical Analysis	FX Primus	3.35	3.28	0.272	0.786	Failed to Reject Ho	Not Significant
	XM	3.58	3.25	3.566	0.000	Reject Ho	Significant
	IC Markets	3.14	3.45	-2.654	0.008	Reject Ho	Significant
Sentiment Analysis	Pepperstone	3.11	3.44	-2.585	0.010	Reject Ho	Significant
	FBS	3.49	3.37	0.965	0.335	Failed to Reject Ho	Not Significant
	Liteforex	3.46	3.38	0.626	0.532	Failed to Reject Ho	Not Significant
	Etoro	3.68	3.35	2.355	0.019	Reject Ho	Significant
	Exness	3.26	3.40	-0.858	0.391	Failed to Reject Ho	Not Significant
	Vantage FX	3.49	3.38	0.623	0.533	Failed to Reject Ho	Not Significant
	Tickmill	2.93	3.41	-2.481	0.014	Reject Ho	Significant
	FX Primus	3.43	3.38	0.241	0.809	Failed to Reject Ho	Not Significant
	XM	2.92	2.74	1.428	0.154	Failed to Reject Ho	Not Significant
	IC Markets	2.43	2.91	-3.021	0.003	Reject Ho	Significant
Sentiment Analysis	Pepperstone	2.71	2.84	-0.746	0.456	Failed to Reject Ho	Not Significant
	FBS	2.82	2.82	0.014	0.989	Failed to Reject Ho	Not Significant
	Liteforex	2.84	2.81	0.156	0.876	Failed to Reject Ho	Not Significant
	Etoro	2.82	2.82	0.029	0.977	Failed to Reject Ho	Not Significant
	Exness	2.44	2.85	-1.783	0.075	Failed to Reject Ho	Not Significant
	Vantage FX	2.88	2.81	0.254	0.800	Failed to Reject Ho	Not Significant
	Tickmill	2.39	2.84	-1.676	0.094	Failed to Reject Ho	Not Significant
	FX Primus	2.57	2.83	-0.919	0.358	Failed to Reject Ho	Not Significant

Legend: C = Client. Existing clients of those brokers, based on each row level NC = non-client. Not a client of those brokers. based on each row labels

Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise fail to reject null hypothesis.

Using the independent sample t-test to see if significant difference exists between the clients and non-clients of different brokers based on the strategy they used (fundamental, technical and sentiment), we can easily say based on the table above that on the Fundamental Analysis, there's a significant difference between the effectiveness of the trading practices of existing IC Markets clients and non-clients.



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On Technical Analysis, there's also a significant difference between the effectiveness of the trading practices of existing XM clients and non-clients, same with existing IC Markets clients and non-clients, Pepperstone clients and non-clients, etoro clients and non-clients, and tickmill clients and non-clients.

For the Sentiment Analysis, only the existing IC Markets clients and non-clients have the significant difference between the effectiveness of their trading practices. While the rest, those who were not mentioned above, do not have significant differences on the effectiveness of their trading practices whether they are an existing client of those brokers or not based on strategies they are using.

Table 3

Independent Sample T-test: Comparison on the Assessment of Respondents on the Effectiveness of their Trading Practices Related to Strategies When Grouped According to Type of Trader

Strategies	Type of Trader	Mean		t-test	P-value	Decision	Remarks
		T	NT				
Fundamental Analysis	Scalper	3.40	3.18	1.669	0.096	Failed to Reject Ho	Not Significant
	Day Trader	3.30	3.25	0.395	0.693	Failed to Reject Ho	Not Significant
	Swing Trader	3.35	3.21	1.030	0.304	Failed to Reject Ho	Not Significant
	Position Trader	3.41	3.24	1.069	0.286	Failed to Reject Ho	Not Significant
Technical Analysis	Scalper	3.45	3.33	1.259	0.209	Failed to Reject Ho	Not Significant
	Day Trader	3.38	3.40	-0.240	0.810	Failed to Reject Ho	Not Significant
	Swing Trader	3.38	3.39	-0.159	0.874	Failed to Reject Ho	Not Significant
	Position Trader	3.58	3.33	2.228	0.026	Reject Ho	Significant
Sentiment Analysis	Scalper	2.96	2.70	2.061	0.040	Reject Ho	Significant
	Day Trader	2.75	2.93	-1.415	0.158	Failed to Reject Ho	Not Significant
	Swing Trader	2.88	2.76	0.921	0.357	Failed to Reject Ho	Not Significant
	Position Trader	3.02	2.76	1.692	0.091	Failed to Reject Ho	Not Significant

Legend: T = Trader. This means they are that type of trader based on row labels

NT = Non-Trader. This means they are not that type of trader based on row labels

Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise fail to reject null hypothesis.

This table shows that the effectiveness of the trading practices of position traders and non-position traders have a significant difference when it comes to technical analysis. Also, there's a significant difference between the effectiveness of the trading

practices of scalpers and non-scalpers that are using sentiment analysis as their trading strategy. All other comparisons reflect a not significant remarks, and this is through using an independent sample t-test which tests if there's a significant difference between two means. In this case two means are 1.) scalpers and non-scalpers, 2.) day traders and non-day traders, 3.) swing traders and non-swing traders, and 4.) position traders and non-position traders.

Table 4

Independent Sample T-test: Comparison on the Assessment of Respondents on the Effectiveness of their Trading Practices Related to Strategies When Grouped According to Type of Currency Pairs Traded

Strategies	Type of Currency Pairs Traded	Mean		t-test	P-value	Decision	Remarks
		T	NT				
Fundamental Analysis	Major Pairs	3.33	2.45	3.231	0.001	Reject Ho	Significant
	Minor Pairs	3.24	3.32	-0.658	0.511	Failed to Reject Ho	Not Significant
	Exotic Pairs	3.11	3.29	-0.643	0.521	Failed to Reject Ho	Not Significant
Technical Analysis	Major Pairs	3.42	2.92	2.547	0.011	Reject Ho	Significant
	Minor Pairs	3.35	3.42	-0.726	0.468	Failed to Reject Ho	Not Significant
	Exotic Pairs	3.90	3.36	2.662	0.008	Reject Ho	Significant
Sentiment Analysis	Major Pairs	2.88	1.81	4.026	0.000	Reject Ho	Significant
	Minor Pairs	2.70	2.93	-1.874	0.062	Failed to Reject Ho	Not Significant
	Exotic Pairs	3.33	2.79	1.939	0.053	Failed to Reject Ho	Not Significant

Legend: T = Traders. This means they are traders of every currency pair based on row labels

NT = Non-Traders. This means they are not traders of every currency pair based on row labels Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise fail to reject null hypothesis

The table above shows that when using fundamental analysis, there is a significant difference only on the effectiveness of trading practice between the traders of major pairs and non-traders of major pairs. For technical analysis, there is a significant difference on the effectiveness of trading practice between traders and non-traders of major pairs and exotic pairs while for sentiment analysis, there is only a significant difference on the effectiveness of trading practice between traders and non-traders of major pairs. All other comparisons are not significant using independent sample t-tests.



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Table 5

Independent Sample T-test: Comparison on the Assessment of Respondents on the Effectiveness of their Trading Practices Related to Strategies When Grouped According to Forex Market Session they usually trade

Strategies	Forex Market Session	Mean		t-test	P-value	Decision	Remarks	
		T	NT					
Fundamental Analysis	Sydney Session	3.1	3.3	-1.351	0.177	Failed to Reject Ho	Not Significant	
	Overlap of Sydney and Tokyo	3	3.4	-2.204	0.028	Reject Ho	Significant	
	Tokyo Session	3.1	3.3	-1.448	0.148	Failed to Reject Ho	Not Significant	
	Overlap of Tokyo and London	3.2	3.3	-1.07	0.285	Failed to Reject Ho	Not Significant	
	London Session	3.3	3.3	-0.278	0.781	Failed to Reject Ho	Not Significant	
	Overlap of London and New York	3.3	3.3	0.378	0.705	Failed to Reject Ho	Not Significant	
	New York Session	3.3	3.3	0.278	0.781	Failed to Reject Ho	Not Significant	
	Technical Analysis	Sydney Session	3.3	3.4	-0.744	0.458	Failed to Reject Ho	Not Significant
		Overlap of Sydney and Tokyo	3.3	3.4	-0.814	0.416	Failed to Reject Ho	Not Significant
Tokyo Session		3.2	3.5	-2.549	0.011	Reject Ho	Significant	
Overlap of Tokyo and London		3.4	3.4	-0.209	0.835	Failed to Reject Ho	Not Significant	
London Session		3.3	3.5	-1.271	0.204	Failed to Reject Ho	Not Significant	
Overlap of London and New York		3.4	3.4	0.655	0.513	Failed to Reject Ho	Not Significant	

	New York Session	3.4	3.4	-0.859	0.391	Failed to Reject Ho	Not Significant
Sentiment Analysis	Sydney Session	2.8	2.8	0.126	0.9	Reject Ho	Significant
	Overlap of Sydney and Tokyo	2.8	2.8	-0.506	0.613	Failed to Reject Ho	Not Significant
	Tokyo Session	2.7	2.9	-1.162	0.246	Failed to Reject Ho	Not Significant
	Overlap of Tokyo and London	2.8	2.8	-0.278	0.781	Failed to Reject Ho	Not Significant
	London Session	2.7	3	-1.921	0.055	Failed to Reject Ho	Not Significant
	Overlap of London and New York	2.9	2.8	0.768	0.443	Failed to Reject Ho	Not Significant
	New York Session	2.8	2.8	-0.106	0.916	Failed to Reject Ho	Not Significant

Legend: T = Traders. This means they are traders of every forex market trading session based on row labels NT = Non-Traders. This means they are not traders of every forex market trading session based on row labels

Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise fail to reject null hypothesis.

This table says that there's a significant difference in the effectiveness of the trading practice of traders and non-traders during the overlapping periods of the Sydney and Tokyo sessions in terms of Fundamental Analysis. Non-traders during the overlapping periods of the Sydney and Tokyo sessions have higher mean, meaning, they have more effective trading practice compared to the traders during the said session.

In terms of Technical Analysis, there's only a significant difference in the effectiveness of the trading practice of traders and non-traders during the Tokyo session. Non-traders during this session have better effectiveness in their trading practice based on their means.

Lastly, in terms of Sentiment Analysis and all other comparisons are not significant using the independent sample t-test.



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Table 6:

One-Way Analysis of Variance (ANOVA): Comparison on the Assessment of Respondents on the Effectiveness of their Trading Practices Related to Money Management When Grouped According to Highest Educational Attainment

Money Management	Highest Educational Attainment	Mean	F-test	P-value	Decision	Remarks
Placing a Stop Loss	Undergraduate	4.34	6.589	0.002	Reject Ho	Significant
	College Graduate	4.67				
	Post-Graduate	4.23				
Placing a Target Price	Undergraduate	4.22	3.907	0.021	Reject Ho	Significant
	College Graduate	4.54				
	Post-Graduate	4.34				
Assessing The Risk-Reward	Undergraduate	4.51	0.815	0.443	Failed to Reject Ho	Not Significant
	College Graduate	4.57				
	Post-Graduate	4.39				
Using Trailing Stops if the Position is on Positive side and letting Profits run	Undergraduate	3.77	3.944	0.02	Reject Ho	Significant
	College Graduate	4.07				
	Post-Graduate	3.59				
Controlling the lot size with specific risk percentage per trade	Undergraduate	4.55	1.557	0.212	Failed to Reject Ho	Not Significant
	College Graduate	4.7				
	Post-Graduate	4.55				

Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise fail to reject null hypothesis.

When it comes to Money Management, based on one-way analysis of variance (ANOVA), there is a significant difference between different educational attainment when placing a stop loss. College graduates have a higher mean compared to undergraduates and traders with postgraduate degrees. Therefore, traders who are college graduates have more effective placement of stop loss levels compared to the undergraduates and traders with postgraduate degrees.

On placing a target price, there is also a significant difference on the means between different educational attainments of Filipino forex traders. Same with placing a stop loss, college graduate traders have the highest mean compared to undergraduates and traders with postgraduate degrees. Meaning, college graduate traders have the most effective placement of target price levels when it comes to their Money Management practices.

Lastly, when using a trailing stop, there is also a significant difference on different educational attainments. Again, same with the paragraphs above, college graduate traders have the highest mean compared to the undergraduates and traders with postgraduate degrees. Therefore, college graduate traders are more effective when using a trailing stop if the position is on the positive side of their trades compared to the undergraduates and traders with postgraduate degrees. Other comparisons for this money management practice have not significant remarks.

Table 7:

Independent Sample T-test: Comparison on the Assessment of Respondents on the Effectiveness of their Trading Practices Related to Money Management When Grouped According to the Broker they use

Money Management	Broker	Mean		t-test	P-value	Decision	Remarks
		C	NC				
Placing a Stop Loss	XM	4.6	4.48	1.551	0.122	Failed to Reject Ho	Not Significant
	IC Markets	4.6	4.54	0.498	0.619	Failed to Reject Ho	Not Significant
	Pepperstone	4.4	4.58	-1.309	0.191	Failed to Reject Ho	Not Significant
	FBS	4.4	4.57	-0.941	0.347	Failed to Reject Ho	Not Significant
	Liteforex	4.5	4.56	-0.615	0.539	Failed to Reject Ho	Not Significant
	Etoro	4.6	4.54	0.216	0.829	Failed to Reject Ho	Not Significant
	Exness	4.2	4.58	-2.314	0.021	Reject Ho	Significant
	Vantage FX	4.9	4.52	1.92	0.056	Failed to Reject Ho	Not Significant
	Tickmill	4	4.58	-2.859	0.004	Reject Ho	Significant
	FX Primus	4.5	4.55	-0.122	0.903	Failed to Reject Ho	Not Significant



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Placing a Target Price	XM	4.5	4.45	0.057	0.954	Failed to Reject Ho	Not Significant
	IC Markets	4.5	4.44	0.298	0.766	Failed to Reject Ho	Not Significant
	Pepperstone	4.3	4.47	-1.035	0.302	Failed to Reject Ho	Not Significant
	FBS	4.3	4.47	-0.975	0.33	Failed to Reject Ho	Not Significant
	Liteforex	4.5	4.45	0.128	0.898	Failed to Reject Ho	Not Significant
	Etoro	4.3	4.47	-1.207	0.228	Failed to Reject Ho	Not Significant
	Exness	4.1	4.48	-2.266	0.024	Reject Ho	Significant
	Vantage FX	4.3	4.46	-0.661	0.509	Failed to Reject Ho	Not Significant
	Tickmill	3.9	4.49	-3.027	0.003	Reject Ho	Significant
	FX Primus	4.6	4.44	0.589	0.556	Failed to Reject Ho	Not Significant
Assessing the Risk- Reward	XM	4.6	4.51	0.688	0.492	Failed to Reject Ho	Not Significant
	IC Markets	4.4	4.57	1.175	0.241	Failed to Reject Ho	Not Significant
	Pepperstone	4.4	4.56	-1.273	0.204	Failed to Reject Ho	Not Significant
	FBS	4.4	4.56	-1.044	0.297	Failed to Reject Ho	Not Significant
	Liteforex	4.3	4.57	-1.753	0.08	Failed to Reject Ho	Not Significant
	Etoro	4.5	4.54	-0.385	0.7	Failed to Reject Ho	Not Significant
	Exness	4.7	4.53	0.839	0.402	Failed to Reject Ho	Not Significant
	Vantage FX	4.8	4.52	1.408	0.16	Failed to Reject Ho	Not Significant
	Tickmill	4.3	4.56	-1.499	0.135	Failed to Reject Ho	Not Significant
	FX Primus	4.2	4.56	-1.546	0.123	Failed to Reject Ho	Not Significant
	XM	4	3.95	0.085	0.932	Failed to Reject Ho	Not Significant
	IC Markets	4.1	3.92	0.893	0.372	Failed to Reject Ho	Not Significant
	Pepperstone	3.8	3.97	-0.797	0.426	Failed to Reject Ho	Not Significant
	FBS	3.9	3.96	-0.241	0.81	Failed to Reject Ho	Not Significant

Using Trailing Stops if the Position is on Positive side and letting Profits run	Liteforex	4	3.94	0.535	0.593	Failed to Reject Ho	Not Significant
	Etoro	4.1	3.94	0.66	0.51	Failed to Reject Ho	Not Significant
	Exness	3.6	3.98	1.52	0.129	Failed to Reject Ho	Not Significant
	Vantage FX	4.3	3.93	1.494	0.136	Failed to Reject Ho	Not Significant
	Tickmill	3.6	3.98	-1.534	0.126	Failed to Reject Ho	Not Significant
	FX Primus	4.1	3.94	0.544	0.587	Failed to Reject Ho	Not Significant
	XM	4.7	4.64	0.196	0.845	Failed to Reject Ho	Not Significant
	IC Markets	4.6	4.67	-0.974	0.33	Failed to Reject Ho	Not Significant
	Pepperstone	4.4	4.7	-2.657	0.008	Reject Ho	Significant
	FBS	4.5	4.67	-1.309	0.191	Failed to Reject Ho	Not Significant
Controlling the lot size with specific risk percentage per trade	Liteforex	4.6	4.66	-0.505	0.614	Failed to Reject Ho	Not Significant
	Etoro	4.6	4.66	-0.258	0.797	Failed to Reject Ho	Not Significant
	Exness	4.7	4.65	0.115	0.909	Failed to Reject Ho	Not Significant
	Vantage FX	4.9	4.63	1.598	0.111	Failed to Reject Ho	Not Significant
	Tickmill	4.6	4.66	-0.53	0.597	Failed to Reject Ho	Not Significant
	FX Primus	4.2	4.67	-2.441	0.015	Reject Ho	Significant

Legend: C = Client. Existing clients of those brokers, based on each row level NC = Non-client. Not a client of those brokers, based on each row labels

Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise fail to reject null hypothesis.

Table 7 shows a comparison on the assessment of respondents on the effectiveness of their trading practices related to money management when grouped according to the broker they use in trading. On the effectiveness of placing a stop loss, there is a significant difference between the clients (traders) and non-clients (non-trader) of exness and tickmill brokers. Both these brokers have the non-clients as the higher mean, meaning, non-clients of exness and tickmill are more effective when it comes to placing a stop loss level.



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As to the effectiveness of placing a target price, there is also a significant difference between the clients and non-clients of exness and tickmill brokers. Both these brokers have the non-clients as the higher mean, meaning, non-clients of exness and tickmill are more effective when it comes to placing a target price levels.

When it comes to the effectiveness of money management practice of assessing the risk-reward ratio before entering a trade and using a trailing stop when the position is already on the positive side of the trade, all comparisons are not significant between the clients and non-clients of each broker.

Lastly, on the effectiveness of controlling the lot size with specific risk percentage per trade, there is a significant difference between the clients and non-clients of both the Pepperstone and FXPrimus brokers. Both these brokers have the non-clients as the higher mean, meaning, non-clients of Pepperstone and FXPrimus are more effective when it comes to controlling the lot size with specific risk percentage per trade. While all other comparisons not mentioned in this table description are all not significant.

Table 8

Independent Sample T-test: Comparison on the Assessment of Respondents on the Effectiveness of their Trading Practices Related to Money Management When Grouped According to Type of Trader

Money Management	Type of Trader	Mean		t-test	P-value	Decision	Remarks
		T	NT				
Placing a Stop Loss	Scalper	4.4	4.7	-3.476	0.001	Reject Ho	Significant
	Day Trader	4.6	4.4	2.114	0.035	Reject Ho	Significant
	Swing Trader	4.7	4.5	2.087	0.038	Reject Ho	Significant
	Position Trader	4.5	4.6	-0.917	0.36	Failed to Reject Ho	Not Significant
Placing a Target Price	Scalper	4.4	4.5	-1.963	0.048	Reject Ho	Significant
	Day Trader	4.5	4.4	0.821	0.412	Failed to Reject Ho	Not Significant
	Swing Trader	4.5	4.4	1.198	0.231	Failed to Reject Ho	Not Significant
	Position Trader	4.5	4.4	0.278	0.781	Failed to Reject Ho	Not Significant

Assessing The Risk-Reward	Scalper	4.4	4.6	-2.278	0.023	Reject Ho	Significant
	Day Trader	4.6	4.5	1.002	0.317	Failed to Reject Ho	Not Significant
	Swing Trader	4.6	4.4	2.178	0.03	Reject Ho	Significant
	Position Trader	4.6	4.5	0.225	0.822	Failed to Reject Ho	Not Significant
Using Trailing Stops if the Position is on Positive side and letting Profits run	Scalper	3.9	4	-1.32	0.188	Failed to Reject Ho	Not Significant
	Day Trader	3.9	4	-0.283	0.777	Failed to Reject Ho	Not Significant
	Swing Trader	4.1	3.8	1.987	0.048	Reject Ho	Significant
	Position Trader	3.9	4	-0.177	0.859	Failed to Reject Ho	Not Significant
Controlling the lot size with specific risk percentage per trade	Scalper	4.6	4.7	-0.87	0.385	Failed to Reject Ho	Not Significant
	Day Trader	4.7	4.6	1.164	0.245	Failed to Reject Ho	Not Significant
	Swing Trader	4.8	4.6	2.407	0.017	Reject Ho	Significant
	Position Trader	4.8	4.6	1.37	0.172	Failed to Reject Ho	Not Significant

Legend: T = Trader. This means they are that type of trader based on row labels
 NT = Non-Trader. This means they are not that type of trader based on row labels
 Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise fail to reject null hypothesis.

The table above shows the comparison on the assessment of respondents on the effectiveness of their trading practices related to money management when grouped according to what type of trader they are, using an independent sample t-test.

Based on the results, on the effectiveness of placing a stop loss, there is a significant difference between scalper and non-scalpers. Non-scalpers are more effective when it comes to placing stop loss levels since they have a higher mean. There is also a significant difference between day traders and non-day traders, it is evident on the table that day traders are more effective on placing a stop loss compared to non-day traders based on their means. Also, there is a significant difference between swing traders and non-swing traders. Swing traders are more effective in placing stop loss levels compared to non-swing traders for they have a higher mean.

In terms of the effectiveness of placing a target price, there is a significant difference between scalpers and non-scalpers. Non-scalpers are more effective at placing a target price level compared to scalpers based on their means.



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On the effectiveness of assessing the risk-reward ratio before entering a trade, it is evident that there's a significant difference between scalpers and non-scalpers, and swing traders and non-swing traders. Non-scalpers are more effective on assessing the risk reward ratio before entering into a trade compared to scalpers based on their means, while swing traders are more effective on assessing the risk reward ratio before entering into a trade compared to non-swing traders based also on their means.

As to the effectiveness of using a trailing stop when the position is on the positive side of the trade, there is a significant difference between swing traders and non-swing traders, swing traders are more effective on using a trailing stop when the position is on the positive side of the trade compared to non-swing traders.

On the effectiveness of controlling the lot size with specific risk percentage per trade, there is also a significant difference between swing traders and non-swing traders. Based on the results, swing traders are more effective when it comes to controlling the lot size with specific risk percentage per trade compared to non-swing traders based on their means.

Other comparisons not mentioned in this description show that there is no significant difference in their assessment of the effectiveness of their trading practices related to money management when grouped based on the type of trader they are, using an independent sample t-test.

Table 9

Independent Sample T-test: Comparison on the Assessment of Respondents on the Effectiveness of their Trading Practices Related to Money Management When Grouped According to Type of Currency Pairs Traded

Money Management	Type of Currency Pairs Traded	Mean		t-test	P-value	Decision	Remarks
		T	NT				
Placing a Stop Loss	Major Pairs	4.6	3.3	7.055	0	Reject Ho	Significant
	Minor Pairs	4.6	4.5	0.174	0.862	Failed to Reject Ho	Not Significant
	Exotic Pairs	4.2	4.6	-1.53	0.127	Failed to Reject Ho	Not Significant
Placing a Target Price	Major Pairs	4.5	4	2.566	0.011	Reject Ho	Significant
	Minor Pairs	4.5	4.4	0.987	0.324	Failed to Reject Ho	Not Significant
	Exotic Pairs	4.7	4.4	1.292	0.197	Failed to Reject Ho	Not Significant
Assessing The Risk-Reward	Major Pairs	4.6	4.2	1.736	0.083	Failed to Reject Ho	Not Significant
	Minor Pairs	4.6	4.4	2.178	0.03	Reject Ho	Significant
	Exotic Pairs	4.6	4.5	0.414	0.679	Failed to Reject Ho	Not Significant
Using Trailing Stops if the Position is on Positive side and letting Profits run	Major Pairs	4	3	4.023	0	Reject Ho	Significant
	Minor Pairs	3.9	4	-0.3	0.767	Failed to Reject Ho	Not Significant
	Exotic Pairs	4.2	3.9	1.085	0.279	Failed to Reject Ho	Not Significant
Controlling the lot size with specific risk percentage per trade	Major Pairs	4.7	4.3	2.42	0.016	Reject Ho	Significant
	Minor Pairs	4.8	4.6	2.536	0.012	Reject Ho	Significant
	Exotic Pairs	4.6	4.7	-0.47	0.64	Failed to Reject Ho	Not Significant

Legend: T = Traders. This means they are traders of every currency pair based on row labels

NT = Non-Traders. This means they are not traders of every currency pair based on row labels

Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise fail to reject null hypothesis.

This table 22 shows the comparison on the assessment of respondents on the effectiveness of their trading practices related to money management when grouped according to the type of currency pairs they are trading using an independent sample t-test.

On the effectiveness of placing a stop loss, there is a significant difference between the traders and non-traders of major currency pairs. Based on their means, traders of major currency pairs are more



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effective in placing a stop loss.

Meanwhile, as to the effectiveness of placing a target price, there is also a significant difference between the traders and non-traders of major currency pairs. Based on their means, traders of major currency pairs are more effective in placing a target price.

In terms of the effectiveness of assessing the risk-reward ratio before entering a trade, there is also a significant difference between the traders and non-traders of major currency pairs. Based on their means, traders of major currency pairs are more effective in assessing the risk-reward ratio before entering a trade.

On the effectiveness of using a trailing stop when the price is already on the positive side of trade and letting the profits run, there is also a significant difference between the traders and non-traders of major currency pairs. Based on their means, traders of major currency pairs are more effective on using a trailing stop when the price is already on the positive side of trade and letting the profits run.

Lastly, on the effectiveness of controlling the lot size with specific risk percentage per trade, there is also a significant difference between the traders and non-traders of both the major and minor currency pairs. Traders of both major and minor currency pairs seem to be more effective in controlling the lot size with specific risk percentage per trade based on their means.

When grouped according to the kinds of currency pairs they are trading using an independent sample t-test, other comparisons that have not been mentioned in this description show that there is no significant difference in their assessment of the effectiveness of their trading practices related to money management.

Table 10

Independent Sample T-test: Comparison on the Assessment of Respondents on the Effectiveness of their Trading Practices Related to Money Management When Grouped According to Forex Market Session Usually Traded

Money Management	Forex Market Session	Mean		t-test	P-value	Decision	Remarks
		T	NT				
Placing a Stop Loss	Sydney Session	4.3	4.6	4.659	0.015	Reject Ho	Significant
	Overlap of Sydney and Tokyo Session	4.2	4.6	-2.94	0.003	Reject Ho	Significant
	Tokyo Session	4.5	4.6	-0.716	0.474	Failed to	Not
	Overlap of Tokyo and London Session	4.6	4.5	0.297	0.766	Failed to Reject Ho	Not Significant
	London Session	4.6	4.5	1.344	0.18	Failed to	Not
	Overlap of London and New York Session	4.6	4.5	0.676	0.499	Failed to Reject Ho	Not Significant
	New York Session	4.5	4.6	-1.409	0.16	Failed to Reject Ho	Not Significant
Placing a Target Price	Sydney Session	4.4	4.5	-0.092	0.927	Failed to	Not
	Overlap of Sydney and Tokyo Session	4.4	4.5	-0.312	0.755	Failed to Reject Ho	Not Significant
	Tokyo Session	4.5	4.5	-0.059	0.953	Failed to	Not
	Overlap of Tokyo and London Session	4.6	4.4	1.76	0.079	Failed to Reject Ho	Not Significant
	London Session	4.5	4.4	0.156	0.876	Failed to	Not
	Overlap of London and New York Session	4.5	4.4	0.194	0.846	Failed to Reject Ho	Not Significant
	New York Session	4.4	4.5	-0.952	0.342	Failed to Reject Ho	Not Significant
Assessing The Risk-Reward	Sydney Session	4.5	4.6	-0.735	0.463	Failed to	Not
	Overlap of Sydney and Tokyo Session	4.5	4.6	-0.597	0.551	Failed to Reject Ho	Not Significant
	Tokyo Session	4.6	4.5	0.581	0.562	Failed to	Not
	Overlap of Tokyo and London Session	4.7	4.5	2.997	0.003	Reject Ho	Significant
	London Session	4.6	4.4	1.89	0.06	Failed to	Not
	Overlap of London and New York Session	4.6	4.5	0.761	0.447	Failed to Reject Ho	Not Significant
	New York Session	4.6	4.5	0.474	0.636	Failed to Reject Ho	Not Significant



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	Sydney Session	4	4	0.212	0.832	Failed to	Not
Using Trailing Stops if the Position is on Positive side and letting Profits run	Overlap of Sydney and Tokyo Session	3.8	4	-1.265	0.207	Failed to Reject Ho	Not Significant
	Tokyo Session	3.9	4	-0.095	0.924	Failed to	Not
	Overlap of Tokyo and London Session	4	3.9	0.254	0.8	Failed to Reject Ho	Not Significant
	London Session	4	3.9	0.984	0.326	Failed to	Not
	Overlap of London and New York Session	3.9	4	-0.185	0.853	Failed to Reject Ho	Not Significant
	New York Session	4	3.9	1.412	0.159	Failed to Reject Ho	Not Significant
	Sydney Session	4.6	4.7	0.832	0.67	Failed to	Not
Controlling the lot size with specific risk percentage per trade	Overlap of Sydney and Tokyo Session	4.6	4.7	-0.608	0.544	Failed to Reject Ho	Not Significant
	Tokyo Session	4.8	4.6	1.38	0.168	Failed to	Not
	Overlap of Tokyo and London Session	4.8	4.6	2.081	0.038	Reject Ho	Significant
	London Session	4.8	4.5	2.764	0.006	Reject Ho	Significant
	Overlap of London and New York Session	4.7	4.5	2.141	0.033	Reject Ho	Significant
	New York Session	4.6	4.7	-0.319	0.75	Failed to Reject Ho	Not Significant

Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise fail to reject null hypothesis.

This table 10 postulates the comparison on the assessment of the respondents on the effectiveness of their trading practices related to money management when grouped according to the forex market session they usually trade.

On the effectiveness of placing a stop loss, there is a significant difference between the traders and non-traders during the Sydney session and the overlap of the Sydney and Tokyo sessions. Non-traders during both two (2) sessions seem to be more effective when it comes to stop loss placement based on their means as shown on the table above.

As to the effectiveness of placing a target price, all comparisons are not significant.

In terms of the effectiveness of assessing the risk-reward ratio before entering into a trade, there is a significant difference between the traders and non-traders during the overlapping periods of Tokyo and London sessions. Traders during this trading session are more effective in assessing the risk-reward ratio before entering into a trade compared to the non-traders during this session based on their means.

Meanwhile, as to the effectiveness of controlling the lot size with specific risk percentage per trade, there is an evident significant difference between the

traders and non-traders during the overlapping periods of Tokyo and London session, London session, and the overlapping periods of London and New York session. Traders during the said sessions are more effective in controlling their lot sizes with specific risk percentage per trade compared to the non-traders during the said sessions. Fundamentally speaking, the reason for this is that there is a higher volatility during these sessions compared to others, hence traders seem to be careless on their risk and money management when the market is very volatile.

Other comparisons which have not been mentioned in this description shows that there's no significant difference in the assessment of the respondents on the effectiveness of their trading practices related to money management when grouped according to the forex market session they usually trade.

Table 11

One-Way Analysis of Variance (ANOVA): Comparison on the Assessment of Respondents on the Effectiveness of their Trading Practices Related to State of Mind When Grouped According to Highest Educational Attainment

State of Mind	Highest Educational Attainment	Mean	F-test	P-value	Decision	Remarks
Ability to Resist from Fear	Undergraduate	3.96	4.876	0.008	Reject Ho	Significant
	College Graduate	4.33				
	Post-Graduate	4.05				
Ability to Resist from Hope	Undergraduate	3.67	7.331	0.001	Reject Ho	Significant
	College Graduate	4.16				
	Post-Graduate	3.73				
Ability to Resist from Greed	Undergraduate	3.95	2.599	0.076	Failed to Reject Ho	Not Significant
	College Graduate	4.24				
	Post-Graduate	3.95				
Ability to Resist from Ignorance	Undergraduate	3.85	4.756	0.009	Reject Ho	Significant
	College Graduate	4.25				
	Post-Graduate	3.8				

Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise fail to reject null hypothesis.



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When it comes to State of Mind, based on one-way analysis of variance (ANOVA), there is a significant difference between a trader's different educational attainment and their ability to resist fear, hope and ignorance. College graduates have the higher mean for the three (3) states of mind (ability to resist from fear, hope and ignorance), followed by traders with postgraduate degrees and the undergraduate traders for the ability to resist from fear and hope. While for the ability to resist from ignorance, after the traders with college degrees, it is followed by traders who are undergraduates and traders with postgraduate degrees. Therefore, using the results above, we can easily say that traders who are college graduates have more effective ability to resist fear, hope and ignorance in trading compared to the undergraduates and traders with postgraduate degrees.

Lastly, on trader's ability to resist greed, it is evident on the one-way ANOVA results that it doesn't have any significant difference.

Table 12

Independent Sample T-test: Comparison on the assessment of respondents on the effectiveness of their trading practices related to their State of Mind while trading when grouped according to the broker they are using for trading

State of Mind	Broker	Mean		t-test	P-value	Decision	Remarks
		C	NC				
Ability to Resist from Fear	XM	4.24	4.21	0.263	0.793	Failed to Reject Ho	Not Significant
	IC Markets	4.06	4.26	-1.5	0.135	Failed to Reject Ho	Not Significant
	Pepperstone	4.217	4.221	-0.03	-0.032	Reject Ho	Significant
	FBS	4.12	4.24	-0.83	0.405	Failed to Reject Ho	Not Significant
	Liteforex	4.26	4.22	0.25	0.803	Failed to Reject Ho	Not Significant
	Etoro	3.98	4.25	-1.71	0.089	Failed to Reject Ho	Not Significant
	Exness	4.394	4.2	1.023	0.307	Failed to Reject Ho	Not Significant
	Vantage FX	4.37	4.37	0.793	0.429	Failed to Reject Ho	Not Significant
	Tickmill	4.48	4.2	1.253	0.211	Failed to Reject Ho	Not Significant
	FX Primus	4.33	4.21	0.522	0.602	Failed to Reject Ho	Not Significant

Ability to Resist from Hope	XM	3.96	4.05	-0.77	0.443	Failed to Reject Ho	Not Significant
	IC Markets	3.81	4.06	-1.74	0.084	Failed to Reject Ho	Not Significant
	Pepperstone	3.98	4.02	-0.2	0.845	Failed to Reject Ho	Not Significant
	FBS	3.76	4.05	-1.78	0.075	Failed to Reject Ho	Not Significant
	Liteforex	3.94	4.02	-0.47	0.641	Failed to Reject Ho	Not Significant
	Etoro	3.71	4.05	-1.84	0.066	Failed to Reject Ho	Not Significant
	Exness	4.12	4	0.574	0.567	Failed to Reject Ho	Not Significant
	Vantage FX	4.11	4	0.468	0.64	Failed to Reject Ho	Not Significant
	Tickmill	4.04	4.01	0.141	0.888	Failed to Reject Ho	Not Significant
	FX Primus	4.05	4.01	0.151	0.88	Failed to Reject Ho	Not Significant
Ability to Resist from Greed	XM	4.08	4.2	-0.92	0.361	Failed to Reject Ho	Not Significant
	IC Markets	3.95	4.2	-1.67	0.096	Failed to Reject Ho	Not Significant
	Pepperstone	4.22	4.14	0.485	0.628	Failed to Reject Ho	Not Significant
	FBS	3.85	4.2	-2.14	0.033	Reject Ho	Significant
	Liteforex	4.15	4.15	0.001	0.999	Failed to Reject Ho	Not Significant
	Etoro	3.67	4.21	-2.94	0.003	Reject Ho	Significant
	Exness	4.42	4.12	1.404	0.161	Failed to Reject Ho	Not Significant
	Vantage FX	4.22	4.14	0.335	0.738	Failed to Reject Ho	Not Significant
	Tickmill	4.22	4.14	0.287	0.774	Failed to Reject Ho	Not Significant
	FX Primus	4.29	4.14	0.547	0.585	Failed to Reject Ho	Not Significant
Ability to Resist from Ignorance	XM	4.09	4.14	-0.36	0.72	Failed to Reject Ho	Not Significant
	IC Markets	3.92	4.17	0.096	0.133	Failed to Reject Ho	Not Significant
	Pepperstone	4.25	4.09	0.872	0.384	Failed to Reject Ho	Not Significant
	FBS	3.92	4.15	-1.33	0.185	Failed to Reject Ho	Not Significant
	Liteforex	3.85	4.15	-1.53	-1.533	Reject Ho	Significant
	Etoro	3.91	4.14	0.003	0.248	Failed to Reject Ho	Not Significant
	Exness	4.18	4.11	0.3	0.764	Failed to Reject Ho	Not Significant
	Vantage FX	4.14	4.1	1.223	0.222	Failed to Reject Ho	Not Significant
	Tickmill	4.04	4.12	-0.29	0.773	Failed to Reject Ho	Not Significant
	FX Primus	4.33	4.11	0.795	0.427	Failed to Reject Ho	Not Significant

Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise fail to reject null hypothesis.

Table 12 above compares respondents' ratings of the effectiveness of their trading routines in relation to their mental states while trading when categorized by the broker they use for trading.

On the effectiveness of their ability to resist fear, there is a significant difference between the clients



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(traders) and non-clients (non-traders) of Pepperstone. Based on their means, non-clients (non-traders) of Pepperstone have more effective ability to resist fear of trading.

On the effectiveness of their ability to resist from hope, all comparisons are not significant. While on the effectiveness of their ability to resist greed, there is a significant difference between the clients and non-clients of FBS and etoro. Non-clients of both two (2) brokers have better effectiveness when it comes to their ability to resist greed in trading, and this is based on their means as shown in the table above.

On the effectiveness of their ability to resist ignorance on trading, there is an evident significant difference between the clients and non-clients of Liteforex. Non-clients of Liteforex have better effectiveness when it comes to their ability to resist from ignorance in trading compared to Liteforex clients based on their means.

When the respondents are categorized according to the brokers they use in trading, other comparisons that are not provided in this description reveal that there are no appreciable differences in their assessments of the success of their trading methods connected to state of mind.

Table 13

Independent Sample T-test: Comparison on the Assessment of Respondents on the Effectiveness of their Trading Practices Related to State of Mind When Grouped According to what type of trader they are

State of Mind	Type of Trader	Mean		t-test	P-value	Decision	Remarks
		T	NT				
Ability to Resist from Fear	Scalper	4.2	4.2	-0.29	0.772	Failed to Reject Ho	Not Significant
	Day Trader	4.3	4.1	2.31	0.021	Reject Ho	Significant
	Swing Trader	4.3	4.2	0.862	0.389	Failed to Reject Ho	Not Significant
	Position Trader	4.3	4.2	0.484	0.629	Failed to Reject Ho	Not Significant

Ability to Resist from Hope	Scalper	3.9	4.1	-1.477	0.14	Failed to Reject Ho	Not Significant
	Day Trader	4.1	3.9	2.117	0.035	Reject Ho	Significant
	Swing Trader	4.1	3.9	1.929	0.054	Failed to Reject Ho	Not Significant
	Position Trader	4	4	0.012	0.99	Failed to Reject Ho	Not Significant
Ability to Resist from Greed	Scalper	4.2	4.1	0.179	0.858	Failed to Reject Ho	Not Significant
	Day Trader	4.2	4.1	0.669	0.504	Failed to Reject Ho	Not Significant
	Swing Trader	4.2	4.1	0.897	0.37	Failed to Reject Ho	Not Significant
	Position Trader	4.1	4.2	-0.185	0.853	Failed to Reject Ho	Not Significant
Ability to Resist from Ignorance	Scalper	4.1	4.1	0.37	0.712	Failed to Reject Ho	Not Significant
	Day Trader	4.2	4	2.038	0.042	Reject Ho	Significant
	Swing Trader	4.2	4.1	0.504	0.614	Failed to Reject Ho	Not Significant
	Position Trader	4.1	4.1	-0.205	0.838	Failed to Reject Ho	Not Significant

Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise fail to reject null hypothesis.

According to the different types of traders in each group, the effectiveness of the respondents' trading techniques in relation to their mental state during trading is compared in the table above using an independent sample t-test.

Based on the results presented above, on the effectiveness of their ability to resist from fear, hope, greed and ignorance, there is a significant difference between day traders and non-day traders on all mentioned states of mind except on the ability to resist from greed. Day traders have a more effective ability to resist fear, hope and ignorance while trading compared to non-day traders based on their means as presented above.



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Table 14

Independent Sample T-test: Comparison on the Assessment of Respondents on the Effectiveness of their Trading Practices Related to State of Mind When Grouped According to Type of Currency Pairs Traded

State of Mind	Type of Currency	Mean		t-test	P-value	Decision	Remarks
		T	NT				
Ability to Resist from Fear	Major Pairs	4.2	3.9	1.496	0.136	Failed to Reject Ho	Not Significant
	Minor Pairs	4.2	4.3	-0.73	0.466	Failed to Reject Ho	Not Significant
	Exotic Pairs	4.2	4.2	0.081	0.935	Failed to Reject Ho	Not Significant
Ability to Resist from Hope	Major Pairs	4	3.5	2.09	0.037	Reject Ho	Significant
	Minor Pairs	4	4	-0.084	0.933	Failed to Reject Ho	Not Significant
	Exotic Pairs	4.2	4	0.925	0.356	Failed to Reject Ho	Not Significant
Ability to Resist from Greed	Major Pairs	4.2	3.8	1.354	0.177	Failed to Reject Ho	Not Significant
	Minor Pairs	4.2	4.1	0.296	0.768	Failed to Reject Ho	Not Significant
	Exotic Pairs	4.4	4.1	0.356	0.356	Failed to Reject Ho	Not Significant
Ability to Resist from Ignorance	Major Pairs	4.1	3.7	1.471	0.142	Failed to Reject Ho	Not Significant
	Minor Pairs	4.1	4.1	-0.289	0.773	Failed to Reject Ho	Not Significant
	Exotic Pairs	4.3	4.1	0.795	0.427	Failed to Reject Ho	Not Significant

Legend: T = Traders. This means they are traders of every currency pair based on row labels
 NT = Non-Traders. This means they are not traders of every currency pair based on row labels
 Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise failed to reject null hypothesis

This table compares respondents' assessments of the efficacy of their trading techniques in relation to their mental states when classified by the kinds of currency pairings they are trading.

Among all states of mind in trading, it is evident on the table above that there is only a significant difference under their ability to resist from hope which is between traders and non-traders of major currency pairs. Based on their means, traders of major currency pairs are more effective when it comes to their ability to resist from hope.

There are no appreciable differences in the respondents' assessments of the efficacy of their trading activities in relation to their states of mind when categorized according to the currency pairs they are trading, according to other comparisons not

stated in this description.

Table 15

Independent Sample T-test: Comparison on the Assessment of Respondents on the Effectiveness of their Trading Practices Related to their State of Mind When Grouped according to Forex Market Session they usually trade

State of Mind	Forex Market Session	Mean		T-test	P-value	Decision	Remarks
		T	NT				
Ability to Resist from Fear	Sydney Session	4.4	4.2	1.528	0.127	Failed to Reject Ho	Not Significant
	Overlap of Sydney and Tokyo Session	4.3	4.2	0.557	0.578	Failed to Reject Ho	Not Significant
	Tokyo Session	4.4	4.2	1.669	0.096	Failed to Reject Ho	Not Significant
	Overlap of Tokyo and London Session	4.4	4.2	4.071	0.029	Reject Ho	Significant
	London Session	4.3	4.1	1.959	0.051	Failed to Reject Ho	Not Significant
	Overlap of London and New York Session	4.3	4.1	2.021	0.044	Reject Ho	Significant
	New York Session	4.2	4.3	-0.431	0.666	Failed to Reject Ho	Not Significant
	Sydney Session	4.1	4	0.413	0.68	Failed to Reject Ho	Not Significant
	Overlap of Sydney and Tokyo Session	4.2	4	-0.079	0.937	Failed to Reject Ho	Not Significant
Ability to Resist from Hope	Tokyo Session	4.2	4	1.403	0.161	Failed to Reject Ho	Not Significant
	Overlap of Tokyo and London Session	4.4	3.9	1.87	0.062	Failed to Reject Ho	Not Significant
	London Session	4.1	3.9	2.281	0.023	Reject Ho	Significant
	Overlap of London and New York Session	4.1	3.8	2.399	0.017	Reject Ho	Significant
	New York Session	4	4.1	-0.561	0.575	Failed to Reject Ho	Not Significant
	Sydney Session	4.3	4.1	0.68	0.457	Failed to Reject Ho	Not Significant
	Overlap of Sydney and Tokyo Session	4.1	4.2	-0.223	0.823	Failed to Reject Ho	Not Significant
Ability to Resist from Greed	Tokyo Session	4.2	4.1	0.161	0.554	Failed to Reject Ho	Not Significant
	Overlap of Tokyo and London Session	3.9	4.1	0.062	0.308	Failed to Reject Ho	Not Significant
	London Session	4.2	4	1.702	0.09	Failed to Reject Ho	Not Significant
	Overlap of London and New York Session	4.3	4	2.404	0.017	Reject Ho	Significant
	New York Session	4.1	4.2	-0.601	0.548	Failed to Reject Ho	Not Significant
	Sydney Session	4.3	4.1	0.68	0.457	Failed to Reject Ho	Not Significant



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Ability to Resist from Ignorance	Sydney Session	4.1	4.1	0.005	0.996	Failed to Reject Ho	Not Significant
	Overlap of Sydney and Tokyo Session	4.1	4.1	0.823	0.924	Failed to Reject Ho	Not Significant
	Tokyo Session	4.1	4.1	1.283	0.2	Failed to Reject Ho	Not Significant
	Overlap of Tokyo and London Session	4.2	4.1	1.093	0.275	Failed to Reject Ho	Not Significant
	London Session	4.2	4	1.405	0.161	Failed to Reject Ho	Not Significant
	Overlap of London and New York Session	4.3	3.9	2.593	0.01	Reject Ho	Significant
	New York Session	4.2	4.1	0.572	0.567	Failed to Reject Ho	Not Significant

Legend: T = Traders. This means they are traders of every forex market trading session based on row labels

NT = Non-Traders. This means they are not traders of every forex market trading session based on row labels.

Note: If p-value is less than or equals to the level of significance which is 0.05, reject the null hypothesis, otherwise fail to reject null hypothesis.

Table 15 above compares respondents' ratings of the efficacy of their trading routines in relation to their mental state during trading when categorized according to the typical trading session on the forex market.

As to the effectiveness of their ability to resist fear, there is a significant difference between the traders and non-traders of the overlapping periods of Tokyo and London sessions and the overlapping of the London and New York sessions. Traders during these two sessions showed higher means compared to non-traders during these sessions, therefore we can easily say that they are more effective when it comes to their ability to resist fear during the said sessions.

Traders and non-traders differ significantly throughout the London session and the times when the London and New York sessions overlap in terms of how well they are able to withstand hope while trading. We may conclude that traders during these two sessions are more effective when it comes to their capacity to withstand hope while trading because they exhibit higher means compared to non-traders throughout these sessions.

On the effectiveness of their ability to resist greed while trading, there is an evident significant difference between the traders and non-traders

during the overlapping periods of London and New York sessions. Traders during this session are more effective when it comes to their ability to resist greed during market session trading hours compared to non-traders, based on their means.

Lastly, on the effectiveness of their ability to resist ignorance, there is also a significant difference between the traders and non-traders during the overlapping periods of London and New York sessions. Traders during the said trading hours are more effective when it comes to their ability to resist from ignorance compared to non-traders based on their means as shown in the table above.

When classified according to the forex market session they typically trade, further comparisons not stated in this description reveal that there are no appreciable differences in the respondents' assessments of the efficacy of their trading methods in relation to state of mind.

Discussion, Conclusions, Recommendations

Profile of the Respondents

The study revealed that the majority (54.1%) of the respondents are between 31-50 years old, female (79.5%), living outside NCR (57.4%), and college graduates (67.7%). For the brokers they are using, since there's a lot of brokers out there, the researcher together with his statistician decided to top 10 brokers based on the result of this survey. Hence, the top 10 brokers generally used by Filipino forex traders are (in order) XM, IC Markets, Pepperstone, FBS, Liteforex, Etoro, Exness, VantageFX, Tickmill and FX Primus.

Majority of forex traders asked are considering themselves as day traders, followed by swing traders, scalpers, and position traders. When it comes to the currency pairs traded, major currency pairs ranked one, followed by minor pairs and exotic pairs. The result also shows that the majority of Filipino forex traders prefer to trade during the



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London session, overlapping periods of the London and New York session and the whole New York session. While for the other sessions, the percentage of Filipino forex traders who engaged during those sessions are relatively low compared to the above-mentioned sessions.

Assessment on their trading practices in terms of Strategies (Fundamental, Technical and Sentiment Analysis), Money Management and State of Mind.

For the summary of findings on their assessment of the trading practices in terms of Strategies (Fundamental, Technical and Sentiment Analysis), Money Management and State of Mind, it is evident under Fundamental Analysis that majority of traders that are using fundamental analysis looks for the central bank releases and interventions (3.73) as their fundamental basis in their trading decision. Followed by employment (3.72), speeches (3.68), inflation (3.47) and growth (3.34). For the technical analysis, the result says that a lot of Filipino forex traders are using the concept of support and resistance (4.30) as their top technical basis for their trading decisions, followed using pure price action (4.18), trendlines (3.92), signs of reversal (SOR) (3.7), and the Fibonacci Retracement levels (3.46). While for the sentiment analysis, it is provided in the result that traders who are using sentiment analysis as their basis for their trading decisions prefer to trade during breaking news (3.06), followed by trading using the commitment of traders (COT) report (2.94) and using the different sentiment analyzer released by different websites/platforms and brokers. For the strategies, Filipino retail forex traders are more on technical analysis rather than fundamental and sentiment analysis. This is based on the grand mean of the responses per strategy which are the following: Technical Analysis = 3.39, Fundamental Analysis = 3.28, and Sentiment Analysis = 2.82.

For the money management, the result shows that traders are demonstrating an extreme importance on controlling their lot sizes with specific risk percentage per trade (4.65), placing a stop loss (4.55)

and on assessing their risk-reward ratio before entering a trade (4.54), while they are considering placing a target price (4.45) and using trailing stops (3.95) as highly important money management techniques.

For their assessment on their trading practices related to state of mind, the result shows that Filipino retail forex traders are all highly consistent in their ability to resist from different states of mind. All are under highly consistent verbal interpretation but for the numerical (mean) ranking, it is as follows: Ability to resist from Fear (4.22), Ability to resist from Greed (4.15), Ability to resist from Ignorance (4.12), and the Ability to resist from Hope (4.01)

Significant Difference on the Effectiveness of Trading Practices Related to strategies, Money Management and State Of Mind When Respondents are Grouped According To Their Profile

When respondents are grouped according to profile to see the effectiveness of their trading practices related to strategies, money management and states of mind, there's a lot of significant difference evident based on the results. Respondent's profiles used are the educational attainment, broker used, number of years trading the forex market, what type of trader they are, currency pairs being traded, forex market session they usually trade, and their profit/loss generated in trading. The first three (3) profiles are excluded, for these three will solely be used to describe who the respondents are. This has been decided by the thesis statistician and the researcher himself.

For educational attainment, there was no significant difference on all the comparisons under Fundamental, Technical and Sentiment Analysis. There is only a significant difference on the money management techniques such as on placing a stop loss, target price and trailing stops. On placing a stop loss and trailing stops, college graduate traders are more effective compared to undergraduate traders and traders with postgraduate degrees.



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While placing the target price, college graduate traders are still on top of the ranking when it comes to effectiveness, followed by traders with postgraduate degrees and the undergraduate forex traders. There is also a significant difference in the state of mind, specifically on fear, hope and ignorance. On their ability to resist fear and hope, college graduates are leading when it comes to effectiveness followed by traders with postgraduate degrees and undergraduate traders. While for their ability to resist from ignorance, college graduates are still the leading followed by undergraduate traders and traders with postgraduate degrees.

For the broker/s they are using, there is a significant difference between the traders and non-traders of IC markets for both Fundamental and Sentiment Analysis, non-clients of IC markets are more effective in using fundamental and sentiment analysis in trading. While for the technical analysis, there's a significant difference between the effectiveness of traders and non-traders of XM, IC Markets, Pepperstone, etoro, and Tickmill. On the money management, non-clients of Exness and Tickmill are more effective on putting stop loss and target price compared to their clients. While non-clients of Pepperstone and FXPrimus are more effective in lot sizing compared to their clients. When it comes to state of mind, there is a significant difference between the ability to resist from fear of the Pepperstone clients and non-clients, there's also a significant difference between the ability to resist from greed of the FBS and etoro's clients and non-clients, lastly, there's also a significant difference between the ability to resist from ignorance of the Liteforex clients and non-clients. For all of these brokers, their non-clients are more effective in resisting different states of mind compared to their clients.

For the type of trader, there is a significant difference between the effectiveness of technical analysis of the position traders and non-position traders. Position traders are more effective in using technical analysis. On sentiment analysis, it is evident on the results that scalpers are more

effective in using sentiment analysis compared to non-scalpers. In money management, there is a significant difference in the effectiveness of placing a stop loss between scalper and non-scalpers, day traders and non-day traders, and swing traders and non-swing traders. Non-scalpers are more effective in stop loss placement compared to scalpers. When compared to non-day traders, day traders are more effective at placing stop losses. Swing traders outperform non-swing traders in terms of stop loss placement. In addition, non-scalpers outperform scalpers in terms of setting a target price and assessing the risk-reward ratio before entering a trade. It also demonstrates that swing traders are more effective than non-swing traders at assessing the risk-reward ratio, using a trailing stop, and proper lot sizing. Lastly, for the state of mind, it is evident that day traders are more effective in their ability to resist from Fear, Hope and Ignorance compared to non-day traders.

For the currency pairs traded, traders of major pairs are more effective in using fundamental and sentiment analysis compared to non-traders of major pairs. Result also shows that traders of major and exotic pairs are more effective in using technical analysis compared to non-traders of major and exotic pairs. On the money management practices, traders of major pairs are more effective in placing a stop loss, target price, trailing stop and also on lot sizing compared to the non-traders of major pairs, while traders of minor pairs are more effective in assessing the risk-reward ratio and lot sizing compared to the non-traders of minor pairs. On the state of mind, there is a significant difference between the traders and non-traders of major pairs when it comes to the effectiveness of their ability to resist from hope.

For the forex market session, they usually trade. There is a significant difference between the traders and non-traders during the overlapping Sydney and Tokyo sessions who use fundamental analysis. Non-traders are better when it comes to using fundamental analysis during the said session. Also, traders and non-traders who use technical analysis



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have significant differences when it comes to trading during the Tokyo session. Non-traders are more effective in using technical analysis during this session. On the money management, non-traders are more effective when it comes to placing stop loss during the Sydney session, and the overlap of Sydney and Tokyo session compared to traders during the said sessions, while traders during the overlap of Tokyo and London session, London session, and overlap of London and New York sessions are more effective when it comes to the money management techniques like assessing the risk-reward ratio and computing the proper lot size based on equity before entering into a trade. Lastly for the state of mind, traders during the overlap of Tokyo and London sessions are more effective in their ability to resist fear compared to non-traders during the said session. Also, traders during the London session, and the overlapping period of the London and New York session are more effective in their ability to resist from hope while trading compared to non-traders on the said session. Traders during the overlapping periods of the London and New York sessions are more effective when it comes to their ability to resist greed and ignorance while trading the forex market compared to non-traders during the said session.

Other comparisons not discussed above show that when respondents are classified based on their profile, there are no discernible differences in their perceptions of the efficacy of their trading methods in terms of strategies, money management, and state of mind.

Conclusions

Based on findings, most of the respondents are between 31-50 years of age, female, living outside NCR, and college graduates. Statistics says that the top 10 brokers they are using are as follows (in order): XM, IC Markets, Pepperstone, FBS, Liteforex, Etoro, Exness, VantageFX, Tickmill and FX Primus. Based on findings, since a large percentage of respondents are considering themselves as day traders, we can say that Filipino

forex traders are into day trading, getting in and out of trades within the day. Further, Filipino forex traders were trading major currencies over minor and exotic pairs due to its high liquidity (high amount of volume transactions per day), low spreads, and they are the most heavily traded pairs for speculative purposes according to Investopedia, under the different types of currency pairs traded in the forex market. According to the findings, most Filipino retail forex traders preferred to trade during the London session, the overlap between the New York and London sessions, and the New York session itself. This is since the said sessions take place in the Philippines from late afternoon to dawn. This is the time in the Philippines when traders with day jobs do not have to compete.

For the strategies, based on the findings, forex traders who used fundamental analyses were having some advantage on trading with high impact market events such as central bank data releases and interventions, employment, speeches, followed by inflation and growth-related data. These economic data and events were considered market moving fundamental events in forex trading which has been also explained in Chapter 2 under the Fundamental Analysis section. On the other hand, based on the findings, traders who are using technical analysis prefer the use of support and resistance levels, pure price action, trendlines, signs of reversals, and Fibonacci retracement levels. With this, we can conclude that technical analysis traders prefer using the most common and easy to learn and apply technical analysis concepts and indicators especially for day traders, since this study also found out that the majority of traders are into day trading the forex market. This is in connection with our findings on the Sentiment Analysis which shows that traders who use sentiment analysis as the basis of their trading decisions, prefer to trade during breaking news. Therefore, from the perspective of strategies, we can conclude that Filipino forex traders prefer to have some quick trades using simple, basic, and easy to understand technical analysis on highly volatile market moving events for fundamental and sentiment analysis. For the money management,



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Filipino retail forex traders tend to control their lot sizes per trade and majority of the money management techniques are considered Extremely and Highly Important, we can conclude that traders are aware on the risk involved in forex trading, hence, they are managing it as part of their trading practices, and it is very much evident on the findings under money management techniques. For the state of mind, we've also found out based on our findings that the ability of Filipino retail forex traders on resisting fear being the top and the ability to resist from hope being the lowest. But still, resisting all these four states of mind (ignorance, greed, hope and fear) in trading are considered highly consistent by the majority of the respondents. Therefore, we can conclude that traders can and are able to manage their thoughts and emotions while trading. Filipino forex traders' current trading strategies focused on quickly trading high-impact market events using simple technical concepts and indicators while strictly managing risk and exerting tight control over their mental state. We can also conclude that the MSS model presented on the theoretical framework is of great assistance in this study to better understand the current state of Filipino retail forex traders on all aspects of trading, from their trading systems to risk management and the psychological aspect of forex trading.

Using different statistical tools and the results presented on the findings regarding the effectiveness of the trading practices related to strategies, money management and state of mind when respondents were grouped according to their profile, we can conclude that there's very minimal significant differences on the strategies when grouped according to the respondent's profile, while there's more significant differences on the money management and state of mind when grouped per profile. Highlights of those significant differences as conclusions are as follows:

- a. Clients of IC Markets were more effective in using Technical Analysis compared to Fundamental and Sentiment Analysis;
- b. Traders of major currency pairs were more

effective in using any analysis, may it be a Fundamental, Technical and Sentiment Analysis. For technical traders, they are also effective in trading exotic pairs;

- c. Non-traders during the overlapping period of Sydney and Tokyo session are more effective in using Fundamental Analysis;
- d. Traders who prefer using XM and etoro as their brokers are found more effective in using Technical Analysis tool;
- e. Position traders are found to be more effective in using technical analysis while scalpers are more effective in using sentiment analysis;
- f. Non-traders of Tokyo session are good at technical analysis;
- g. College graduate traders were found to be good on their money management techniques especially on stop loss, target price and trailing stop placement. Same with State of Mind, college graduate traders are good in their ability of resisting from fear, hope and ignorance while trading;
- h. When it comes to placing stop loss and target price levels, it has been found out that clients of the top brokers are more effective than Exness and Tickmill. In lot sizing, traders of top brokers are more effective than Pepperstone and FX Primus. It has also been found out that in resisting fear, top broker traders are more effective than Pepperstone. In resisting greed, top broker traders are effective other than traders who choose FBS and etoro as their brokers. In resisting from ignorance, clients who uses top brokers are effective aside on traders who uses Liteforex;
- i. Swing traders are good at placing stop loss and target price. They are good in assessing the risk-reward ratio before entering a trade and on lot sizing while day traders are found to be good at placing stop loss only but when it comes to state of mind, it is proven based on the findings that they have the ability to resist from fear, hope, and



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- ignorance while trading;
- j. Traders of major currency pairs found it good at setting stop loss, target price, trailing stop and on lot sizing. They are also good at resisting hope during trading hours. On the other hand, traders of minor currency pairs are good at assessing the risk-reward ratio and lot sizing; and
 - k. Traders during the overlapping periods of Tokyo and London session are more effective in assessing their risk-reward ratio before entering a trade and on proper lot sizing, while traders during the London session and the overlapping periods of London and New York session are found to be good at lot sizing. Traders during the overlapping periods of Tokyo and London session, London and New York session and the London session itself, are found to be good in resisting fear, hope, greed and ignorance.

Overall, on the respondent's profile, the broker has the highest number of significant differences, followed by the forex trading sessions, type of trader and currency pairs. On the assessment of the MSS model, the money management and state of mind has the highest count of significant differences.

Recommendations

Based on the findings of this study, it is found out that majority of Filipino individual forex traders today are using the following trusted brokers (in order): XM, IC Markets, Pepperstone, FBS, Liteforex, Etoro, Exness, VantageFX, Tickmill and FX Primus.

When it comes to the currency pairs traded, it is recommended to trade major currency pairs over minor and exotic pairs, for it has a higher volume of transactions per day, therefore, they are the most heavily traded pairs that can result in high liquidity and low spreads. Hence, traders have more possibility of generating great returns. Major currency pairs are also the most preferred currency

pair to trade by the Filipino retail foreign exchange market traders. Based on the findings and conclusion, a lot of the respondents are day traders and majority of them prefer to trade during the London session, overlapping periods of London and New York session and the New York session itself, it is recommended for Filipino traders to engage more in forex trading rather than in local stock market trading if they prefer the day trading style and if they have day job to focus on, because they can trade the forex market after their working hours and that is also the times that the market has more volatility and larger trading volumes considering the fact that as traders, we should love volatility. Well, at the end of the day the forex market is open seven (7) hours a day and five (5) days a week.

Based also in findings, it is recommended for rookie forex traders to develop their own trading strategy that is simple, easy to understand, can adapt to fast changing market conditions, and of course with an edge over other traders, and over other systems. The researcher also recommends traders who are using fundamental analysis to also try using economic data related to bonds and housing on their trading decisions, because based on the findings, these two (2) got the lowest weighted means. For technical traders, the researcher recommends using stochastics and DMI (Directional Movement Indicator) as their technical indicators. For traders who prefer to use sentiment analysis in their trading decision, it is also recommended by the researcher to try using the sentiment analyzer released by different websites/platforms and brokers for this is sentiment analysis who got the lowest weighted mean on the findings.

Since trading forex is risky and based on our conclusion, traders today are aware of the risks involved, this trading strategy should include the proper practice of risk and money management techniques for them to protect their account while consistently growing it. Specifically, they should also consider placing a trailing stop for it can protect their profits from wiping out when the price goes against their positions because it was also found out



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that it is the money management techniques that has the lowest weighted mean.

This paper also recommends to every existing Filipino forex traders out there and for the ones who are planning to engage with it, to also try to focus and develop their ability to control their thoughts and emotions while trading, for this is a very fast changing environment with high level of risks involved, a forex trader should be in high control and also highly consistent in resisting from fear, hope, ignorance, and greed while trading, to be unbiased on their trading decisions whether they should buy or sell specific currency pairs. This can be of great help on the growth of their portfolios if they can learn how to manage these different thoughts and emotions while being systematic and mechanical on their trading style and approach to the market.

Based on different statistical tests done for this study and as explained further on the findings and conclusion on what those numbers are telling us, when trading practices related to strategies, money management, and state of mind are grouped according to their profile, the recommendations are as follows:

- a. If you are a fundamental and sentiment trader, it is found out and concluded that you should choose trading with top brokers on the list other than IC Markets, for it is statistically shown that traders of IC Markets are more effective in using technical analysis. This is based on the results of this study. At the end of the day, it is the trader's decision on whatever broker he/she will choose that he/she thinks may serve his/her trading goals at its best.
- b. If you are a fundamental, technical or even a sentiment trader, it is recommended for you to trade major currency pairs for it is statistically proven that fundamental, technical and sentiment traders are more effective on trading major currency pairs. Additionally, for technical traders, it is recommended also for them to trade exotic

- c. currency pairs.
- c. During the overlapping period of Sydney and Tokyo sessions, it is recommended to base your trading decisions on either Technical or Sentiment Analysis.
- d. It is found out and concluded also that based on the results, traders who are using XM and/or etoro as their brokers are traders who are good at technical analysis. It is statistically proven that technical traders who are using these brokers are more effective in technical analysis rather than others. But still, it is the trader's decision on whatever broker he/she will choose that he/she thinks may serve his/her trading goals at its best.
- e. You can use technical analysis as your trading basis if you are a position trader and sentiment analysis for scalpers.
- f. It is also recommended for technical traders to minimize their trading activities during the Tokyo session.
- g. It is an advantage if a forex trader is a college graduate, for it is proven and stated on the conclusion that they are more effective in different money management techniques and can manage their states of mind well.
- h. Regarding Money Management and State of Mind, there's some broker that is best in each aspect as presented on the conclusion. It is the trader's choice on what broker to choose especially if they are harnessing their trading skills when it comes to money management and state of mind.
- i. If you are a swing trader, you should learn and be good at placing stop loss and target price, also in assessing the risk-reward ratio before entering a trade and on lot sizing while if you are a day trader, you should learn and be good on placing stop loss and should harness your ability in resisting from fear, hope, and ignorance. These skills mentioned are to be mastered by swing and day traders for it is proven in conclusion that it can lead to more effective



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money management techniques, hence, can lead to profitability.

- j. If the trader is into trading major currency pairs, they should learn and be good in setting stop loss, target price, trailing stop and on lot sizing. They should also be good at resisting hope during trading hours. On the other hand, traders of minor currency pairs should be good at assessing the risk-reward ratio and lot sizing.
- k. It is recommended that traders during the sessions which are highly volatile, specifically the overlapping periods of Tokyo and London session, London and New York session and the London session itself, must practice and enhance their skills in money management and develop more their ability to resist from fear, hope, greed and ignorance during this trading hours.

Overall, on the respondent's profile, since the broker has the highest number of significant differences, followed by the forex trading sessions, type of trader and currency pairs. We can recommend that these respondent's profiles should be carefully assessed by new forex traders. On the assessment of the MSS model, since the money management and state of mind has the highest count on its significant differences, we can recommend that in these areas, new traders should really assess themselves specially on developing their own trading system with an edge.

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The Moderating Effect of Risk Propensity and Gender on Working Capital Management Practices and Business Performance of Retail Micro-Enterprises in Tagaytay City Market

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Abstract

This study aims to assess the working capital management (WCM) and non-financial business performance (BP) of 155 retail micro-enterprises in Tagaytay City market. Using the causal research design, it identified the causal relationship between the latent variables. It also analyzed the factors, gender, and risk propensity as moderators.

According to the study's results, owners of retail micro-enterprises perceived a high level of risk propensity, applied working capital management practices, and perceived high non-financial business performance. Furthermore, cash management, accounts receivable management, and accounts payable management, which are factors of WCM, influenced non-financial BP through partial least squares structural equation modeling (PLS-SEM). In determining the moderator for latent variables, gender and risk propensity were not considered moderators.

The study's findings are essential to various stakeholders, including local government, entrepreneurs, academic researchers, banks and investment providers, and venture capitalists. It will provide insights to BMBEs' owners on how to improve their business performance through well-managed working capital practices. This would aid in developing strategies based on the needs of BMBEs rather than a general perception of what BMBEs require. As a result, the study will serve as a knowledge programmer for BMBEs' managers and owners who may be unaware of the significance of working capital management practices. The study will inform the government and other policymakers at the national level on how to improve the BMBEs sector. This is accomplished by implementing measures to mitigate the challenges that BMBEs face in implementing sound and prudent working capital management practices. As a result, policymakers will use this information as input in policy formulation. This research could be useful for the investors and advisors of BMBEs, such as family members, banks, and other financial institutions. They could use this study to discover the problems BMBE owners have with managing their working capital. This would help them develop policies that make it easier for these owners to access financial information.

Future researchers and academics working on comparable problems can use the findings from this study as a resource. Therefore, other scholars will be able to provide explanations and viable answers to the idea that poor working capital management practices cause BMBE failures.

In addition, the research shows how an entrepreneur's risk propensity and gender impact this link.



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This will provide the groundwork for future financial studies.

Key Words: Working capital, business performance, risk propensity

Relevant SDGs: SDG 5 Gender Equality, SDG 8 Decent Work and Economic Growth, SDG 17 Partnership for the Goals

Introduction

MSMEs are the Philippines' economic backbone. The DTI's 2020 MSME statistics account for 99.51% of all registered firms and 62.66% of the Filipino workforce. PSA's 2020 List of Establishments lists 957,620 businesses in the Philippines; 99.5 percent of businesses are micro, small, or medium-sized, with the remaining 0.49 percent being large, 88.77% (850,127) of MSME firms are micro-enterprises, 10.25% (98,126) are small businesses, and 0.49% are medium businesses (4,716). Wholesale and retail trade (445,386), accommodation and food services (134,046), manufacturing (110,916), other services (62,376), and financial and insurance activities (45,558) are the top five industrial sectors for MSMEs in 2020. These industries accounted for 83.77 percent of MSMEs. MSMEs provide 25% of export revenue. Over 60% of exporters are MSMEs. They may subcontract with bigger enterprises or supply exporting companies.

MSMEs are key to achieving AmBisyon Natin 2040, the country's aim of a stable, pleasant, and secure living for all Filipinos. The MSME Development Plan 2017-2022 has four outcome categories: business climate, access to capital, markets, productivity, and efficiency. Republic Act 9178, known as the Barangay Micro Business Enterprises (BMBEs) Act of 2002, helps MSMEs. This Act aims to bring micro-enterprises in the informal sector into the mainstream of the economy. Supporting BMBEs as the nation's economic building block generates jobs, provides income, and enhances Filipinos' quality of life. R.A. 9178 defines a BMBE as any firm involved in the manufacture, processing, or manufacturing of goods, including agro-processing and trade and services, with total assets of less than P3 million, including loans but excluding the land on which the plant and equipment are situated. This

Act stimulates BMBE expansion by granting tax breaks on corporate revenue. BMBE workers are exempted from the Minimum Wage Law, although they should have social security and health insurance. In addition, they gain preferential access to a BMBE-specific credit window. Knowledge transfer, manufacturing and management training, and marketing activities may assist BMBE beneficiaries. In addition, BMBEs may be exempt from municipal taxes, fees, and penalties. Most micro businesses are sari-sari stores. In the Philippines, one can be found almost everywhere. Laundry facilities, computer stores, print shops, and canteens are additional examples of micro businesses. To qualify for the law's incentives, however, their total assets must not be more than three million pesos.

According to Mathuva (2010), all companies require start-up and operating money. Short-term or long-term funding is available. Long-term investments are needed in plants, equipment, land, and buildings (Dameti, 2020). Working capital, or short-term money, is used to pay raw supplies, salaries, utilities, and other daily needs. Current assets minus current liabilities are a standard definition of working capital. Current assets include cash, accounts receivable, and inventory; current liabilities are accounts payable. All aspects of managing current assets and current liabilities are included in working capital management. Its primary goal is to maintain proper management of a company's current assets and liabilities to maintain working capital (Agamata, 2021).

Working capital management is correlated with firm profitability in studies undertaken by Golas (2020), Wadesnago et al. (2019), Abimbola and Kolawole (2017), and Enow and Kamala (2016). No study on MSMEs' working capital management techniques has mainly addressed retail BMBEs. Furthermore,



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few studies looked specifically at the non-financial performance of MSMEs. Because of this, this knowledge gap needs to be filled. It is crucial for the Philippine economy that small businesses and the retail industry continue to exist over the long run. Thus, this research examined the relationship between working capital management and non-financial business performance of retail micro-enterprises in Tagaytay City Market. Additionally, it evaluated how gender and risk propensity impact this relationship. Entrepreneurs may use this information to pick which working capital management practices to adopt based on their risk tolerance.

Literature Review

Defining Profitability

Profitability is defined as "an organization's capacity to create a profit or gain" (Tauringana & Afrifa, 2013). It is essential in determining a business's success and development (Onwumere, Ibe & Ugbam, 2012). The difference between a business's operating income and expenses is known as its net profit (Oladipupo & Okafor, 2013). Each company's principal objective is to generate profits (Al-Debi'e, 2011). The fundamental premise is that a business will ultimately collapse if it does not generate a profit (Tauringana & Afrifa, 2013). This highlights the significance of profitability in the business industry. According to Mathuva (2010), even if a company's current profitability is sufficient, it should continuously pursue development opportunities because doing so creates chances for greater overall viability and maintains or improves the company's standing in the eyes of analysts and potential or actual investors.

Al-Mwalla (2012) also highlights the need to analyze a company's current profitability to build a successful growth plan. According to Oladipupo and Okafor (2013), for a firm to achieve its goals, its profitability drivers must be identified and developed. Abuzayed (2012), who emphasizes the significance of growth and profitability in

determining a business' success, corroborates this. Researchers like Akoto et al. (2013), Tauringana and Afrifa (2013), and Raza et al. (2015) have found that working capital management has a major influence on profitability.

Working Capital Management

Working capital management focuses on boosting current assets through managing current assets and current liabilities, according to Al-Mwalla (2012) and Onwumere et al. (2012). According to Malik, Waseem, and Kifayat (2011), working capital management aims to balance current assets and liabilities. It involves maintaining an adequate connection between current assets and liabilities, according to Hayajneh and Yassine (2011) and Karaduman, Akbas, Caliskan, and Durer (2011). It ensures a corporation has enough cash to service short-term debt and forecasted operating expenditures, according to Mathuva (2010). Therefore, it is crucial to a company's success (Karaduman et al., 2011).

The linkage between working capital management and profitability has been studied (Abuzayed, 2012; Raza et al., 2015; Kumaraswamy et al., 2019; Karki, 2020). Researchers identified many working capital management practices as critical for profitability. Some research focused on the effect of optimal inventory management on profitability, while others focused on receivables and payables management as profitability predictors. (Raza et al., 2015; Hamid & Waqar, 2013; Karki, 2020). In most studies, working capital management increased profitability, but other authors disagreed (Jose et al., 1996; Shin & Soenen, 1998). Most think working capital management and profitability are linked (Kovelskiy, 2015; Bandara and Rathnasari, 2016; Zariyawati et al., 2017). Effective working capital management techniques, according to Abimola and Kolawole (2017), are necessary for SMEs to succeed. Because of this, SMEs can operate more successfully while increasing sales, client loyalty, and long-term business ties.



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For the purpose of this study, four primary areas of working capital management practices have been identified as essential profitability drivers based on the reviewed literature: cash management, accounts receivable management, inventory management, and accounts payable management.

Cash Management Practices and Profitability

Cash management is "managing a company's cash to ensure it has enough to operate daily, finance future growth, and pay unexpected commitments without incurring revenue losses due to excessive cash holdings" (Mbroh, 2012). According to Egbide (2012), "cash management involves taking preventative measures to ensure adequate cash levels." Amoako et al. (2013) define cash management as "obtaining, managing, and disbursing company cash."

According to Pieterse (2012), SME liquidity management includes safeguarding financial records, borrowing from banks to cover cash gaps, preserving daily earnings, and spending within their means. According to Bandara and Rathnasari (2016), SME owners are more likely to prepare a budget and forecast financial flows. Smirat (2016) discovered that SMEs lack expertise in cash management and control. They cannot track their cash receipts and payments, infrequently make cash budgets, and primarily maintain current bank accounts. According to his research, cash management is key to a company's financial success.

Bobitan and Mioc (2011) highlight the costs of having too much or too little cash on hand, such as interest fees and missed short-term obligations. Low return is one of the major disadvantages of holding cash, according to Amoako et al. (2013). Mbroh (2012) discusses cash's benefits. First, capital-raising costs are reduced. Second, the company can use the funds if other sources of financing are too expensive.

Wadesango et al. (2019) note that cash management affects a company's profitability. Similarly, Akinyomi (2014) explains that it helps firms to boost

profitability using modern cash management approaches. According to Abimbola and Kolawole (2017), superior cash management outperforms SMEs. Furthermore, according to Hassan et al. (2017) and Smirat (2016), cash management enhances SME profitability.

Cash management is relevant to firms of all sizes and ages, according to the report. In addition, cash management affects a company's profitability, according to many studies.

Accounts Receivable Management Practices and Profitability

According to Pieterse (2012), SMEs controlled AR by selling on credit. Before a contract was made, clients' creditworthiness was checked. Then, debt paperwork was compiled. When a debtor does not pay, legal action is taken. Bandara and Rathnasari (2016) report that most SMEs provide credit and advertise credit terms, whereas a tiny minority never use credit sales. SMEs also mishandled accounts receivable. SMEs sell to clients without determining who should be provided credit and how much. High bad debts and SMEs' problems recovering money from credit sales support this.

Accounts receivable management involves examining the costs and advantages of credit programs (Akoto et al., 2013). Ahmet and Emin (2012) say that allowing credit transactions has many benefits, including incentivizing buyers to buy products during low demand (Mbula, Memba, & Njeru, 2016), allowing clients to verify that the goods they receive are as specified, and ensuring that the services provided are brought out, and helping firms establish and maintain long-term customer relationships (Al-Mwalla, 2012). In addition, accounts receivable management aims to reduce the risk of bad debts by implementing a strong creditor policy (Abuzayed, 2012).

Abimbola and Kolawole (2017) discovered that loan policy, credit granting decisions, and debt collection affect SMEs' profitability. Their research found that



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boosting loan approvals by one unit would help SMEs' performance. This study found that SMEs would be more lucrative if they were granted more credit since this boosts sales and customer loyalty. Businesses must use credit debt collection strategies to expand as they have a significant positive impact on SMEs' profitability (Dameti, 2020). If not, their performance suffers. If debt collection tactics are inadequate, late payment and default risks rise. Therefore, boosting a company's credit policies would enhance profitability.

Inventory Management Practices and Profitability

One way that small businesses manage their inventory is by taking stock regularly. Unfortunately, they frequently purchased expensive but inferior stocks. They lacked a policy allowing authorized buyers or producers to place additional orders during the off-season (Pieterse, 2012).

Raza et al. (2015) describes inventory management as "the art and science of managing stock levels at the lowest cost while achieving other management goals and objectives." An efficient inventory management system helps a company save money (Eneje, Nweze & Udeh, 2012). According to Muninarayanaappa and Aggarwal (2013), poor inventory management reduces profitability. Panigrahi (2013) stresses that large inventories are beneficial despite what experts say. High inventory levels cut supply costs and protect against price swings by reducing production delays or company loss due to product shortages, according to Panigrahi (2013).

Manually counting and monitoring products is difficult and time-consuming for micro, small, and medium-sized firms, according to Anoo et al. (2020). They reasonably practiced keeping track of all new stock acquisitions, performing routine physical or inventory counts, applying the first-in, last-out principle, and calculating the required stock level. SMEs rarely use point-of-sale (POS) systems to track stock movements because of the high cost of

the software and hardware. Few people have the means to do so.

SMEs' inventory management was found to be unsatisfactory by Bandara and Rathnasari (2016). SMEs lack inventory management expertise, according to Agyei-Mensah (2010). SMEs frequently monitor and budget for their inventory, but there is a limited amount of application of inventory management theories to inventory budgeting (Bandara and Rathnasari, 2016). The majority depended on the owner/knowledge manager's abilities and expertise to determine inventory levels (Bandara and Rathnasari, 2016; Agyei-Mensah, 2010). Most SMEs knew about economic order quantity (EOQ) inventory management, but few applied it (Bandara et al., 2016). Agyei-Mensah (2010) found that most respondents did not understand the EOQ model.

Abimbola and Kolawole (2017) predicted inventory management approaches using inventory loss, investment, and turnover. They discovered that turnover and inventory investment both had a favorable impact on SMEs' profitability. The performance of SMEs might be improved by increasing investment and inventory turnover. However, inventory shrinkage undermines the performance of SMEs. Increasing inventory loss per unit affects SME profitability. Inventory shrinkage influences the success of SMEs since stock shortages caused by employee theft, expired items, and stockouts pose severe issues for most firms and have a negative impact on their overall performance.

Effective inventory management eliminates surplus inventory and maintains ideal levels for efficient company operations, according to Anichebe and Agu (2013). In addition, inventory management affects profitability, according to the literature (Raza et al., 2015; Hamid & Waqar, 2013; Golas, 2020).



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Accounts Payable Management Practices and Profitability

Accounts payable management refers to a business's rules, procedures, and practices for purchasing goods on credit (Arshad & Gondal, 2013). Creditor management improves cash flow and supplier connections (Mensah-Agyei, 2012). Effective creditor management may aid businesses in lowering late payment penalties like fines, interest, and missed early payment incentives (Enow & Kamala, 2016). According to Arshad and Gondal (2013), the company saves money and improves its cash flow through effective creditor management.

If firms can delay payments as long as feasible without damaging their credit, accounts payable is a substantial source of short-term liquidity (Mbroh and Attom, 2012). Postponing payments to suppliers until the last day may offer an interest-free source of finance provided the business forgoes cash discounts, say Tauringana and Afrifa (2013). According to Mbawuni, Mbawuni, and Nimako (2014), effective creditor management builds confidence between businesses and their suppliers. Owolabi and Alu (2012) note that increasing trust may assist a company in taking advantage of additional credit terms and improved supplier networking.

Creditor management guarantees that adequate controls are in place to minimize mistakes such as duplicate payment, vendor fraud, inefficient procedures, and late payment, which harm a firm's image and undermine its profitability, according to Tauringana and Afrifa (2013). Owolabi and Alu (2012) emphasize risk management by highlighting how good creditor management helps firms discover fraudulent or erroneous bills and account for all supplier invoices. Enow and Kamala (2016) say good creditor management improves operational performance. The idea that if a company's payables are too high, it can have problems paying supplier bills is supported by this. (Mbawuni et al., 2014). If its payables are too low, the firm makes premature payments and loses the chance to reinvest money

into the business (Mbawuni et al., 2014). The factors above may affect a company's "current ratio" and "payable days" (Owolabi & Alu, 2012). Furthermore, creditor management and profitability are related in the said studies.

Risk Propensity

There is a distinction between "objective" risk, which has been mathematically and statistically confirmed, and "perceived risk," which depends on individual perceptions. Although people are frequently put in risky situations they have never been in before, there is little statistical information or professional opinion on these topics, and risk attitudes are also illogical. According to Frankfurter and George (2001), there is "far more to risk than finance has started to address, and much of it concerns how people build pictures of the events against which they are required to judge risk" (Frankfurter & George 2001).

In his article "The Rise of Risk," Garland (2003) underlines risks as a "result of future-oriented human calculations - evaluations made by humans in the face of an uncertain environment and the possibilities that it offers for them." Others have little knowledge about what happens in the future, information that is primarily dependent on forecasts, guesses, and probabilities. Uncertainty tightly limits risk because "the uncertainties encountered by enterprises are not genuinely random events," according to Garland (2003). Because some patterns of human behavior, such as demand levels, consumer attitudes, exchange rates, and production costs, can be somewhat foreseen, risk can be handled on a micro level. This claim is questionable, though, especially in light of the late 2008 financial and economic crisis, which surprised most businesses, institutions, and customers. Truthfully, the financial crisis was brought on by inaccurate, overly optimistic risk assessments, a general tendency to underestimate the degree of risk in low-probability events, and overconfidence among participants in the financial industry (Roszkowski and Davey, 2008). It is possible to argue that



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previous economic growth, gains, market shares, and many other factors led economic agents to overestimate the likelihood that their financial decisions would succeed. As a result, economic agents overestimated the likelihood that their financial decisions would succeed.

It is crucial to look into not just the risk itself but also the risk propensity of the crucial decision-makers within the firm. Firm executives who make decisions about capital structure, debt policy, company strategy, and other issues are important decision-makers in microeconomic contexts. Combining such enterprises and their strategies results in national economic trends and tendencies. Household risk propensity and perception have been the subject of several recent studies (Roszkowski and Davey 2010; Gärling et al. 2009). These studies prove that people need at least a basic understanding of finance to perceive risk and avoid making irrational financial decisions. Financial institutions must simultaneously change their risk-taking behavior model and prioritize sustainable development above speculation and risk-taking. According to Roszkowski and Davey (2010), there is a great need to identify and establish financial terminology that indicates readiness to act in the face of uncertainty, such as 'risk tolerance,' 'risk acceptance,' 'risk appetite,' 'risk attitude,' 'risk profile,' and 'risk propensity.'

Risk Propensity Moderates Between Cash Management Practices and Business Performance

Cash management is a company technique for managing cash to maximize liquidity (Lienert, 2009). Cash management, as described by Deb, Dey, and Shil (2016), is the management of cash flows into and out of the company, (ii) cash flows within the firm, and (iii) cash balances held by the firm at a given moment in time. Each company needs to improve its cash allocation and planning to achieve its desired goals and objectives. Therefore, effective cash management ensures that the business may achieve its long-term objectives and get ready for a winning strategy. Cash management is an important and profitable technique, yet many small

and medium-sized businesses do not employ it (Alala, Deya & Busaha, 2013).

One of the main issues with cash management approaches, according to Abanis, Sunday, Burani, and Eliabu (2013), is that some businesses don't have a bank account to track and manage their business revenue and spending. If they have a bank account, they can manage their cash more effectively by setting a minimum cash level, reducing the likelihood of cash shortages, and performing a monthly reconciliation of their cash book with the bank.

The company uses cash to make purchases and payments. Businesses need funds to purchase both physical and intangible assets utilized in production. However, success is not measured by how much money a company has in its bank account. Everything revolves around cash management. In practice, if cash is carefully managed, corporate executives may make purchasing decisions based on the quantity of cash they control (Tennent, 2012). For example, if a company studies its report and concludes that it does not have much money, it will choose to buy inferior items or products in smaller quantities.

According to Deb et al. (2016), cash management is the management of a business's cash balances at a given moment, cash flow inside the firm, and cash flow into and out of the firm. Meanwhile, Steiss and Nwagwu (2001) underline that cash management should be focused on revenues and expenditures to prevent three major problems: a liquidity crisis, bad debt costs, and an abundance of idle cash balances.

Cash management strategies are critical for any organization looking to boost profitability, sustainability, and long-term planning. Cash budgets and cash flows are further examples of cash management methods. Cash management is crucial in explaining the influx and outflow of cash, which relates to cash movement from receipt to payment. It is also the most important responsibility for entrepreneurs to preserve their enterprises'



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profitability and sustainability (Aren, et al., 2014). Also, bad financial management may be challenging to control when retaining staff competence and expertise.

Ahmad (2016) asserts that good cash management helps SMEs keep a balanced cash flow that is neither too high nor too low. The positive aspects that affect the cash cycle could decline while the negative aspects rise. Additionally, cash management helps in predicting future cash flow gaps. The reference instrument for getting money from bankers and enhancing performance is cash management. Furthermore, cash flow is a key metric used by investors to evaluate businesses since cash management focuses on the actual operation, removes one-time costs and non-cash charges, and provides a clear picture of what the firm is doing. As a result, an adequate cash flow management system is critical in determining if an SME is profitable (Minnery, 2006).

Furthermore, good cash flow management may save a firm from going bankrupt, ensuring profitability and sustainability. Therefore, competent and efficient cash management are critical to the success of small enterprises. Typically, a small business's cash flow may become an issue when it works with many difficult-to-track consumers and offers items that are in greater demand than rivals. It can be avoided if cash flow is appropriately handled (Deb et al., 2016).

According to Avika (2014), entrepreneurs' reluctance to provide financial records, such as cash inflow and cash outflow, due to time restrictions is one of the reasons why cash management efforts fail. Another source of cash management failure is a company's inability to regulate and monitor its sales and revenue. These issues result in firms having inadequate funds to meet their expenditures. Furthermore, data show that 40% of small firms fail during the first 10 years due to their inability to stand and endure for an extended time. According to studies, most firms fail in cash management since it is tough for them to increase their performance and

development. In such circumstances, just 9% of the 60% have a chance to rebuild their enterprises. Risk propensity reflects an entity's willingness to accept risks in the face of potential loss. When selecting how to continue in circumstances with unclear consequences, there is a typical propensity (as a mentality) toward taking or avoiding risk (also called risk attitude). In other words, risk-taking and risk aversion are two opposing qualities known as 'risk propensity.' Risk propensity and risk tolerance are closely related or sometimes interchange. It describes an investor's capacity to accept or absorb risk or, in the case of "portfolio theory," the level of unpredictability they can withstand in the face of a decline in portfolio value.

According to Roszkowski and Davey (2010), risk tolerance is a fixed attribute that may be affected by life events and psychological factors. The research found that, despite changes in risk perception, people's risk tolerance remained unaffected by the 2008 financial crisis. However, since the research was based on self-assessment, these results are susceptible to additional inquiry.

Moreschi (2005) and Lucarelli and Brighetti (2010) demonstrate that people often fail to assess risk tolerance accurately due to biased assessment. Individuals who believe they are risk-averse may engage in risk-taking behavior in settings containing uncertainty and danger. This was dubbed the 'unconscious sleeping factor'.

Risk Propensity Moderates Between Accounts Receivable Management Practices and Business Performance

Managing and collecting client payments is known as accounts receivable management (Fujo and Ali, 2016). It is about a firm's operations while dealing with service issuing, transaction recording, evaluating, and obtaining payment for goods or services provided to clients or debtors (Mukherjee, 2014). According to Omondi (2014), accounts receivable management includes planning, arranging, controlling, and directing receivables. In



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addition, it addresses a shorter period of time needed for collections, a low percentage of bad debts, and a robust credit strategy, which frequently helps the organization's financial development.

According to Wawire and Nafukho (2013), accounts receivable management is a progressive financial management mechanism whose efficiency is directly tied to a company's capacity to fulfill its purposes, meet its goals, and expand. According to Mukherjee (2014), a sound strategy for managing accounts receivables can lessen the amount of cash held in accounts receivables and lower the percentage of faulty debts in a company. As a result, correct processes must be implemented to accomplish this.

The practice of selling goods on credit has become important due to the competitiveness and pressures of the global market. But it can only benefit a business if the rate of return on the extra receivables surpasses the associated direct and indirect costs (Mutwiri, 2007). This is what motivated the researchers to conduct their study and examine various methods for cost-cutting. The principal accounts receivable management approaches that a business should strive to implement include credit analysis processes, extension and collection activities, credit risk assessment practices, and receivable financing practices. A well-managed portfolio of accounts receivable can also produce cash flow and boost working capital, according to Salek (2005).

Identifying problematic clients, keeping an eye on and controlling accounts receivable, and maintaining optimal cash flow are all included in the accounts receivable risk assessment. The most often employed risk management techniques for accounts receivable include internal rating, credit scoring, third-party expert systems, and risk management teams. When dealing with demanding clients, accounts and additional sales are suspended unless the problem is solved (Kungu et al., 2014).

Risk is the probability of suffering material or financial losses due to an underlying uncertainty

associated with the selected course of action (Cooper and Schindler, 2008). Credit is the oldest default risk (accounts receivable). Accounts receivable risk management is a systematic approach to managing uncertainties through risk assessment, risk management methods implementation, and risk mitigation using managerial resources (Memba et al., 2012). Transferring to a third party, avoiding the risk, reducing its harmful effects, and accepting some or all of its repercussions are some of the approaches. According to Mwirigi (2006), credit risk is the possibility that the other party does not fulfill their obligations per the terms previously agreed. By limiting credit risk exposure, accounts receivable risk management seeks to maximize a company's rate of return after adjusting for risk.

According to Fabozzi et al. (2002), accounts receivable risk assessment considers three factors: default likelihood, credit exposure, and recovery rate. Many businesses place much more emphasis on preserving and retaining current customers and enticing new ones than on monitoring who is paying, who is falling behind, and who may default. However, if the present economic downturn continues and bankruptcy rates rise, good accounts receivable management becomes even more critical in attaining success. When a debtor fails to pay on time, the provider is exposed to credit risk, which may lead to default and bad debts (Nyunja, 2011).

Mwirigi (2006) researched microfinance organizations' credit risk management approaches. He found that, despite the lack of a robust regulatory framework for credit aspects for microfinance institutions compared to commercial banks, they all participate in the credit management process. Mutwiri (2003) determined that both agreed that credit management rules are a fundamental goal for credit risk assessment.

Moderating Effect of Gender on Working Capital Management Practices and Business Performance

Grable (2000) investigated how demographics, socioeconomic level, and personal attitudes affected



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people's willingness to take financial risks. The discriminant analysis showed that the degree of risk tolerance and financial success was significantly influenced by domain expertise, personality traits, and socioeconomic status. Another study that compared the effects of salience on men and women using situations and choices concluded that men were more significantly impacted than women. When the potential for larger profits became more apparent, males, as opposed to women, changed their investment strategies to riskier ones. Curiously, it also concluded that coordinated information might affect gender-based risk disparities (Booth and Nolen, 2012).

According to survey data that gathered investment risk perceptions from professional portfolio managers and their clients, there is a strong association between risk attributes and perceived risk. Potential for adverse outcomes, less than anticipated profits, an investor's capacity to manage losses, and domain competence were the primary variables impacting risk attributes (Olsen, 2014). In an experimental investigation, different financial outcomes were used to assess how people perceived risk, processed information, and chose stocks. The results demonstrated that, unlike risk preference, which is a permanent property of the individual, risk perception varies as a result of changes in environmental factors. Therefore, it is essential to implement information dissemination and other cognitive strategies to help investors perceive risk realistically.

In a related study, respondents' gender, age, marital status, and behavioral biases such as representativity, availability, anchoring, overconfidence, risk aversion, and herding were utilized to assess the influence of demographic factors on financial risk tolerance. It has been demonstrated that men, young people, and singles favor investing in risky assets (results concurring with other literary works). The behavioral biases of representativeness and overconfidence have a statistically significant impact on financial risk tolerance. The research revealed that psychological

predispositions and demographic variables affected one's capacity for financial risk (Kubilay and Bayrakdaro, 2016).

When researchers looked at socio-demographic characteristics impacting risk perception, risk aversion, and risk-taking behavior among the respondents, they discovered that gender and age had a substantial impact on risk attitudes (Lazanyi et al., 2017). Men were more eager to take risks than women, and younger respondents took greater risks than older respondents.

The goal of Singh and Bhattacharjee's (2019) research was to identify important factors impacting stock market risk perception in economically underdeveloped areas of India. By comparing risk perception theories and using confirmatory factor analysis, we found that information screening, investment education, fear psychosis, fundamental knowledge, technical competence, familiarity bias, information asymmetry, and market comprehension were the primary risk perception aspects.

Research Gap

Despite the academic community's interest in how working capital management practices might affect profitability, very little research has been conducted in the retail industry. No study examines the entrepreneurs' risk propensity and gender in working capital management practices. In addition, there was a paucity of studies that focused on the non-financial performance of MSMEs. Consequently, this gap in the body of knowledge has to be filled. By establishing a model of working capital management practices and their impact on the business performance of retail micro-enterprises in Tagaytay City Market, this study provides theoretical support. It helps close a research gap in this area. Furthermore, it examines the moderating effect of risk propensity and gender of the business owners.



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Research Philosophy, Framework, Design, and Methodology

Research Philosophy

Cash Conversion Cycle Theory was introduced by Richards and Laughlin in 1980. It is an essential model for working capital management because it contains all concepts and components, from unfinished goods to finished products and outputs that indicate inventory levels to receivables and payments that reflect cash (Korode, 2017). Richards and Laughlin (1980) say a financial manager spends significant effort on short-term assets and obligations. The cash conversion cycle includes inventory, receivables, and payables (Korede, 2017). This is critical for financially constrained and developing firms (Belghitar & Khan, 2013).

SMEs and start-up businesses benefit from CCC management (Campello, Giambona, Graham, & Harvey, 2011) and public and private enterprises (Anagnostopoulou, 2013). CCC describes the period between spending on raw materials and collecting on sales of finished goods. It is computed by deducting trade payable days from inventory days and trade receivable days (Korede, 2017). Arnold (2008) thinks a shorter CCC saves resources. However, longer cycles need more operating capital.

This research utilizes CCC to assess the working capital management of retail micro-enterprises. This helps to understand how effective management of each separate component impacts the business performance.

Agency Theory explains that an agency relationship is established when an agent will handle activities and make decisions on behalf of the principal (Ross, 1973; Jensen & Meckling, 1976). Hence, the principal (i.e., shareholders) is responsible for the firm's ownership, and the agent (i.e., the manager) makes daily decisions regarding the firm's business resources. Trade receivables, trade payables, and inventories are components of these resources. Otegunrin et al. (2019) assert that "the separation

between ownership and control gives room for agency cost where a conflict of interest arises between the principal and the agent." Furthermore, since agents are rational beings, they "will typically take a decision that will maximize their benefits rather than making a decision that would maximize the profitability of the firm and, as a result, maximize shareholders' wealth" (Otegunrin, 2019). Management may determine the proper quantity of working capital, develop a suitable budget, and restrict unused resources. These things benefit stockholders (Gill & Shah, 2012). After paying off short-term loans, effective working capital management should boost revenue because assets should have a greater ROI. Working capital management (WCM) affects corporate success. Thus, finance managers should be aware of its elements (Aktas & Petmezas, 2015). The WCM and business performance of retail micro-enterprises are studied using agency theory.

The finance manager, who is typically an employee of the firm's owners (principals) and makes all the important decisions about all of the current assets and obligations of the business, is a good point of view from which to consider the relevance of agency theory to working capital management. He supervises financial decisions including cash, receivables, inventory, and payables.

Framework

The conceptual framework (Figure 1) explains how dependent and independent variables are related. The dependent variable is the business performance of retail micro-enterprises.



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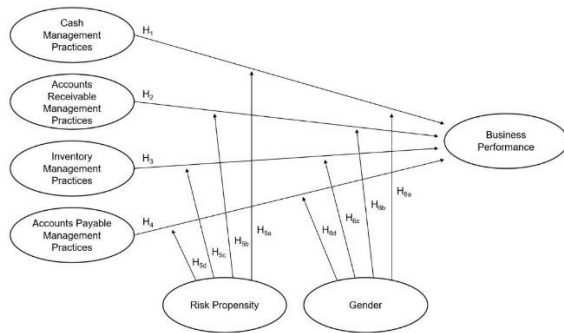
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Figure 1

Conceptual Framework



In contrast, the independent variables are cash management practices, accounts receivable management practices, inventory management practices, and accounts payable management practices. Risk propensity and gender impact the association between working capital management practices and business performance. The arrows' direction denotes the direction in which the latent variables impact the dependent variable. The study's assumptions and research questions are built using the same diagram.

Design and Methodology

Method of Research

The study employed the causal research design to determine the considerable impact of working capital management practices on the performance of retail micro-enterprises. According to Oppewal (2010), causal research establishes the cause-and-effect relationship between the variables. It is often known as explanatory research. Therefore, causal research is the appropriate design for the study to determine the causal relationship between working capital management practices and business performance. Furthermore, the study also determined the moderating effect of risk propensity and the gender of respondents to the direct effects.

Population, Sample Size, and Sampling Technique

Registered retail micro-enterprises in Tagaytay City Market that have been operating for at least three years were the study's target population. The Business Permit and Licensing Office provided the researcher with a list of registered retail business establishments in Tagaytay City Market for the year 2022. Regarding business type distribution, Tagaytay City Market has 246 retail enterprises.

The study used a simple random sampling technique to determine the specific respondents representing the entire population. All population units were given an equal chance to be selected. Furthermore, Slovin's formula was used to calculate a sample size of 152 respondents with a confidence level of 95% and a margin of error of 5%. Therefore, the study used 155 as a conservative total number of respondents.

Description of Respondents

This research concentrated on micro-enterprises in the retail sector in Tagaytay City Market that have been in operation for three years or more and are properly registered. The researcher selected the owners of the 155 retail micro-enterprises to answer the survey questions with accuracy and precision.

The most common line of business in the area was selling fruits and vegetables. Moreover, 53.5% of the businesses were in partnership form, 44.5% were in sole proprietorship form, and the remaining 2.0% were in corporation form; 51.6% had 1 to 3 employees, 43.9% got 4 to 6 employees, and 4.5% had 7 to 9 employees; 65.2% of the businesses were already operating for 9 years and above, 18.1% were operating for 6 to 8 years, and 16.8% were operating for 3 to 5 years.

Research Instrument

The researcher designed a self-administered questionnaire to collect data. Proper treatment was taken to ensure that the facts required a match with



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the objectives, which were in line with the data collected via the questionnaire. Furthermore, careful consideration was given to the design of the questionnaire, which included the use of simple language and the logical and sequential arrangement of questions. In addition, a disclosure policy statement was attached to the survey form in accordance with RA 10173, known as the Data Privacy Act of 2012.

The questionnaire was structured into four parts: Demographic Information, Risk Propensity, Working Capital Management Practices, and Business Performance.

Part I attempted to collect the respondents' gender and general information about the retail micro-enterprises, such as the line of business, legal form, number of employees, and duration of operations.

Part II included the risk propensity scale (5 items) from Cui et al. (2021). The instrument was presented on a 5-point Likert scale as follows:

Likert Scale	Verbal Interpretation
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

Part III consisted of 17 questions from Corpuz, B. M. & Bool, N. (2021) about cash management practices, accounts receivable management practices, inventory management practices, and accounts payable management practices. Responses were collected using a 5-point Likert scale.

Likert Scale	Verbal Interpretation
1	Never
2	Rarely
3	Sometimes
4	Often
5	Very Often

Part IV from Pathirawasam et al. (2020) was devoted to assessing the business performance of retail micro-enterprises, comprising 6 questions related to non-financial measures using a 5-point Likert scale.

Likert Scale	Verbal Interpretation
1	Very Low
2	Low
3	Middle
4	High
5	Very High

The validity and reliability of the measurement model were also reported for the adopted risk propensity scale. Gomez-Bayona et al. (2021) measured the validity and reliability of the scale through confirmatory analysis and composite reliability, respectively. The scale had goodness of fit index of 105.195 and a comparative fit index of 0.988. The composite reliability index of the scale was obtained at 0.730.

On the other hand, pilot testing was done on 30 respondents to ensure the validity and reliability of the adapted instrument for working capital management and business performance. The survey questionnaire was assessed using composite reliability, average variance extracted, and the Fornell-Larcker criterion. After the pilot testing, the instrument obtained the following validity and reliability:



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The results showed that the composite reliability is greater than 0.7, which means that all the latent variables in the adapted instrument are reliable.

	Composite Reliability	Interpretation
Cash Management Practices	0.779	Reliable
Accounts Receivable Management Practices	0.825	Reliable
Inventory Management Practices	0.761	Reliable
Accounts Payable Management Practices	0.763	Reliable
Business Performance	0.815	Reliable

The table below shows the factor loading for accounts payable management, accounts receivable management, cash management, inventory management, and business performance. Though some indicators had low factor loadings, no questions were removed.

	Accounts Payable Management Practice	Accounts Receivable Management Practices	Cash Management Practices	Inventory Management Practices	Business Performance
APM1	0.687				
APM2	0.699				
APM3	0.63				
APM4	0.655				
ARM1		0.695			
ARM2		0.683			
ARM3		0.744			
ARM4		0.79			
ARM5		0.56			
CM1			0.741		
CM2			0.545		
CM3			0.56		
CM4			0.865		
IM1				0.495	
IM2				0.751	
IM3				0.706	
IM4				0.699	
P1					0.739
P2					0.615
P3					0.503
P4					0.544
P5					0.723
P6					0.763

The computed average variance extracted (AVE) results showed above 0.4. On the other hand, the Fornier-Larcker criterion showed the discriminant validity of the measurement. The self-correlated cell shows the square root of the average variance extracted, and the correlation values below are less than the self-correlated cell. According to Fornell and Larcker (1981), the 0.4 AVE is accepted if the composite reliability of the measurement is already

reliable. Therefore, the results implied a valid measurement in terms of convergent and discriminant validity.

	Average Variance Extracted	APMP	ARMP	BP	CMP	IMP
APMP	0.447	0.668				
ARMP	0.488	0.4	0.699			
BP	0.43	0.555	0.444	0.656		
CMP	0.477	0.516	0.293	0.472	0.691	
IMP	0.449	0.651	0.457	0.551	0.56	0.67

Legend: APMP – Account Payable Management Practices, ARMP – Account Receivable Management Practices, BP – Business Performance, CMP – Cash Management Practices, IMP – Inventory Management Practices

Data-Gathering Procedure

The researcher gathered the population size of registered retail micro-enterprises in Tagaytay City Market in the local Municipal Hall. Once the list was obtained, the researcher used a program that generated a random number, selected the sample according to the number in the given list corresponding to the generated number, and repeated it until the sample size was fulfilled. The questionnaire was produced through Google Forms, forwarded the link of the online survey questionnaire to the respondents, and retrieved. The survey questionnaire was distributed from April 15 to May 7 in the year 2022. The data gathered were organized, tallied, and subjected to statistical analysis.

Statistical Treatment of Data

The following statistical methods and techniques, through Smart-PLS statistical software, were used according to the research questions and hypotheses.

1. *Frequency and Percentage Distribution.* These descriptive statistics were used to determine the frequency of male and female respondents with corresponding percentage distribution. Furthermore, these were used to determine the frequency of answers on the Likert scale.
2. *Weighted Mean.* This descriptive statistic was



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used to determine the level of working capital management practices in terms of cash management practices, accounts receivable management practices, inventory management practices, and accounts payable management practices of the businesses. Furthermore, this was also used to determine the level of risk propensity of the businesses.

3. *Partial Least Squares Regression.* This statistical tool was used to determine the direct effect and establish a causal relationship between working capital management factors and business performance. Furthermore, this tool was used to determine the moderating effect of risk propensity between working capital management practices and business performance.
4. *Partial Least Squares Simple Moderation.* This statistical tool was used to determine the moderating effect of risk propensity on the direct effects of working capital management on business performance. The method used is a standardized product indicator for continuous variables.
5. *Partial Least Squares Multi-Group Analysis.* This statistical tool was used to determine the moderating effect of gender on the direct effects of working capital management on business performance. The method used is an unstandardized product indicator for nominal variables.

Data Results and Analysis

Table 1

Gender of the Respondents

Gender	Frequency	Percentage
Male	54	34.84
Female	101	65.16
		100.00

Table 1 shows the frequency and percentage distribution of retail micro-enterprise owners in terms of their gender. 34.84% of the respondents are male, and 65.16% are female.

Risk propensity is an influencing factor that ultimately shapes the outcomes of multifaceted business decisions which involve multiple aspects of risks (Hung et al., 2012). The risk propensity of respondents who are registered retail micro-enterprises in Tagaytay City Market is shown in Table 2 displayed in the next page.

It can be gleaned from the table that the vast majority (63.23%) agreed to take risks, even if they may fail. Accordingly, risk-taking has abundant contexts in the entrepreneurial world, focusing on identifying and seizing opportunities by repurposing existing and exploiting new resources to gain an edge (Wang, 2016). And almost half of them (41.29%) agreed to wait until things have been tried before they try. Meanwhile, 50.97% of risk takers agreed that they are willing to take greater risks for their business to obtain greater profits. In addition, 46.45% of them agreed that they want to implement a particular business if the results are very safe. Entrepreneurial risk-taking is positively associated with business success in a less developed market economy (Danso et al., 2016). Furthermore, 46.45% strongly agreed on seeking a new business even if the results are perceived as risky.

Table 2

Risk Propensity of the Owners of Retail Micro-Enterprises

Indicators	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Weighted Mean
2.1 I like to take risks, even if it may fail.	39 25.16%	98 63.23%	16 10.32%	1 0.65%	1 0.65%	4.12
2.2 I like to wait until things have been tried before trying	31 20.00%	64 41.29%	42 27.10%	15 9.68%	3 1.94%	3.68
2.3 I am willing to take greater risks to obtain greater profits.	60 38.71%	79 50.97%	14 9.03%	1 0.65%	1 0.65%	4.26
2.4 I only like to implement a business if its result is very safe.	52 33.55%	72 46.45%	21 13.55%	9 5.81%	1 0.65%	4.06
2.5 I seek new business even if its results may be risky.	72 46.45%	66 42.58%	13 8.39%	1 0.65%	3 1.94%	4.31

The mean values for the risk propensity factors varied from 3.68 to 4.31, indicating that the respondents take risks to a large to a very large extent. Indicator 2.2, with a statement of “I like to



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wait until things have been tried before trying,” had the lowest weighted mean of 3.68. The result indicates difficulties in identifying the uncertainties in business management and waiting is a long process (Roszkowski and Davey, 2010).

Table 3 shown on the next page presents the level of working capital management in different factors. Accounts payable management practices had the highest mean of 4.11. On the other hand, accounts receivable management and inventory management practices received the lowest mean of 3.84.

The result shows relevant implications to the pieces of literature gathered in this study relating to cash management, accounts receivable management, inventory management, and accounts payable management practices. According to Enow and Kamala (2016), proper accounts payable management improves business operational performance.

Table 3

Working Capital Management Practices of Retail Micro-Enterprises

Indicators	Very Often	Often	Sometimes	Rarely	Never	Weighted Mean
3.1 Cash Management Practices	165 26.61%	304 49.03%	128 20.65%	19 3.06%	4 0.65%	3.98
3.2 Accounts Receivable Management Practices	107 17.26%	328 52.90%	166 26.77%	15 2.42%	4 0.65%	3.84
3.3 Inventory Management Practices	220 28.39%	317 40.90%	152 19.61%	66 8.52%	20 2.58%	3.84
3.4 Accounts Payable Management	196 31.61%	316 50.97%	92 14.84%	13 2.10%	3 0.48%	4.11

Accounts payable management practice, with the highest mean of 4.11, is likely most important for an SME type of business to have good credit standing and relation to its debtor to improve its line of credit. Effective good credit management such as avoiding late payment penalties like fines, interest, and alike is essential. These factors provide good credit standing which allows businesses to maintain a certain level of cash it can continuously reinvest in their operational activities. The results only show that for SME type of business the importance of

proper accounts payable management practice as it links to the succeeding working capital management practices.

The proper cash management practice came 2nd into place as the results show, with a mean of 3.98. Cash is an essential component of working capital management. It measures the business's liquidity to safeguard its financial records, cover current liabilities, and spend capacity to maintain its operations (Bandara & Rathnasari, 2016). An SME type of business has common limited cash resources, unlike vast businesses or corporations. Hence the study shows the major importance of cash management practices to maintain operations.

The succeeding results for inventory management and accounts receivable management practices, with a mean of 3.84 for both, complete the relevance of working capital management relevance to SME businesses. Moreover, the results for these two practices provide a possible similar type of management approach. Proper accounts receivable management and inventory management boils down to maintaining relationships with its customers or buyers. According to Ahmet and Emin (2012), proper management of credit transactions benefits its customer. It allows their clients to verify that the goods they receive are as specified, ensuring that the services provided are brought out and helping firms establish and maintain long-term customer relationships (Al-Mwalla, 2012). Similarly, efficient inventory management practices positively affect SMEs' profitability while achieving demands in the market.



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Table 4

Business Performance of Retail Micro-Enterprises

Indicators	Very High	High	Middle	Low	Very Low	Weighted Mean
4.1 Number of new products introduced	21	108	22	3	1	3.94
	0.136	0.6968	0.1419	0.0194	0.0065	
4.2 Customer satisfaction	53	67	34	-	1	4.1
	0.342	0.4323	0.2194	-	0.0065	
4.3 Customer loyalty	40	87	27	1	-	4.07
	0.258	0.5613	0.1742	0.0065	-	
4.4 Increased number of customers	53	73	27	2	-	4.14
	0.342	0.471	0.1742	0.0129	-	
4.5 Quality against competitors	30	98	26	1	-	4.01
	0.194	0.6323	0.1677	0.0065	-	
4.6 Employee retention	40	65	39	8	3	3.85
	0.258	0.4194	0.2516	0.0516	0.0194	

Table 4 shows a high business performance among retail micro-enterprises in terms of the number of new products introduced, customer satisfaction and loyalty, increased number of customers, quality against competitors, and employee retention.

According to Gurbuz (2018), a new product is the consequence of a creative and distinctive concept that enables customer satisfaction. In addition, a different kind of goods offered could positively affect the customers' opinion about a certain business. Significantly, when a new firm develops a product that meets a customer's desire, the demand for the competitor's product that was previously released and established in the market may decline.

Accordingly, effective employee retention is critical to an organization's stability, growth, and revenue. However, a business organization may confront significant employee turnover rates if there are no properly implemented strategies. This can lead to increased resource costs, recruitment, and time when replacing open positions (Cloutier et al., 2015).

The findings of Babatunde and Laoye (2011) reveal that employee stability substantially impacts the success of small and medium-sized businesses, notably on customer retention and loyalty, repeat purchase/patronage, adherence to work schedules as well as budget achievement, and employee morale/teamwork.

Indicator 4.6, about employee retention, had the lowest weighted mean of 3.85. According to Gomez-Bayona et al. (2021), there is a significant number of employees resigned during the pandemic due to different factors. The result further requires investigation to better improve employee retention which will lead to better performance.

Table 5 presented on the next page displays the causal relationship of cash management practices, inventory management practices, accounts receivable management practices, and accounts payable management practices to retail micro enterprises' business performance.

H1 evaluates whether working capital management practice in terms of cash management has a significant influence on business performance. The results revealed that cash management practices have a significant influence on business performance ($\beta = 0.169$, $t = 2.264$, $p = 0.024$). Therefore, for every point in cash management practice, the business performance was predicted to increase by 0.169.

Table 5

Extent of Influence of the Working Capital Management Practices on the Business Performance of Retail Micro-Enterprises

	Effect Size	Beta Coefficient	T Statistics	P Values	Decision
H1: Cash management practices influence the business performance.	0.032	0.169	2.264	0.024	Accept
H2: Accounts receivable management practices influence the business performance.	0.054	0.202	2.963	0.003	Accept
H3: Inventory management practices influence the business performance.	0.031	0.194	1.824	0.068	Reject
H4: Accounts payable management practices influence the business performance.	0.062	0.261	2.539	0.011	Accept

Significance level at 0.05

Since profitability is a factor of business performance in other studies, the results supported the study of Wadesango et al. (2019), which states



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that a company's profitability is affected by cash management. This also supported Akinyomi (2014), who states that cash management practices help to boost profitability. Furthermore, it corresponds to the study by Abimbola and Kolawole (2017) that shows SMEs' performance is better with cash management practices.

H2 evaluates whether working capital management practice in terms of accounts receivable management significantly influences business performance. The results revealed that accounts receivable management practices had a significant influence on the business performance ($\beta = 0.202$, $t = 2.963$, $p = 0.003$). Therefore, for every point in accounts receivable management practice, the business performance was predicted to increase by 0.202. According to Abimbola and Kolawole (2017), boosting loan approvals, part of accounts receivable management, helps SMEs' performance. Furthermore, business performance might suffer if businesses do not use strategies (Dameti, 2020).

H3 evaluates whether working capital management practice in terms of inventory management has a significant influence on business performance. The results revealed that inventory management practices had no significant influence on business performance ($\beta = 0.194$, $t = 1.824$, $p = 0.068$). The results are expected since most of the respondents practice inventory management but lack expertise, according to Agyei-Mensah (2010). A possible reason is that manual counting and monitoring are time-consuming and difficult for SMEs (Anoos et al., 2020).

H4 evaluates whether working capital management practice in terms of accounts payable has a significant influence on business performance. The results revealed that accounts payable management practices had significant influence on business performance ($\beta = 0.261$, $t = 2.539$, $p=0.011$). Therefore, for every point in accounts payable management practice, the business performance was predicted to increase by 0.261. According to Tauringana and Afrifa (2013), not practicing

account payable management may harm business profitability. Furthermore, one factor of account payable management, creditor management, is related to profitability, according to Arshad and Gondal (2013), Tauringana and Afrifa (2013), and many more.

Table 6 displayed on the next page shows the moderating effect of risk propensity on working capital management practices and business performance through the PLS-MGA standardized product indicator. The moderating effect of risk propensity to cash management practices ($\beta = 0.016$, $t = 0.138$, $p = 0.890$), accounts receivable management practices ($\beta = 0.042$, $t = 0.309$, $p = 0.757$), inventory management practices ($\beta = -0.180$, $t = 1.020$, $p = 0.308$), and accounts payable management practices ($\beta = 0.108$, $t = 0.774$, $p = 0.439$) to the dependent variable business performance, showed no significant effect. Therefore, the research hypotheses for gender as a moderator between working capital management and business performance were rejected.

Table 6

Moderating Effect of Risk Propensity to Working Capital Management Practices and Business Performance

	Beta Coefficient	Standard Deviation	T Statistics	P Values	Decision
H5a: Risk propensity moderates between cash business performance.	0.016	0.118	0.138	0.89	Reject
H5b: Risk propensity moderates between accounts receivable management practices and business performance.	0.042	0.137	0.309	0.757	Reject
H5c: Risk propensity moderates between inventory management practices and business performance.	-0.18	0.176	1.02	0.308	Reject
H5d: Risk propensity moderates between accounts payable management practices and business performance.	0.108	0.14	0.774	0.439	Reject

Significance level at 0.05

According to Gomez-Bayona et al. (2021), the more ready entrepreneurs are to take risks, the greater their company returns and earnings. Furthermore,



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a high-risk propensity is evident in the performance, notably in the success and strengthening of enterprises, allowing for additional resources and market stability. However, the study's results analyzed risk propensity as a moderator to working capital management and business performance. Since risk propensity is not a moderator, it partially suggests contradiction to the related study though it further requires research as a moderator.

Table 7 shown on the next page exhibits the test of measurement invariance. All measurement models established partial measurement invariance since the correlation is greater than the 5% content values.

Table 7

Test of Measurement Invariance

	Compositional Invariance Assessment			Full Measurement Model Invariance Assessment				Measurement Invariance
	Original Correlation	5.00%	P Value	Mean - Original Difference	P Value	Variance - Original Difference	P Value	
CMP	0.998	0.890	0.988	-0.167	0.298	0.596	0.020	Partial
ARMP	0.970	0.912	0.458	-0.117	0.464	-0.041	0.906	Full
IMP	0.928	0.902	0.070	-0.175	0.264	0.147	0.544	Full
APMP	0.988	0.898	0.816	0.032	0.846	0.234	0.352	Full
BP	0.993	0.943	0.776	-0.014	0.936	-0.003	0.994	Full

Legend: CMP – Cash Management Practices, ARMP – Accounts Receivable Management Practices, IMP – Inventory Management Practices, APMP – Accounts Payable Management Practices, BP – Business Performance

The results are based on a two-tailed permutation test at a 5% confidence level.

Furthermore, measurement models except cash management practices acquired full measurement invariance since cash management practices measurement shows equality of means but violates the equality of variance. Still, measurement invariance can be assumed to the data and proceed to multi-group analysis.

Table 8 on the next page shows the partial least squares multi-group analysis between female and male respondents through PLS simple moderation standardized product indicator. The moderating effect of gender on cash management practices (0.022), accounts receivable management practices (-0.087), inventory management practices (-0.314),

and accounts payable management practices (0.361) on the dependent variable business performance, shows no significant effect. Therefore, we reject our research hypotheses for gender as a moderator between working capital management and business performance.

Table 8

Moderating Effect of Gender to Working Capital Management Practices and Business Performance

	t-Value		Path Coefficients Difference (Female - Male)	p-Value	Decision
	Female	Male			
H6c: Gender moderates between cash management practices and business performance.	1.780	1.755	0.022	0.884	Reject
H6c: Gender moderates between accounts receivable management practices and business performance.	3.420	1.494	-0.087	0.524	Reject
H6c: Gender moderates between inventory management practices and business performance.	2.311	0.120	-0.314	0.160	Reject
H6c: Gender moderates between accounts payable management practices and business performance.	1.399	2.753	0.361	0.110	Reject

Significance level at 0.05

The results partially contradict the study of Ali and Shabir (2017) that shows differences in business performance across gender in India. It highlighted business characteristics of enterprises that vary significantly with gender ownership; female-owned enterprises with a large concentration in smaller cities had annual sales growth and labor productivity growth comparatively higher than male-owned enterprises. Furthermore, female-owned enterprises perceived low level of business obstacles than male-owned enterprises. Thus, females are more positive and able to manage obstacles effectively.

Discussion, Conclusions, Recommendations

Summary of Findings

The following were the summary of findings based on the data gathered:

1. *As to the gender of the retail micro-enterprise*



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owners

The 34.84% of business owners surveyed are male, while the remaining 65.16% are female.

2. *As to the level of risk propensity of the owners of retail micro-enterprises*

The results suggested that most business owners from retail micro-enterprises in Tagaytay City Market were risk takers. They were not afraid to fail to obtain greater profits, and when the result of their new business is perceived as very safe or otherwise risky.

3. *As to the level of working capital management of retail micro-enterprises*

The respondents' cash management practices ranged from good to excellent, taking into account indicators such as maintaining an optimal level of cash, selling on a cash basis, and performing bank reconciliation. These practices are essential in the financial management and survival of their retail businesses. Respondents also granted credit to their customers and implemented credit terms and collection policies. However, they also need to take into serious consideration some factors such as the willingness and ability of the customers to pay the credit and the access to the collection of receivables. FIFO, installing CCTVs, creating inventory reports, using various inventory management systems, and returning spoiled goods to suppliers are just a few of the respondents' noteworthy inventory management practices. Further, the respondents' overall accounts payable management practices ranged from good to excellent, where they always pay for original invoices but very often when it comes to prioritizing invoices in order of their due dates. They also often never let one person handle the billing, payment processing, and approval. Lastly, they also often check for duplicate payments and perform reconciliation regularly.

4. *As to the level of business performance of retail micro-enterprises*

It was also found that there is a high business performance among retail micro-enterprises in terms of the number of new products introduced, customer satisfaction and loyalty, increased number of customers, quality against competitors, and employee retention.

5. *As to the extent of influence of the working capital management practices on the business performance of retail micro-enterprises*

Variables, including cash management practices, accounts receivable management practices, and payable management practices were significant predictors of retail micro-enterprises' business performance. On the other hand, inventory management practices were considered an insignificant predictor of business performance. Cash management practices were expected to increase business performance by 0.169, accounts receivable management practices were expected to increase business performance by 0.202 and accounts payable management practices were expected to increase business performance by 0.261. This only implied that when these practices are adopted effectively and efficiently, the business performance of the retail enterprises is also excellent.

6. *As to the moderating effect of risk propensity on working capital management practices and business performance*

There was no significant moderating effect of risk propensity between working capital management practices and business performance. Therefore, the risk propensity of the business owners was also disregarded as a moderator.

7. *As to the moderating effect of gender on working capital management practices and business performance*



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There was no significant moderating effect of gender between working capital management practices and business performance. In this case, the gender of the business owners was not considered a moderator for the latent variables.

Conclusions

Based on the findings of the study, the following conclusions were drawn:

1. Most retail micro-enterprise owners in Tagaytay City Market are females.
2. Retail micro-enterprise owners perceived high-risk propensity, which shows they are risk takers.
3. Retail micro-enterprise owners applied working capital management practices to different factors.
4. Retail micro-enterprise owners perceived high business performance.
5. Cash management accounts receivable management, and accounts payable management practices have a significant influence on the business performance. On the other hand, inventory management practices did not influence business performance.
6. The risk propensity of business owners is not considered a moderator between working capital management practices and business performance.
7. Gender is not considered a moderator between working capital management practices and business performance.

Recommendations

Based on the findings of the study, the following recommendations were offered:

1. It is recommended for practicing working capital management to maintain and further improve all the factors. For cash management, business owners should

continue implementing practices that improve cash effectiveness and efficiency, such as maintaining an optimal level of cash, making sales on a cash basis, performing bank reconciliation, or separating business money from personal money. For accounts receivable management, business owners should continue implementing practices that improve the management of customer accounts, such as granting credits to customers, implementing credit policies and collection policies, or monitoring receivables by maintaining individual records. For inventory management, business owners should continue implementing practices that improve efficient and effective handling of inventories, such as returning spoiled goods to suppliers, placing CCTVs to prevent theft, preparing inventory reports, applying different inventory management techniques, or observing FIFO. For accounts payable management, business owners should continue implementing practices that improve business credibility, such as paying for original invoices, prioritizing invoices, separation of billing, payment, processing, and approval functions, or checking for duplicate payments.

2. Since retail micro-enterprises with 3 or more years of operation perceived high business performance, it is recommended to maintain their performance and further analyze the non-financial factors.
3. The results showed that cash management accounts receivable management, and accounts payable management practices are significant predictors of business performance. In this case, it is recommended for business owners to analyze further the said measures to improve their business performance. Furthermore, it is also recommended to include the said factors in decision-making and planning for their businesses.
4. The results suggest and recommend the idea that gender and risk propensity are not moderators for improving the retail micro-



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enterprises non-financial performance. Furthermore, business owners must focus on and give more attention to the factors of working capital management and business performance.

5. For future researchers, it is recommended to analyze further and conduct a study regarding inventory management and its relationship to non-financial business performance. It is also recommended to conduct research considering the profitability of the businesses as the effect of working capital management. Since this study is a quantitative and self-perceived assessment, future researchers may verify the results and conduct qualitative research. Lastly, researchers may further analyze the risk propensity and gender as moderators to address the research gap.

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Understanding the Intention of Consuming Halal Food Products Using the Theory of Planned Behavior

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Abstract

Purpose – The purpose of the study is to investigate the factors affecting the consumption intention among Muslims and Non-Muslims in Kidapawan City on halal food products using the theory of planned behavior. The findings of this study are beneficial in the halal food manufacturing industry. The study is exploratory since it considers religiosity as a moderator in the TPB framework.

Design/methodology/approach – The study used a positivist philosophy which focuses on the hypothetico-deductive approach in validating a priori hypotheses in quantitative forms where inferences on the relationships between causal factors (independent variables) and effects (dependent variables) are explored. The study utilized exploratory research design because this will explore these new facets to widen the Theory of Planned Behavior scope. There are 100 respondents of this study which are both Muslim (43) and non-Muslim (57) consumers who buy halal processed-food products in grocery stores and are residents of Kidapawan City. The participants are chosen using convenience and quota sampling. Survey questionnaires were utilized in gathering the data from the participants. Lastly, Partial Least Squares (PLS-SEM) was used to analyze the data and test the hypotheses.

Findings – The results revealed that most of the respondents were females, millennials, and non-Muslims. Results also indicate that only the perceived behavioral control of consumers has a significant influence on the intention to consume halal food products. The coefficient value is positive which means that the increase in the value of perceived behavioral control leads to an increasing intention to consume halal food products.

Research limitations/implications – The study has several limitations, such as a limited number of observations and not equal distribution of Muslim and Non-Muslim consumers due to time constraint. Therefore, future researchers might attempt to reach out to more respondents for further validation of the applicability of the research model. Also, future research might focus on other variables like halal awareness and acculturation or perhaps include the assessment of the actual behavior to give an extant understanding of the consumption behavior of halal consumers.

Practical and social implications – The marketing efforts of halal food manufacturers should target non-Muslim customers since they are also more likely to choose halal meals than non-halal ones and find it easier to eat halal foods. Thus, marketers need to enhance marketing strategies promoting the advantage of consuming halal to non-halal products where there is a significant opportunity to market halal products to the non-Muslim market.



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Originality/value – The study utilized the Theory of Planned Behavior to grasp the Muslim and non-Muslim consumption of halal food products. Based on the literature survey, fewer published Halal studies examined non-Muslim consumers' intention to consume halal. Thus, this study will benefit local halal food producers and marketers by identifying the factors influencing consumers' intention to consume halal food products.

Key Words: Attitude, Intention to Consume, Perceived Behavioral Control, Religiosity, Subjective Norms

Relevant SDGs: SDG 2 Zero Hunger, SDG 3 Good Health and Well-Being, SDG 12 Responsible Consumption and Production

Introduction

Global halal market consumption is difficult to ignore since this growing demand is driven by various factors other than religious ones. The halal food and beverages market is the largest for Muslim consumers (Tighe, 2022). As of 2019, the global Muslim market spent approximately

1.17 trillion U.S. dollars on food and beverages. According to projections for 2024, this will increase to 1.38 trillion U.S. dollars (Bedford, 2022). Mathew et al. (2014) found that the growing health concern supports the acceptance of halal food because it includes eating clean, hygienic food to stay healthy. Also, people today are becoming more aware of how important health is, which affects how they buy and eat food (Mathew et al., 2014). Numerous countries with non-Muslim majorities have recognized the potential of the halal industry such as Brazil and Australia occupy the top 10 positions in the Global Islamic Economy Indicator (GIEI) score for halal food industries (DinarStandard, 2019). Even as Filipinos have grown more conscious about their foods and beverages consumption, Halal-certified products have become a viable alternative (Managing IP Correspondent, November 23, 2018). This is further validated in the research conducted by Food Industry Asia that health consciousness among Filipino consumers is increasing, with 56% of those surveyed following a healthy diet daily

(Cahiles-Magkilat, 2021).

Furthermore, Halal food consumption studies are one of hot issues in most literature. According to Iranmanesh et al. (2021), most studies on halal food consumption intentions have been undertaken in Asian nations, particularly Malaysia and Indonesia. This finding was also supported by Naeem et al. (2019) who conducted systematic review in all qualitative research paper published in reputable journals in which most authors of halal studies was mostly from Malaysia. Also, according to the review performed by Iranmanesh et al. (2021), the theory of planned behavior (TPB) is the most widely employed framework. However, Halal studies which investigate non-Muslim consumers have fewer numbers of published resources according to Arshad et al. (2022). This gap in the literature motivates the researcher to use the Theory of Planned Behavior to grasp Muslims' and non-Muslims' consumption of halal food products. This study will benefit local halal food producers and marketers by identifying the factors influencing halal food product consumption and possible integration as a moderator.

The study addresses the important sustainable development goal, particularly SDG 2, 3 and 12. The sustainable development goal 2 seeks long-term solutions to eradicate all kinds of hunger and achieve food security by 2030. The goal is to guarantee that everyone has enough nutritious food



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to live a healthy life. The third sustainable development goal is about good health and wellbeing. Sustainable growth requires prioritizing people's health and happiness at all ages and increasing efforts to remove the plethora of illnesses and address several persistent and new medical conditions. Lastly, sustainable development goal 12 ensures sustainable consumption. Promoting sustainable consumption and production patterns will facilitate the transition to a global economy that is greener and more socially inclusive. For growth and development to be sustainable, all stages of production and consumption must minimize the use of natural resources and harmful materials and the amount of waste and pollution produced.

Halal food consumption is more popular since it covers all you need to know about eating clean and nutritious food to stay healthy. Also, Halal food products are made following Sharia law, which are also clean, hygienic, environmental, and animal-friendly. The study focuses on the consumers who have the intention to consume halal food products including Muslims and non-Muslims. This allows future researchers to extend the model by adding religiosity as moderator. The respondents of the study were from the only city in the province of Cotabato.

The purpose of the study is to investigate the factors affecting the consumption intention among Muslims and Non-Muslims in Kidapawan City on halal food products using the theory of planned behavior. The findings of this study will be useful in the halal food manufacturing industry. Specifically, the study aims to determine if the attitude, subjective norms, and perceived behavioral control significantly influence the consumption intention towards halal food products; and determine if religiosity has a moderating effect on the relationship between TPB variables and intention to consume halal food products.

Literature Review

According to Vermeir and Verbeke (2006), customers nowadays have attached growing significance to food safety, health, naturalness, enjoyment, convenience, information, and ethical considerations like sustainability and animal or environmental friendliness in the food they consume. On the other hand, the Halal wholesomeness idea, which includes Shariah requirements and the sustainability notion of cleanliness, sanitation, and safety, makes Halal food easily acceptable to customers concerned about food safety and a healthy lifestyle. The development of a prospective halal market in non-Muslim nations is one of the current realities in the halal sector (Azam & Abdullah, 2020). Muslims and non-Muslims are both increasingly turning to Halal products in non-Muslim nations because of the widespread belief that Halal food is healthier for people, safer for the environment, and more compassionate toward animals. Thus, halal studies explored more than just religious considerations that drive this growing Halal food product consumption trend.

Predictors to Halal Consumption Intention

There are empirical studies conducted to prove that attitude, subjective norm, and perceived behavioral control influences the intention consumption of Halal food consumers. Sherwani et al. (2018) researched Turkish Halal food consumption and the results of the study revealed that a positive personal attitude, motivation to comply with others, perceived control, and the availability of Halal meat play a part in predicting the intended consumption of Halal meat among Muslims. Furthermore, according to Ali et al. (2020) that a favorable personal attitude toward Halal consumption, personal conviction, motivation to conform, and perceived control over consuming Halal are all important factors influencing the intention. In this situation, the original determinants in the TPB model explain greater variation in intention to consume halal meat, and the regression coefficients are strong. ‘



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According to some research also, the intention of urban Generation Y consumers to consume halal products is driven by attitude, subjective norms, and perceived behavioral control (Khalek & Ismail, 2015). The findings of this study demonstrated that the TPB is an excellent model for predicting intention to consume halal food. Similarly, it was discovered that attitude, subjective norms, and perceived behavioral control all influence halal food consumption behavior among Moslem students in Yogyakarta City (Helmyati et al., 2019). The attitude is the significant predictor of halal food consumption behavior at State University, Islamic State University, and the Catholic University. In general, the halal food consumption behavior of Moslem students at the three institutions can be predicted using an element of the theory of planned behavior. Alam and Sayuti (2011) previous study also confirmed that antecedents such as attitude, subjective norm, and perceived behavioral control have a positive and significant effect on halal food purchasing intention. The study found that the TPB model could explain 29.1% of the variance in people's intention to purchase halal food products. The model was statistically significant, and this study shows again that the TPB is a good model to explain why people purchase halal food.

On the other hand, TPB determinants only explain a small portion of the variance (more than previous research in France and China) in Halal consumer intention in the study conducted by (Ali et al., 2017). Thus, this demonstrates that Muslims consume halal food differently than other regular foods eaten by non-Muslims. As a result, the study investigates additional determinants associated with food decisions. Furthermore, the study Ali et al. (2020) also discovered that positive attitude, motivation to comply with others, and perceived behavioral control for halal products predict Muslim consumers' intention to eat halal. In other words, this study found that the TPB determinants of intention account for a lot more of the variance in people's intentions to consume halal meat. The regression coefficients are also higher than in previous halal food choice studies conducted by the author.

Religiosity as Moderator

Religious commitment, often known as religiosity, can influence an individual's cognitive and behavioral processes (Mokhlis & Spartks, 2007). Consumption is driven by religion and the strength of a person's spiritual connection or religiosity. It's because each person's level of religious commitment differs (Mukhtar & Butt, 2012). Therefore, it is reasonable to conclude that more religious people tend to have a more positive response in their consuming behavior when exposed to halal products. The authors find that religion influences the relationships between TPB and the dependent variable.

Halal Consumption Studies

According to Aziz et al. (2015) survey of published Halal publications, the TPB model was selected by most of the researchers. Previous research has demonstrated the TPB model's ability to predict intention in purchasing decisions. Therefore, most researchers employ this model.

Furthermore, Iranmanesh et al. (2021) did a systematic review of halal food buyer behavior. The Theory of Planned Behavior was used by most of the scholars in this systematic review. The findings underlined TPB's shortcomings in that it cannot fully explain the behavior. Furthermore, the results of this systematic review revealed that only 10.3% of studies have investigated the determinants of consumption.

Accordingly, the study conducted by Naeem et al. (2019) also highlighted that most studies on halal food consumption were undertaken by writers from Malaysia, the United Kingdom, European countries, and the United States. The findings of Naeem et al. (2019) support the findings of Iranmanesh et al. (2021), who conducted most of their halal research in Asia and Europe. Malaysia and Indonesia are two Asian countries where the majority of these studies were undertaken. Meanwhile, in Europe, these investigations are primarily undertaken in the



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United Kingdom and Spain. Acas and Loanzon (2020) recently completed a study in the Philippines that analyzes the most influencing elements of Muslims' halal food buying intention in Metro Manila. However, no other authors in the Philippines focused on halal consumption intention applying the TPB model and consider religiosity as a moderating variable.

Research Philosophy, Framework, Design, and Methodology

The study used a positivist philosophy. Ponterotto (2005) stated that positivism focuses on the hypothetico-deductive approach for validating a priori hypotheses in quantitative forms where inferences on the relationships between causal factors (independent variables) and effects (dependent variables) are explored. This scientific inquiry will test the TPB model. Due to the complexity of the research model because of the moderating variable added in the framework, the data will be analyzed using the Partial Least Squares (PLS) approach. Also, it is expected that in field studies, there may be a violation of normality.

Theoretical Framework

The planned behavior theory of Ajzen (1991) is utilized to analyze the possible variables influencing halal consumption intention. According to the theory of planned behavior, people want to do certain things based on their attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). The Theory of Reasoned Action by Fishbein and Ajzen (1975) was the basis for the TPB model. In cases where people don't have complete control over their behavior, the TPB model added perceived behavioral control in the conceptualization.

The theory of planned behavior (TPB) by Ajzen (1991) shows how different factors affect a person's intention to do a specific behavior. An individual's intention is what drives them to do a particular action. The intention can influence behavior and can be predicted by attitudes, subjective norms, and

perceived behavioral control. It is widely known that a person's intention to engage in a specific activity precedes their actual behavior.

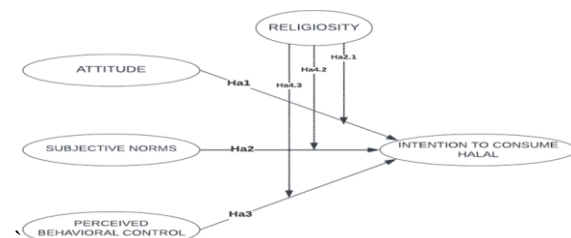
Conceptual Framework

Ajzen's 1991 Theory of Planned Behavior was the basis of the conceptualization in this study. In the study by Alam and Sayuti (2011), researchers showed that the TPB theory could be used to make predictions. Researchers found that the TPB model could explain 29.1 percent of the differences in people's intentions to purchase halal foods. According to the findings, the TPB adequately describes halal food purchase intentions. Furthermore, Khalek and Ismail (2015) corroborate the TPB model's utility in predicting halal consumption intentions. According to the extensive review, the TPB has been used in halal studies in various contexts. Iranmanesh et al. (2021) concluded that the theory of planned behavior (TPB) is one of most popular theories in the halal food literature.

Many scholars have previously demonstrated and used the link between these TPB factors. The review results show that the TPB variables may be used in halal food consumption research. However, few have investigated the relationship between TPB variables and intention to consume halal food products in the local context. The following diagram shows the conceptual framework of the study.

Figure 1

Conceptual Framework of the Study.





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Attitude. Khalek et al. (2015) discovered that attitude is the primary factor influencing young customers' decision to eat halal foods. Similarly, Alam and Sayuti (2011) showed that this attitude had an enormous and favorable influence on the intention to purchase halal food. Positive attitudes were associated with increased intent to buy halal food products. Surprisingly, the research conducted by Asnawi et al. (2018) found that attitudes towards halal products held by international consumers had no significant effect on their intention to consume. This is supported by the findings of Marmaya et al. (2019), who also discovered that attitude had no significant influence on Gen Y consumers' purchasing intentions for halal food products. Thus, this research will assess respondents' attitudes towards halal food product in the context of quality assurance, health, and cleanliness which will assure customer safety. Therefore, the study proposes the following alternative hypothesis:

- Ha1: The attitude toward halal food products of consumers significantly influences the intention to consume.

Subjective Norms. The subjective norm is a normative belief that conveys the likelihood that the behavior will be approved or disapproved by relevant referent individuals or groups. According to Kaur et al. (2014), all independent predictors are significant with the subjective norm as the most relevant predictor. According to the results, the strongest predictor of purchasing behavior is the subjective norm with a beta value of 0.356. The TPB model could explain 64.9% of the variation in purchasing behavior. Khalek and Ismail (2015) also note that subjective norms (SN) have a crucial role in halal food consumption in Malaysia. The high significance of subjective norms in Malaysia may be related to the Muslim society's collectivistic culture. In Malaysia, societal forces such as family, friends, and coworkers significantly affect halal consumption. Furthermore, Farhat et al. (2019) found that subjective norms influenced behavioral intention the most. The subjective norm also indicated a significant path with a beta value of

0.626. The model explains 61% of customer behavioral intentions. In addition, Alam et al. (2020) assert that social norms are the most important and influential factors affecting food consumption. Therefore, the study will explore the influence of subjective norms on the intention to consume halal food products in the chosen context. Thus, the study proposes the following alternative hypothesis:

- Ha2: The subjective norm of consumers has a significant influence on the intention to consume halal food products.

Perceived Behavioral Control. Perceived behavioral control (PBC) is an individual's assessment of an activity's ease or difficulty based on past experiences or anticipated barriers. Also, most authors show that perceived behavioral control (PBC) is essential in determining intention. Asnawi et al. (2018) found that perceived behavioral control strongly predicts intent to buy halal foods in multinational chain restaurants. Marmaya et al. (2019) also found that Generation Y's desire to eat halal food is influenced by perceived behavioral control (PBC) more than any other factor. Memon et al. (2019) verifies the favorable and statistically significant effect of Perceived Behavioral Control (PBC) on halal purchase intention. Like the findings of Kaur et al. (2014) as well as of Alam and Sayuti (2011), perceived behavioral control is one of the most critical determinants of purchase intention. Particularly, Damit et al. (2019) demonstrated that this variable's coefficient of determination (R^2) for repurchase intention is 0.570. Therefore, this implies that perceived behavioral control and all other relevant factors explain 57% of non-Muslim consumers repurchase intention for halal food. Based on this review, numerous studies have proven the predictive capacity of the antecedents of intention. Specifically, it was seen in the review that most studies indicate that attitude, subjective norms, and perceived behavioral control significantly influence the consumption intention of halal food products. Therefore, the study proposes the following alternative hypothesis:



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- Ha3: The perceived behavioral control of consumers has a significant influence on the intention to consume halal food products.

The study of Khibran (2019) demonstrated that religiosity moderated the impact of TPB on purchasing intention. Nawawi et al. (2018) also found that religiosity moderates the link between TPB components and the dependent variable. According to Elseidi (2018), Islamic religiosity moderates the association between Muslim consumers' intention to purchase halal-labeled food and their attitudes, subjective norms, and beliefs about their ability to control their behavior. According to the findings, personal attitudes about halal-labeled food, subjective norms, and perceived behavioral control all influence the intentions of Muslims with high or low degrees of Islamic religiosity. Also, the results show that perceived behavioral control has a significant effect on whether or not Arabian Muslims with low levels of Islamic religiosity intend to purchase halal-labeled food products from mainstream UK retailers. Most studies have shown that religiosity moderates the relationship between attitude, subjective standards, perceived behavioral control, and intention. Therefore, the following is the study's hypothesis:

- Ha4.1: Religiosity significantly moderates the relationship between attitude and the intention to consume halal food products.
- Ha4.2: Religiosity significantly moderates the relationship between subjective norms and the intention to consume halal food products.
- Ha4.3: Religiosity significantly moderates the effect on the relationship between perceived behavioral control and the intention to consume halal food products.

Methodology

The study utilized an exploratory research design. The purpose of this research is to examine TPB factors and the moderating effect of religiosity. The

researcher will explore these new facets to widen the Theory of Planned Behavior scope. This study will be undertaken in Kidapawan City in the province of Cotabato. The respondents of this study are consumers who buy halal processed-food products in grocery stores and are residents of Kidapawan City. Specifically, non-Muslim and Muslim customers who consume halal processed-food products are among the participants in this study. The study set the research sample size following the sample size requirements of PLS-SEM. Hair et al. (2014) suggest that PLS-SEM works well with small sample sizes and complicated models, making almost no assumptions about the data requirement. The rule of thumb states that the minimum sample size should equal ten times the maximum number of arrowheads pointing to a latent variable anywhere in the PLS path model. The structural model includes three (3) independent variables. With this, the study utilized 100 observations or respondents which is above the minimum sample size required. In selecting the respondents, the study utilized convenience and quota sampling techniques. There are three (3) large grocery stores in Kidapawan in which the participants were chosen conveniently from these grocery stores.

Most halal studies that gather primary data use the survey questionnaire. Therefore, the study will utilize an adopted survey questionnaire as a collection method. The first part contained demographic questions. Then the questionnaire's second component has 15 questions related to TPB variables, such as attitudes regarding halal food products (5 items), subjective norms (5 items), and perceived behavioral control (5 items). The third and fourth component of the questionnaire also have 5 items each component. The respondent's agreement with the questionnaire's statements were determined using a seven-point scoring system. Earlier research has even employed a 5- to 7-point Likert scale in evaluating the responses. According to Finstad (2010), the seven-point Likert scale is more accurate, easier to administer, and accurately represents a respondent's actual viewpoint. The validity of the questionnaire is assured because



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these items are adopted from previous authors. The composite reliability was also evaluated and lies on the acceptable reliability ranges. Research shows that many scholars use Structural Equation Modeling (SEM), especially the Partial Least Squares (PLS) approach. Thus, the second-generation multivariate analytic techniques, PLS-SEM, was used in this research. In addition, PLS-SEM (also known as PLS path modeling) is often employed in exploratory research to generate new ideas. The study utilized SmartPLS 4 in particular.

Data Results and Analysis

The findings of the study revealed that the majority of respondents were female (55%) and non-Muslims (57%). In addition, most of these respondents were 26 to 41 years old (65%) or those who belong in the generation Y or millennial generations. Lastly, the majority of them were in the income bracket of 10,000 pesos and below (24%). Results revealed that the respondents' level attitude towards Halal foods was the highest with the mean score of 5.25, while PBC (Mean = 5.18) comes next and subjective norms (Mean = 4.91).

Assessment on the Reliability and Validity of Measurement Model

The reliability and validity analysis assures that the data is correct and verifiable and that the conclusions are accurate. The study examined the outer loading to make sure that the composite reliability and AVE is much higher than the threshold value of 0.70. Therefore, if the outer loadings are lower than the threshold value, the indicators are deleted. For the reliability test, Cronbach alpha and composite reliability methods were utilized. The initial result of the model estimation shows that AVE are 0.873 (ATT), 0.893 (SN), 0.732 (PBC), 0.875 (INT), and 0.931 (R).

Furthermore, the results taken from the value of composite reliability (CR) for each variable are the following: 0.964 (ATT), 0.970 (SN), 0.946 (PBC), 0.965 (INT), and 0.982 (R). On the other hand, the

value of Cronbach's alpha for each variable are 0.963 (ATT), 0.970 (SN), 0.892 (PBC), 0.964 (INT), and 0.982 (R).

Evaluation of the Structural Model

A structural model was used to evaluate the measurement model with the help of Smart PLS 4. Then, the PLS-SEM calculated the path coefficients, r square (R^2), effect size (f^2), and predictive relevance (Q^2) of the structural model. The results revealed that the value of the path coefficients of attitude and the intention to consume is 0.210, wherein the p -value is 0.065. Then, the path coefficient value for subjective norm and intention is 0.187 with a p -value of 0.061. The p -values of these path coefficients are more than 0.05, which indicates that attitude and subjective norms do not significantly influence the intention to consume. However, the coefficient value is

0.445 for the perceived behavioral control and intention, in which the coefficient is higher than the other coefficients. Moreover, the research result shows that the p -value is 0.000, which is less than

0.05. The results indicate that perceived behavioral control significantly influences the intention to consume halal. Furthermore, the path of attitude, subjective norms, and perceived behavioral control towards the intention to consume halal food products moderated by religiosity have coefficient values of -0.084, 0.109, and -0.079, respectively. The results show that all the p -values of these variables are higher than 0.05, which indicates that religiosity has no significant moderating effect. The structural mode below shows the value of path coefficients and their p -values.



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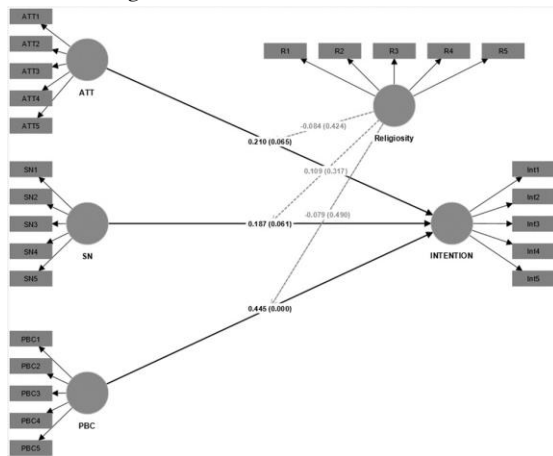
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Figure 2

Schematic diagram illustrating the measurement model using PLS-SEM.



In this study, the value of r square (R^2) is 0.912 or 91.2% which is considered significantly strong. The f square (f^2) is the effect size in R-Square when an exogenous variable is removed from the model. The effect size was small for attitude ($f^2 = 0.048 >= 0.02$) and subjective norms ($f^2 = 0.033 >= 0.02$). However, the effect size was medium for perceived behavioral control ($f^2 = 0.248 >= 0.15$). On the other hand, Q^2 or predictive relevance is 0.498 which is above 0 which indicates that the PLS path model has predictive relevance.

Discussion, Conclusions, Recommendations

The results revealed that most of the respondents were females, millennials, and non-Muslims. Results also indicate that only the perceived behavioral control of consumers has a significant influence on the intention to consume halal food products. The coefficient value is positive which means that the increase in the value of perceived behavioral control leads to an increasing intention to consume halal food products. The findings corroborated with the findings of Marmaya et al. (2019) in which generation Y is influenced by perceived behavioral control. The findings imply that eating halal is not based on their favorable

attitude or somebody telling them to do so, but this is based on their own decision to perform the behavior. Such findings also support the studies of numerous authors like Asnawi et al. (2018), Memon et al. (2019), Kaur et al. (2014), and others. Also, Damit et al (2019) found in their study that perceived behavioral control explains 57% of non-Muslim consumers repurchase intention for halal food. The rest of the variables such as attitude and subjective shows no significant influence on the intention to consume halal. This is supported by the findings of Marmaya et al. (2019), who also discovered that attitude had no significant influence on Gen Y consumers' purchasing intentions for halal food products. However, the findings of the study that subjective norms do not influence the intention to consume are contrary to the findings of numerous authors such as Kaur et al. (2014), Farhat et al. (2019), Alam et al. (2020), and others which emphasizes that subjective norm is the most important predictor behavioral intention. Also, religiosity does not moderate the relationship between the TPB variables and the intention to consume. The results do not support the findings of the other authors, perhaps, their religiosity is not a strong moderator. In previous studies, religiosity is a significant moderator for Muslim consumers. However, in this case, most of the respondents were non-Muslims which perhaps, justifies the quite lower level of religiosity factor when consuming halal. Therefore, the study accepts the third hypothesis (Ha3), which states that the perceived behavioral control of consumers has a significant influence on the intention to consume halal food products. However, the study failed to accept the rest of the alternative hypotheses because the path coefficients are lower, and the p-values are more than the 0.05 level of significance. Moreover, the study concluded that perceived behavioral control is the strongest predictor of intention to consume halal food products for most non-Muslim consumers. Religiosity does not make any changes to the effect of attitude, subjective norm, and perceived behavioral control towards their intention to consume halal food products. This implies that consumers' level of attitude, subjective norms, and



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perceived behavioral control was not affected by their religiosity.

In terms of practical contribution, this study presents several recommendations. The marketing efforts of halal food manufacturers should target non-Muslim customers since they are more likely to choose halal meals than non-halal ones and find it easier to eat halal foods. Thus, marketers need to enhance marketing strategies promoting the advantage of consuming halal to non-halal products where there is a significant opportunity to market halal products to the non-Muslim market. Therefore, future researchers might attempt to reach out to more respondents for further validation of the applicability of the research model. Also, future research might focus on other variables like halal awareness and acculturation or perhaps include the assessment of the actual behavior to give an extant understanding of the consumption behavior of halal consumers.

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Investment Decision-Making on Real Estate Of Kassel Residences Owners In Parañaque City

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Abstract

Purpose – The study aims to assess the investment decision-making practice on real estate by the unit owners at Kassel Residences in Parañaque City. Their perception will be measured according to ideal real estate decision-making process, namely: definition phase, planning phase, dealing phase, executing phase, watching phase, and optimizing phase.

Design/methodology/approach – In this study, the researcher utilized the descriptive method of research which is a method of research that describes the characteristics of the population or phenomenon that is being studied. This type of research can be performed in three ways - first is observational which is a conducted by viewing and recording the participants. Second is by conducting a case study which refers to in-depth study of an individual or group of individuals. Last is by conducting a survey which can be defined as a brief interview or discussion with an individual about a specific topic. In this study, the researcher utilized the survey method by distributing questionnaire online and in paper, with the intention to determine the demographic profile of the respondents and to assess their real estate decision-making process according to level of importance. The descriptive method was used to figure out the relationship of respondent's demographic profile and their real estate investment decision-making practices. To show the relationship of variables of the study, IPO model or Input-System-Output model by Ludwig von Bertalanfy is considered as the research paradigm.

In terms of determining the population, sample size, and sampling technique, the researcher administered questionnaires to 40 respondents for reliability test. The Cronbach's Alpha overall statistic of 0.97 and per component statistic of 0.96 - 0.97 reflects the excellent reliability of the measuring instrument, and it indicates the high level of internal consistency. After finding the result of reliability test the researcher proceeded with the survey to the target respondents. Since the study covers an unknown population of unit owners at Kassel Residences in Parañaque City, the reliable sample size was calculated using Z-score. By substituting the corresponding values, a random sample of 384 respondents is required.

The target actual number of respondents return from this sample size is 70-80 percent which is considered ideal by statistical standards. As a sampling technique, the researcher used the convenience sampling due to accessibility on the respondents. With the support of researcher's relative who is also a unit owner in Kassel Residences, the researcher was able to easily access and reach out to the unit owners.



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The respondents selected are the unit owners in Kassel Residences in Parañaque City. The respondent's demography was dynamic and defined by age, sex, civil status, highest educational attainment, job position level, average monthly income, and number of years working. It is a mixture of low, moderate, and high earners with experience in real estate as property owner or buyer.

Using survey method, the researcher distributed questionnaires online and in paper. The survey questionnaire contains Part I and Part II. Part I covers the demographic profile of the respondents, while Part II contains the assessment on the level of importance in investment decision-making on real estate. With Likert Scale method, the researcher was able to use this as the criteria for verbal interpretation of the data. The questionnaires were distributed in paper and online via Google form. The researcher retrieved answered questionnaire from a total of 384 respondents, which is equivalent to 100% of the required sample size. The respondents are the unit owners at Kassel Residences in Parañaque City. The data gathered are computed and analyzed using the following statistical tools: (1) Frequency Percentage, (2) Weighted Mean, (3) Independent Samples t-test, and (4) One -Way Analysis of Variance (ANOVA)

Findings – Based on data gathered, majority of respondents are female, with age ranging from 31 – 40 years old with is within the age group of the Millennials. Most of them are married and graduate in college and working on a supervisory level. Most of the respondents are earning a monthly income of ₱41,000 to ₱50,000 and with a work tenure ranging from 6 to 10 years. 2. In terms of assessing the respondent's investment decision-making on real estate in terms of real estate decision-making steps, the result reveals that for the respondents, Definition Phase has the highest grand mean of 4.42. This is followed by Watching Phase, Planning Phase, Executing Phase, Optimizing Phase, and Dealing Phase with grand mean of 4.24, 4.23, 4.21, 4.15, and 4.12 respectively. This implies that in terms of level of importance, respondents ranked Definition Phase as the most important step in real estate investment decision-making, followed by Watching Phase, Planning Phase, and Executing Phase. While the least importance step for the respondents are Optimizing Phase and Dealing Phase after garnering the lowest grand mean of 4.15 and 4.12 respectively. This implies that actions such as defining goals or purpose to invest, formulating decision criteria, and finding a location are the top priorities to consider for the respondents. Activities in Dealing Phase like assessing property according to predefined criteria and strategy, searching for alternative properties to invest and comparing and ranking properties in terms of expected risk and return are important too and must be given attention. The reason could be lack of experience and know-how to do these steps properly, thus it is important for a real estate investor to follow a structured decision-making process and consider all the steps prior actual investing. In terms of determining if there is significant difference of perception on investment decision-making on real estate when respondents are grouped according to profile, the result shows that age, sex, civil status, highest educational attainment and job position level generally have the same level of perception on the real-estate decision-making, with significance higher than 0.05 standard level of significance. Thus, failed to reject null hypothesis. Among the profiles, only average monthly income and number of years working are with significant difference. All phases in both profiles came out with significance lower than 0.05 standard level of significance. Thus, null hypothesis is rejected. This means the decision-making process of the respondents is highly affected by their



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average monthly income, as this may predict their real estate choices and preferences, which may vary depending on the budget or how much they can afford. The same way with number of years working, which may affect the decision-making process of the investor due to impact of work stability and financial capability.

Research limitations/implications – This study was conducted to assess the investment decision-making on real estate by Kassel Residences owners in Parañaque City. The target respondents are the unit owners of Kassel Residences – a residential condominium seated Parañaque City. The survey questionnaires were distributed to unit owners in paper and online via Google form, with the consent of Kassel Residences Homeowner’s group.

Practical and social implications – The researcher conducted the study to help and spread information to the following:

- **Real Estate Investors.** To guide and educate people who intends to invest in real estate by gaining knowledge in the smart ways to achieve investment goals. In general, this study aims to encourage and empower people to pursue real estate investing to set foot in the property ladder, for some use it in business and learn how to achieve their investment goals.
- **Property Sellers & Brokers.** May this be an instrument for real estate sellers & brokers to establish good partnership with property buyers to help understand their needs and preferences as they journey to real estate investing.
- **Developers, Home Builders and Architects.** To encourage developers to build an affordable and eco-friendly housing in the Philippines and help people get their foot in the property ladder. For the architects, to create functional home designs that maximizes space, utilizes local and sustainable materials and environment friendly.
- **Local Sources of Building Materials.** To support livelihood of local entrepreneurs and promote creation of local designers. The goal is to encourage home builders and property seekers to buy local products to create livelihood to people.
- **Students & Future Researchers.** To serve as a good resource material for studies and research related to investment decision-making in real estate. For students, with similar study or research, may it be useful to their study as they fulfill their academic requirement. For the future researchers, may it be a good source of information especially to people who thinks about engaging in real estate investing. This study aims to help them achieve their real estate investment goals.

Originality/value – The study highlights the importance of applying a structured decision-making process in acquiring real estate property. It provides an overview of real estate situation in the Philippines and outside the country. It is different from published research and literature because it provides a glimpse of the knowledge gap in real estate investing, for a lot of people, in which the study addressed in its findings and recommendation. The stages of decision-making process featured



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in the study can be used as a guideline and a resource not just by first-time property buyers but also by seasoned real estate investors.

Key Words: real estate, structured decision-making, investment strategy, diversification, investment portfolio, risk & return

Relevant SDGs: SDG 4 Quality Education, SDG 11 Sustainable Cities and Communities, Good Health and Well-Being, SDG 17 Partnership for the Goals

Introduction

People invest in real estate for various reason and purpose. Some invest for personal use as a place to live, while others invest to generate profit and achieve investment goals. The success of an investment or a business can be highly contributed to responsible decision-making. Nowadays, property continues to grow as an investment medium, thus, investors need to improve the effectiveness and efficiency in making a decision.

Farragher & Savage (2008) state that the key in making a seamless decision in real estate investment is to apply experience, good judgement, and creativity. Unfortunately, not all investors are equipped with these attributes. Some investors tend to make irrational decisions without analyzing the outcome. It is therefore important for an investor to apply decision analysis to generate a rational and profound decision. Application of decision analysis in real estate investment enables the investor to avoid perplexity and to manage the expectation on the investment result.

Although, the concept of decision analysis was established years ago, a lot of people still do not apply it in real estate investing. French & French (1997) attributed this to human nature since in essence, people are not accustomed to practice heuristics and intuitive reasoning, instead they rely in shortcuts and gut feel-based decisions. To overcome confusion and uncertainty in decision-making process, an investor can apply the normative

model of decision theory framework which can be used as a guide on how to come to a decision. This study intends to assess the practices of real estate owners in carrying out their investment decision-making, to understand their priorities in investing and in case, what are the important steps and considerations they are missing in decision-making process that can be improved to achieve their investment goals. In addition, this study aims to enhance the decision-making experience of an investor by using decision analysis to realize the full potential of their investment. Important decision-making steps like goals and strategy set up, investment opportunities search, forecasting, returns evaluation, risk assessment, and investment criteria creation are some of the important aspects in the process of decision-making.

To achieve the investment goal and avoid psychological traps in investment, an investor must conduct extensive research on the prospect property. More than just the location, down payment, and monthly amortization, the investor must step up and follow a structured decision-making process that will serve as guideline real estate investment journey.

Literature Review

This section provides the relevant information that strengthens the theoretical background of this study. It supports the structured decision-making process in real estate investing that serve as guideline for real estate investor achieve its investment goals.



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Table 1

Theories in Investment Decision-Making in Real Estate

Theory	Research themes of literature published on Investment Decision-Making
Decision Theory	Deals with the reasoning underlying an individual's choices. The usual thinking of a lot of people is that an individual chooses to do on any given occasion is fully determined by their values, desire, or beliefs that is unlikely to be argued. Nevertheless, as it is a theory of choice, decision theory is as much a theory of desires, beliefs, and other relevant attitudes.
Decision Analysis	Simplified procedure for transforming unclear decision problems into clear decision problems by a sequential step. Two models of decision theory were established which either express how decisions are made or give specific directive on how to come to a decision. These two models are normative and descriptive. Normative approach mainly deals with how decisions should be made. It provides guidance for making decisions given a set of values.
Portfolio Theory	Known also as Modern Portfolio Theory. This theory provides a mathematical framework that investors can use to minimize risk and maximize returns. The focus of the theory is to diversify holdings that can reduce risk, and returns are considered as a function of expected risk. It uses diversification to spread investments across assets. The key result of Portfolio Theory is that the volatility of the portfolio is less than the weighted average of the volatilities of the securities it contains.
Normative Model of Decision Analysis by Roberts & Henneberry (2007)	Common approach of institutional investors in real estate investing due to application of rational analysis with the use of rational evaluation tools.
Ten-step process of decision-making in real estate investing by Phyrri (1989)	Steps include the following: determine strategy to invest, alternatives generation, property analysis using basic financial feasibility models, basic negotiation terms with sellers, detailed feasibility research provision, financial and tax structuring, Discounted Cash Flow (DCF) analysis performance, final negotiations and closing, property management, and property termination.
Four stages models of decision-making in real estate investing by Brown & Matysiak (2000)	Stages models are: screening, evaluation, implementation, and auditing. It is derived from capital budgeting rather than from investment decision making.
Decision Process in Real Estate by Roulac (1996)	Is clearly inclusive to any decision involving major capital commitments. It is derived from capital budgeting rather than from investment decision making.
Decision Process in Real Estate by Jaffe & Sirmanns (2001) and Baum (2002)	Both stop the decision process after an investment decision has been made which is the same with Roulac's model which has a sequential structure.
Decision Process in Real Estate by Hartigay & Yu (1993)	Decision process portrays a circular process, wherein the last step refers to conclusion and goals revision. The decision-making process includes definition of purpose and objectives of the real estate portfolio, formulation of a specified strategy and their selection/assessment criteria, assessment of individual projects against the predefined criteria and strategy, closer examination of projects that meet return and risk profile, closing the investment decision and implementation of actions and post auditing and optimizing.

The studies and literature presented in the study have been subdivided into four segments that is relevant to this research. The topics include decision theory, real estate investing, real estate segments, and empowered learning in investment decision-

making on real estate. As a baseline, it provides an overview on decision theory to come up with a rational choice. Also, it highlights the value of decision analysis to come up with rational and profound decision and described the two models of decision theory framework, that is normative and descriptive

In addition, it provides an overview on the reasons why people invest in real estate including the different investment strategy that investors can choose. This segment provides an outline of the different decision-making process which all has been described as sequential except for Hartigay and Yu's ideal real estate decision-making process, in which a circular process is considered, and the one that is used in this study. Under this segment, overview of real estate investment scenario in the Philippines has been tackled.

While in real estate segment, the three segments in real estate sector have been described. These are residential, commercial, and industrial. Also, it covers the three types of condominium, but mainly focus on aspects of low-rise residential condominium since the subject is related to decision-making practices of the unit owners of Kassel Residences which is classified as a low-rise residential condominium.

Lastly, this segment covers different ways to build knowledge and get empowered in real estate investing.

Research Philosophy, Framework, Design, and Methodology

This section provides an overview of the research method used in the study. It describes the respondents of the study, research instrumentation, data gathering procedure, and the statistical treatment of data used by the researcher.



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Methodology

In this study, the researcher utilized the descriptive method of research. Descriptive research is a method of research that describes the characteristics of the population or phenomenon that is being studied. This method primarily focuses on describing demographic segment's nature, without focusing on the occurrence of certain phenomenon. Moreover, this method of research is used when the researcher intends to describe the specific behavior as it occurs in the environment.

Researchers can use three ways to perform descriptive research. First is observational which is a conducted by viewing and recording the participants. Second is by conducting a case study which refers to in-depth study of an individual or group of individuals. Last is by conducting a survey which can be defined as a brief interview or discussion with an individual about a specific topic.

In this study, the researcher used the survey method by distributing questionnaire online and in paper, with the intention to determine the demographic profile of the respondents and to assess their real estate decision-making process according to level of importance. The descriptive method was used to figure out the relationship of respondent's demographic profile and their real estate investment decision-making practices.

Population, Sample Size and Sampling Technique

The researcher administered questionnaires to 40 respondents for reliability test. The table below shows the reliability statistics.

Table 2

Reliability Statistics

Cronbach's Alpha	Alpha Based on Standardized Items	Overall	N of Items	Reliability Level
0.97	0.97	0.97	30	Excellent
Per Item Basis				
Stages of Investment Decision-Making on Real Estate	Item	Cronbach's Alpha if Item Deleted	Item Overall Statistics	Reliability Level
2.1 Definition Phase (objectives/constraints)	OC1	0.97	0.97	Excellent
	OC2	0.97		
	OC3	0.97		
	OC4	0.96		
	OC5	0.97		
2.2 Planning Phase (implementation/environment)	IE1	0.97	0.97	Excellent
	IE2	0.97		
	IE3	0.96		
	IE4	0.96		
	IE5	0.96		
2.3 Dealing Phase (search, analysis, evaluation)	SAE1	0.96	0.96	Excellent
	SAE2	0.96		
	SAE3	0.96		
	SAE4	0.96		
	SAE5	0.96		
2.4 Executing Phase (final decision/ deal closing)	FDDC1	0.96	0.96	Excellent
	FDDC2	0.96		
	FDDC3	0.96		
	FDDC4	0.96		
	FDDC5	0.96		
2.5 Watching Phase (measurement)	M1	0.96	0.96	Excellent
	M2	0.96		
	M3	0.96		
	M4	0.96		
	M5	0.96		
2.6 Optimizing Phase (disposal, re-evaluation)	DRE1	0.97	0.96	Excellent
	DRE2	0.97		
	DRE3	0.97		
	DRE4	0.96		
	DRE5	0.96		

Description of Coefficient Range:

Excellent - 0.90 above

Good - 0.80 to 0.89

Acceptable - 0.70 to 0.79

Questionable - 0.60 to 0.69

Poor - 0.50 to 0.59

Unacceptable - 0.49 below

The Cronbach's Alpha overall statistic of 0.97 and per component statistic of 0.96 - 0.97 reflects the excellent reliability of the measuring instrument, and it indicates the high level of internal consistency.

After finding the result of reliability test the researcher proceeded with the survey to the target respondents. Since the study covers an unknown population of unit owners at Kassel Residences in



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Parañaque City, the reliable sample size was calculated using Z-score with resulting calculations below:

$$n = \frac{Z^2[P(1 - P)]}{E^2}$$

where:

n = sample size

P = std. deviation (0.50)

E = acceptable amount of sampling error (0.05)

Z-score = 1.96 at 95% confidence level

The target actual number of respondents return from this sample size is 70-80 percent which is considered ideal by statistical standards.

As a sampling technique, the researcher used the convenience sampling due to accessibility on the respondents. With the support of researcher's relative who is also a unit owner in Kassel Residences, the researcher was able to easily access and reach out to the unit owners.

Description of Respondents

The respondents selected are the unit owners in Kassel Residences in Parañaque City. The study targets individuals who already have experience in buying or acquiring real estate – may it be for the purpose of personal use or profit generation (e.g., rent out, buy & sell and house flipping)

The respondent's demography was dynamic and defined by age, sex, civil status, highest educational attainment, job position level, average monthly income, and number of years working. It is a mixture of low, moderate, and high earners with experience in real estate as property owner or buyer.

Research Instruments

To gather data for the study, the researcher uses the survey method and distributed questionnaires online and in paper. The questions were carefully

prepared to provide convenience to respondents as well as get the data needed for the study. Categories and topics listed aimed to assess the investment decision-making practices of the respondents in real estate. The criteria considered for each step was derived from the decision-making process in real estate as identified by Hartigay & Yu (1993)

Part I of the survey questionnaire aims to determine the profile of the respondent's profile in terms of age, sex, civil status, highest educational attainment, highest monthly income, and number of years working.

Part II of the questionnaire was intended to determine the importance level of each phase of investment decision-making on real estate for the respondents.

With Likert Scale method, the researcher was able to use this as the criteria for verbal interpretation of the data.

Likert Scale	Arbitrary Scale	Verbal Interpretation
5	4.21 – 5.00	Very Important
4	3.41 – 4.20	Important
3	2.61 – 3.40	Somewhat Important
2	1.81 – 2.60	Less Important
1	1 -1.8	Not Important

Data-Gathering Procedure

Data are gathered through the distribution of survey questionnaires in paper and online via Google form. Prior conducting the survey, the researcher requested permission to Property Manager by sending a Letter of Request to conduct survey to the unit owners. Fortunately, the request was granted which gave the go signal for the researcher to proceed with the distribution of questionnaires.



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The distribution of questionnaire was made in two (2) ways –online via Google form and by paper. For online distribution, the research got the support of a relative - also a unit owner at Kassel Residences who shared the link of the Google form questionnaire to the group chat of Kassel Residences unit owners. A message was sent to the group chat informing them on the purpose of the survey and the importance of providing accurate information and its impact in the study. The survey online yielded 150 respondents. While in paper, the researcher distributed door-to-door and during weekends only to ensure that the unit owners are at home and not at work. This is to get a high probability that only unit owners will be the one to answer the questionnaire and not the other person residing with them in the unit. Each unit owners who participated the survey were informed and properly oriented as for the purpose of the survey. The researcher retrieved about 234 answered questionnaires in paper. In total, the researcher retrieved 384 answered questionnaires from respondents. This is equivalent to 100% of the required sample size. There were no rejections with the distribution of survey questionnaires except for unanswered fields in several questionnaires.

The duration of the survey, lasted for two (2) weeks, from 19th of July to 1st of August 2021. This is covering activities from distribution of questionnaires to retrieving results.

Statistical Treatment of Data

Frequency Percentage was used to determine the percentage of the respondents in accordance with their demographic profile. The formula for percentage is:

$$\% = (f/n) \times 100$$

Where

% = percentage

n = total population

Weighted Mean was used to interpret the data obtained from the respondent’s assessment on their

investment decision-making on real estate. The formula is:

$$\bar{x} = \frac{\sum fx}{n}$$

where:

\bar{x} = weighted mean

$\sum fx$ = sum of all the products of f and x, f = frequency of each weight and x as the weight of each operation
 n = number of cases.

The mean range was analyzed using a Likert Scale:

Range	Verbal Interpretation
4.21 – 5.00	Very Important
3.41 – 4.20	Important
2.61 – 3.40	Somewhat Important
1.81 – 2.60	Less Important
1.00 - 1.80	Not Important

Independent Samples t-test is used to compare the means of two population. This technique was used to determine if there is significant difference between the respondent’s assessment on their investment decision-making on real estate when grouped according to sex. The t-test formula is given as:

$$t = \frac{\bar{x} - \mu}{\frac{s}{\sqrt{n}}}$$

One-Way Analysis of Variance (ANOVA) is a statistical technique that is used to compare the means of more than two populations. For instance, ANOVA was used in this study to determine if any significant difference in the respondent’s assessment on their investment decision-making on



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real estate exist considering the age, civil status, educational attainment, job position level, average monthly income, and number of years working. The ANOVA formula is given as:

$$F = \frac{S_b^2}{S_w^2}$$

The gathered data were tallied, tabulated, and prepared for statistical calculations, analysis and interpretation using statistical software SPSS 25.

Data Results and Analysis

The study was conducted to assess the investment decision-making on real estate of unit owners at Kassel Residences in Parañaque City in terms of real estate decision-making process, namely: definition phase, planning phase, dealing phase, executing phase, watching phase, and optimizing phase.

The researcher utilized the descriptive method of research by means of survey. The survey questionnaire contains Part I and Part II. Part I covers the demographic profile of the respondents, while Part II was intended to determine the importance level of each phase of investment decision-making on real estate for the respondents. The questionnaire was distributed in paper and online via Google form. The researcher retrieved answered questionnaire from a total of 384 respondents, which is equivalent to 100% of the required sample size. The respondents are the unit owners at Kassel Residences in Parañaque City. The data gathered are computed and analyzed using the following statistical tools: (1) Frequency Percentage, (2) Weighted Mean, (3) Independent Samples t-test, and (4) One -Way Analysis of Variance (ANOVA)

After analyzing the data, the findings can be described as follows:

Profile of the Respondents

In terms of age, 31 – 40 years old has the highest frequency and percentage with 168 or 43.75%, while the lowest frequency and percentage belongs to 51 years old and above with 54 or 14.06%.

In terms of sex, female has the highest frequency and percentage with 245 or 63.80%, while the lowest frequency and percentage belongs to male with 139 or 36.20%.

In terms of civil status, married unit owners have the highest frequency and percentage at 192 or 50.00%, the lowest frequency and percentage belongs to widow/ widower with 20 or 5.21%.

In terms of highest educational attainment, college graduates dominate the record with the frequency and percentage of 282 or 73.44%, while the lowest frequency and percentage goes to high school graduates with 23 or 5%.

In terms of job position level, most of the respondents are on a supervisory level with the frequency and percentage of 170 or 44.27% while the lowest frequency and percentage belongs to rank and file with 95 or 24.74%.

In terms of average monthly income, owners earning ₱41,000 to ₱50,000 obtained the highest frequency and percent of 119 or 30.99% while the lowest frequency and percentage are the unit owners earning ₱20,000 and below with 17 or 4.43%

In terms of number of years working, unit owners with 6 to 10 years tenure have the highest frequency and percentage of 144 and 37.50%, while the lowest frequency and percentage are the unit owners working 1 year and below with 18 or 4.69%

Respondent's Assessment on their Investment Decision-Making on Real Estate

The overall perception of the respondents in terms of Definition Phase is “Very Important” with a grand



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mean of 4.42 – which also obtained the highest grand mean among other phases. “Define purpose and objective to invest in real estate” obtained the highest weighted mean of 4.61, while “Identify constraints and limitation in property investing (e.g., budget, zoning regulation and long-term value)” got the lowest mean of 4.39. Both as assessed as “Very Important” by the respondents.

Planning Phase was rated “Very Important” with a grand mean of 4.23. Both “Set up strategy to achieve investment goals” and “Formulate assessment/selection criteria” have the highest weighted mean of 4.35 and considered “Very Important” by the respondents, while “Generate alternatives” obtained the lowest mean of 4.20 and rated by respondents as “Important”.

Dealing Phase obtained the lowest grand mean of 4.12 among the phases, and only considered as “Important” by the respondents. Both “Forecast all relevant investment criteria (e.g. return, risk, legal and tax)” and “Evaluate investment criteria” has the highest weighted mean of 4.23 and rated as “Very Important”. On the other hand, “Assess each property according to predefined criteria and strategy” got the lowest weighted mean of 4.09 and treated only as “Important” by the respondents.

Executing Phase is rated “Very Important” with a grand mean of 4.21. “Initiate negotiation with the seller or developer” obtained the highest weighted mean of 4.33 and rated as “Very Important”. While “Choose the most satisfactory property” got the lowest weighted mean of 4.22 but still considered as “Very Important”.

Watching Phase is “Very Important” according to the respondents. It obtained a grand mean of 4.24. Under this phase is “Managing property” which obtained the highest weighted mean on 4.35 and treated as “Very Important”. While the lowest weighted mean belongs to the statement “Controlling of the investment if on-target to achieve expected return, assess and adjust risk)” with a

weighted mean of 4.13 and only treated as “Important”.

Optimizing Phase is considered “Important” with grand mean of 4.15. Both “Draw conclusion if investment will lead to advancement or termination” and “Re-evaluate investment decision” obtained the highest weighted mean of 4.24 and considered as “Very Important”. While the lowest weighted mean belongs to “Auditing operating performance of the investment” with a weighted mean of 4.13 and rated only as “Important”.

Significant Difference of Perception on Investment Decision-Making on Real Estate when Respondents are Grouped According to Profile

When grouped according to age, only Definition Phase has a rejected null hypothesis, with an F value of 2.83 and Sig. value of 0.04 which is below 0.05 level of significance, thus, considered as “Significant”. Under this phase, 41-50 years old has the lowest mean of 4.11, while 51 years old and above has the highest mean of 4.39. The rest of the phases have failed to reject null hypothesis considering the Sig. values higher than 0.05 level of significance, thus, considered as “Not Significant”. F and Sig. values of other phases are 2.21 and 0.09 for Planning Phase, 1.22 and 0.30 for Dealing Phase, 2.47 and 0.06 for Executing Phase, 1.96 and 0.12 for Watching Phase, and 0.90 and 0.44 for Optimizing Phase. The result indicates that when grouped according to age, respondents have a varying attitude in assessing real estate investment, in beginning stage of the invest that involves defining purpose or goal to invest, choosing a location and formulation of decision criteria.

When grouped according to sex, all phases failed to reject null hypothesis with Sig. values higher than 0.05 level of significance. F and Sig. values are as follows: 0.94 and 0.35 for Definition Phase, -0.81 and 0.42 for Planning Phase, 0.30 and 0.77 for Dealing Phase, -0.81 and 0.42 for Executing Phase, -0.60 and 0.55 for Watching Phase, -1.23 and 0.22 for Optimizing Phase. and This implies that there is no



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significant difference when the respondent's assessment is grouped according to sex.

When grouped according to civil status, only Optimizing Phase has a rejected null hypothesis, with an F value of 3.11 and Sig. value of 0.03. Other phases have failed to reject null hypothesis with the significance level higher than 0.05 standard level of significance. This implies that means there is a significant difference when the evaluation of respondents is grouped according to civil status only under Optimizing Phase. The F and Sig. values of the other phases are as follows: 0.53 and 0.66 for Definition Phase, 0.77 and 0.51 for Planning Phase, 1.79 and 0.15 for Dealing Phase, 1.55 and 0.20 for Executing Phase, and 1.97 and 0.12 for Watching Phase. The result indicates that there is no significant difference when the respondent's assessment is grouped according to civil status.

When grouped according to highest educational attainment, all phases failed to reject null hypothesis with significance level higher than 0.05 standard level of significance. Result of F and Sig. value of each phase are as follows: 1.20 and 0.30 for Definition Phase, 0.34 and 0.71 for Planning Phase, 2.41 and 0.09 for Dealing Phase, 0.68 and 0.51 for Executing Phase, 1.16 and 0.31 for Watching Phase, and 2.03 and 0.13 for Optimizing Phase. The result indicates that regardless of educational attainment, respondents consider the same level of importance in real estate investment decision-making steps.

When grouped according to job position level all phases failed to reject null hypothesis with significance level higher than 0.05 standard level of significance. Result of F and Sig. value of each phase are as follows: 1.59 and 0.20 for Definition Phase, 1.06 and 0.35 for Planning Phase, 0.07 and 0.93 for Dealing Phase, 0.32 and 0.73 for Executing Phase, 2.50 and 0.08 for Watching Phase, and 1.72 and 0.18 for Optimizing Phase. This implies that when grouped according to job position level, there is no significant difference in the respondent's perception in real estate investment decision-making.

When grouped according to average monthly income, all phases reject the null hypothesis with significance level higher than 0.05 standard level of the significance. Result of F and Sig. value of each phase are as follows: 3.54 and 0.01 for Definition Phase, 3.09 and 0.02 for Planning Phase, 6.49 and 0.00 for Dealing Phase, 7.26 and 0.00 for Executing Phase, 7.04 and 0.00 for Watching Phase, and 5.50 and 0.00 for Optimizing Phase. This suggests that average monthly income of the respondents significantly affects how respondents invest. Choices and preferences may vary depending on the budget or how much they can afford.

Lastly, when grouped according to number of years working, all phases reject the null hypothesis with significance level higher than 0.05 standard level of the significance. Result of F and Sig. value of each phase are as follows: 3.65 and 0.01 for Definition Phase, 4.34 and 0.00 for Planning Phase, 2.90 and 0.02 for Dealing Phase, 5.40 and 0.00 for Executing Phase, 4.33 and 0.00 for Watching Phase, and 4.72 and 0.00 for Optimizing Phase. This reveals that the number of years working affects the decision-making due to impact of work stability and financial capability.

Discussion, Conclusions, Recommendations

Analysis of data result brings the following conclusions and recommendations:

Conclusions

According to the findings, the following conclusions are drawn:

- In terms of age, majority of the respondents are aged 31 – 40 years old, with 168 or 43.75% of total respondents. While the lowest number of respondents are 51 years old and above, with 54 or 14.06% of total respondents. In terms of sex, respondents are dominantly female, with 245 or 63.80% of the total respondents. While only 139 or 36.20% out of the total respondents are



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male. In terms of civil status, majority of the respondents are married, with 192 or 50% of the total respondents. While widow/widower are the lowest, with only 20 or 5.21%. In terms of highest educational attainment, most of the respondents are college graduate, with 282 or 73.44% of the total respondents. While the lowest number of respondents are high school graduate, with only 23 or 5.99%. In terms of job position level, respondents are dominantly on a supervisory level, with 282 or 73.44% of the total respondents. While the lowest number of respondents are on a rank-and-file position, composed of 23 or 5.99% of the total respondents. In terms of average monthly income, majority of respondents are earning an average monthly income of ₱41,000 to ₱50,000 or 119 or 30.99%. While the lowest belong to the respondents earning ₱20,000 and below, equivalent to 17 or 4.43% out of the total respondents. In terms of number of years working, most of the respondents are working 6 to 10 years, with 144 or 37.50% of the total respondents. While the lowest number of respondents are working 1 year and below, with 18 or 4.69% of the total respondents.

- The respondents assess their real estate investment decision-making in terms of the following steps:
 - Definition Phase (objectives/constraints)
 - Planning Phase (implementation/environmental)
 - Dealing Phase (search/analysis/evaluation)
 - Executing Phase (final decision/deal closing)
 - Watching Phase (measurement)
 - Optimizing Phase (disposal/re-evaluation)

Based on the findings, it is concluded that Definition Phase obtained the highest

grand mean of 4.42, followed by Watching Phase having a grand mean of 4.24. Both are rated “Very Important” by the respondents. While Dealing and Optimizing Phase got the lowest grand mean of 4.12 and 4.15, respectively. Both rated as “Important”. This implies that primary activities involved in Definition and Watching Phase such as defining goals to invest, formulating decision criteria, finding a location, measuring, and controlling of investment are the top priorities that respondents consider in real estate investing. On the other hand, activities involved in Dealing and Optimizing Phase such as searching alternative property to invest, assessing property according to pre-defined criteria, auditing operating performance of the investment, and analyzing the strength and weakness of the investment property are least prioritized or often overlooked by the respondents. The reason could be lack of know-how and experience in performing these tasks. This is challenging especially for the first-time investors who do not have enough experience yet and a solid background in real estate investing. Thus, respondents tend to skip or least prioritized as they are clueless how to perform these tasks.

- When grouped according to age, all respondents consider the same importance level in all the phases except for definition phase with a Sig. value of 0.04 which is lower than the standard significance level of 0.05. Thus, null hypothesis is rejected. This means that for both young and old there is no significant difference in perception in all the stages of investment decision-making, except for definition phase which involves defining the purpose and objective to invest. This is considering that every investor vision different goals and objectives depending on their priorities.



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Under Definition Phase, unit owners belonging to the age group of 41 – 50 years old has the lowest mean of 4.11, while 51 years old & above has the highest mean of 4.39. Both belonging to the generation of Baby Boomers. This implies that decision-making in real estate investing of Baby Boomers varies depending on their goals or objective to invest. Baby Boomers do not elaborately check every detail of this phase since most of them already know the reason to invest. As they approach retirement, most of them are looking a place to settle down, while some invest to generate passive income in preparation for their golden years. When grouped according to gender, that all phases have significance value higher than the standard significance level of 0.05. Thus, failed to reject the null hypothesis. This implies that there is no significant difference in perception of the respondents in terms of investment decision-making in real estate, if grouped by gender, which means respondents have the same level of perception in investment decision-making regardless of gender.

Recommendations

According to the data gathered and the conclusions obtained, the researcher offers the following recommendations:

- Real estate sellers or developers to conduct free online real estate training that aims to empower the potential investors, especially in the areas of searching for alternative property to invest, analysis, and evaluation.
- Financial experts to share best practice and financial trainings that they can offer to the public for free or at affordable prices. For this they can maximize technology by conducting online trainings and share e-books and other resource materials online.

- Investors to maximize the use of internet and smart technology to avail services such as e-brokerage, virtual loans or e-mortgages, Multiple Listing Services, and other internet-based transactions to simplifying and promote ease of doing business.
- Private companies to offer real estate loan to employees with lower interest compared to other financial institutions. This is to pay for the loyalty of the employees, especially the tenured ones.
- Government to provide free consultation for potential real estate investors and simplify transactions related to acquiring land like Land Registration Authority transactions, documentation, checking land legitimacy, process steps in getting a title and required fees to pay.
- Investors to diversify investment and openness to explore and overcome their comfort zones and consider other investment strategies in real estate such as investing in rental properties, buying, and holding properties, flipping properties, Real Estate Investment Trust (REIT), and others.

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Consumer Skepticism towards Sustainable Fashion

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Abstract

Purpose – This study was conducted to gain a better understanding of Consumer Skepticism towards Sustainable Fashion (SF), its antecedents, as well as its effect on Purchase Intention.

Design/methodology/approach – A quantitative study was conducted by surveying 350 post- millennial students from DLSU who are currently enrolled in a CSR course at the time that the research was conducted. Structural Equation Modeling was utilized to analyze the relationship among the variables being studied.

Findings – Results showed that previous incidents of greenwashing, as well as the perception that companies' sustainability claims are self-serving are positively related to consumer skepticism. Moreover, attitude is a significant predictor of purchase intention, as well as a moderator of the relationship between consumer skepticism and purchase intention. Thus, a positive attitude on sustainable fashion could potentially allay consumer skepticism about SF companies. Interestingly however, consumer skepticism does not necessarily deter purchase intention and may even prompt consumers to seek more information to confirm or dispel their doubts about a company. These findings have practical implications for SF companies.

Research limitations/implications – A homogenous sample of post-millennial college students taking up a CSR course was surveyed for this research. As such, future research may examine a bigger, more heterogeneous sample to allow for comparisons of different groups (generations, nationalities, etc.). Future research may also examine other possible antecedents to consumer skepticism, as well as its relationship to actual purchase behavior.

Practical and social implications – Since previous incidents of greenwashing and the perception that SF companies' sustainability claims are self-serving positively stimulate consumer skepticism. As such, SF companies exercise transparency, ensuring that they are clear and specific about their green agenda, to avoid self-serving and greenwashing perceptions. Post- millennial students' attitude towards sustainable fashion can positively influence purchase intention and moderate consumer skepticism. SF companies can capitalize on this positive attitude when promoting their products. Finally, Consumer Skepticism does not necessarily deter Purchase Intention but may instead prompt consumers to seek more information about the companies' sustainability. This reinforces that SF companies ought to clearly present and communicate their sustainability efforts.

Originality/value – While most consumer behavior papers focus on drivers of consumption, this paper aimed to shed light on what deters it. According to the complexity theory, the presence or absence of



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consumption drivers and moderators does not necessarily explain nonconsumption. Hence it is worthwhile to examine contrarian cases to determine what discourages consumption. This paper also focused on Sustainable Fashion, which is a new and growing industry.

Keywords: Consumer skepticism, consumer behavior, greenwashing, purchase intention, sustainable fashion

Relevant SDGs: SDG12 Responsible Consumption and Production, SDG13 Climate Action

Introduction

Sustainable Fashion emerged in the last three decades as a countermovement to the traditional fashion practices that were deemed to be detrimental to the environment and other stakeholders (Woodside & Fine, 2019). According to Mukendi et al. (2020) Sustainable Fashion (SF) is defined as the various ways that a fashion apparel or behavior could be perceived to have less negative environmental and social impact, which includes “slow fashion, reuse, recycling, cruelty-free and anti-consumption and production processes”. With the rise of this fashion trend, research interest on Sustainable Fashion Consumption (SFC) has also grown as researchers are interested to know what would get consumers to purchase and use sustainable fashion apparel (Dabas & Whang, 2022). In the past 25 years, the most researched themes in this topic had been SFC drivers and moderators, which includes consumer values, fashion orientation, knowledge, and norms (Dabas & Whang, 2022). However, not much has been explored to determine what impedes SFC.

Among the factors that deter SFC is skepticism (Farooq & Wicaksono, 2021). Green skepticism is defined as the consumers’ reluctance to trust the environmental performance and benefits of products labeled as green or environmentally-friendly (Leonidou & Skarmeas, 2017). This lack of trust or skepticism leads to a negative attitude towards sustainable fashion consumption and purchase intention (Brandão & Costa, 2021; Kim & Oh,

2020a). As such, for a fledgling movement like Sustainable Fashion that is still gaining consumer acceptance, it would be valuable to understand the factors that lead to consumer skepticism.

In recent years, the Philippines has seen the entry of sustainable fashion brands and second-hand fashion retailers, which mainly use online channels such as their own website, Facebook, and Instagram, to inform, market and sell to potential customers. These brands’ followership may also indicate a budding awareness of sustainable fashion. Well-established fashion brands such as Bayo, Bench and H&M have also released and promoted sustainable lines.

Moreover, the country has seen the emergence of online communities that champion conscious consumption such as Sustainable Fashion PH (<https://www.facebook.com/groups/sustainablefashionph/about>), which has about 1,300 members, Buhay Zero-Waste (<https://www.facebook.com/groups/buhayzerowaste/about>) with about 70,500 members, and Basically Borrowed: The Fashion Circle (<https://www.facebook.com/groups/3452979744807548/>) which has 2,800 members. Interest in sustainable fashion may be connected to environmental awareness gaining popularity among upper and middle class Filipinos, which can be observed in their support for eco-tourism projects (Euromonitor International, 2018). However, Filipino consumer choice behavior still appears to be primarily driven by price and convenience because of low income (Euromonitor International, 2018).



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Consumer skepticism may also play a role in the intention to purchase Sustainable Fashion of Filipinos.

This study aims to study consumer skepticism towards Sustainable Fashion among young Filipino consumers, specifically post-millennials or Generation Z. Specifically, this paper shall answer the following research questions:

RQ1: What are the factors that lead to consumer skepticism towards sustainable fashion?
RQ2: Does the level of consumer skepticism affect purchase intention?

This research fills an important gap as there are only a little extant literature on what prompts and prevents green skepticism, as well as its effect on consumer behavior (Leonidou & Skarmeas, 2017). Most researchers have instead focused on the drivers of consumer behavior, among other things (Dabas & Whang, 2022). Following the causal asymmetry principle of complexity theory, the presence or absence of consumption drivers and moderators often says little about nonconsumption, hence it is worthwhile to examine contrarian cases to determine what deters consumption (Woodside, 2014).

Literature Review

Sustainable Fashion

Sustainable fashion (SF) came about in the 1960s when consumers began to demand the clothing industry to change its practices upon recognizing the negative externalities of clothing production on the environment (Henninger et al., 2016). Fashion can be considered as sustainable if all the steps related to its the design and production follow the three domains of sustainability: environmental (e.g., non-toxic manufacturing and environment-friendly cultivation of materials); social (e.g., concern for human rights, wages and working conditions of everyone involved in fashion production); and economic (e.g., meeting financial targets alongside

improvements within the environmental and social domains) (Orminski et al., 2021). Some subtypes of SF include Green fashion, Eco fashion, Organic fashion, Environmentally- friendly fashion, Fair fashion, Ethical fashion, Slow fashion, Recycled fashion, Upcycled fashion, Second-hand fashion, Circular fashion, and Collaborative consumption (Orminski et al., 2021).

While new sustainable fashion companies are entering the market, existing brands, even famous fast fashion brands such as H&M, Pull & Bear, Uniqlo and Zara have also launched sustainable clothing collections to bolster their image (Grazzini et al., 2021; Kim & Oh, 2020b).

Purchase Intention for Sustainable Fashion

Intentions reflect a consumer's willingness to try and behave a certain way; the stronger the intention, the more likely it will lead to behavior (Ajzen, 1991). According to (Ajzen, 1991), there are three determinants of intention: attitude, or a person's evaluation of whether the behavior in question is favorable or unfavorable; subjective norm, or the perceived social pressure to behave or not behave in certain way; and perceived behavioral control, or the person's perception of how easy or difficult it would be to perform a behavior.

Several factors are likely to influence purchase intention for sustainable fashion apparel. Kim and Oh (2020a) studied the purchase intention of Korean consumers in their 20s to 30s, for sportswear made by companies that have communicated their sustainability efforts to their customers. The authors found that perceived sustainability level of a sportswear product, which customers judge based on the sustainability labels and other information shared by the company, has a significant positive impact on purchase intention. Rausch and Kopplin's (2021) research revealed that attitude is also a significant predictor which positively influences the intention to purchase sustainable clothing. The same paper showed that subjective norms, which was measured based on respondents' perception of



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their family and friends' expectations of them to purchase sustainable clothes, also has a positive relationship with purchase intention, albeit non-significant based on a 0.05 significance level. On the other hand, consumer skepticism or doubting green products is likely to negatively influence purchase intention or repeat purchases (Leonidou & Skarmeas, 2017).

Consumer skepticism and its antecedents

According to Silva et al., (2020), extant literature has represented consumer skepticism in two ways: (1) the propensity to doubt marketing claims, and is associated with a decrease in purchase intention; and (2) an increased interest and criticism toward the marketing claims, which leads to a more deliberate fact-finding effort.

Findings are mixed with regards to the effect of consumer skepticism on purchase intention. Goh and Balaji's (2016) study on Malaysian consumers revealed that green skepticism did not have significant direct effects on purchase intention. However, the same study showed that green skepticism has an indirect negative influence on green purchase intention by negatively affecting environmental knowledge and environmental concern. On the other hand, a study by Kim and Oh (2020a) on the perceived sustainability level of sportswear products among Korean consumers confirmed that perceived skepticism negatively affected purchase intention.

Several factors may influence consumer skepticism. A study by Farooq and Wicaksono (2021) among students and lecturers from different universities in Germany, the Netherlands, Pakistan and Indonesia revealed that previous incidents of greenwashing had a significant positive relationship with skepticism. Withholding information about a company's negative environmental impact, and presenting partial or false positive information all count as greenwashing (Rausch & Kopplin, 2021). Farooq and Wicaksono (2021) study also posited that the consumer perception that companies'

sustainability claims are self-serving, and that large companies are more self-serving in their sustainability claims both positively influenced skepticism. However, only the second hypothesis, that large companies are more self-serving, was supported in their study.

Research Conceptual Framework and Hypotheses

To answer the research questions, the researcher adopted the framework of (Farooq & Wicaksono, 2021) with a few modifications. First, certain variables were omitted since they did not apply to this study. For example, the authors hypothesized that consumer skepticism is industry-specific. Since this study only focuses on sustainable fashion, this hypothesis was excluded. This study also excluded the variable relating the effect of culture on skepticism since this study focused only on Filipino college students. Finally, in place of the variable "preference for silent sustainability," the researcher used purchase intention. The aim of this paper is to determine how consumer skepticism would impact purchase intention to provide sustainable fashion brands insights on how they can best market sustainable fashion apparel in the Philippines.

This paper also examines the moderating effect of consumer attitude towards sustainable fashion on consumer skepticism and sustainable fashion purchase intention. This variable was added to determine whether attitude will have the capacity to allay skepticism since extant literature has shown attitude to have a positive influence on purchase intention.

Hypotheses

- H1: Previous incidents of greenwashing have a positive effect on skepticism
- H2: Perception that companies' sustainability claims are self-serving has a positive effect on skepticism
- H3: Perception that large companies are more self-serving in their sustainability claims has a positive effect on skepticism



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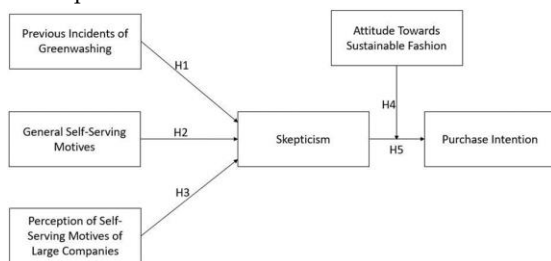
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- H4: Attitude towards sustainable fashion moderates the effect of skepticism on purchase intention
- H5: Skepticism has a negative effect on purchase intention

Figure 1:

Conceptual Framework



Methods of Data Collection and Analysis

A survey among post-millennial college students, specifically DLSU undergraduate students currently enrolled in a class on Corporate Social Responsibility (CSR), i.e., COBCSRG and CSRGOVE in the second term of AY 2021-2022. This population was selected to ensure that all the respondents would have some familiarity with sustainable business practices.

The survey instrument was created using Google Forms and included general questions to profile the respondents. Questions to measure each construct were adapted from Farooq and Wicaksono (2021), and Rausch and Kopplin (2021). The validity of each construct was tested by computing Cronbach's alpha. Based on Farooq and Wicaksono (2021) recommendation of using values of higher than 0.6 or 0.7, the instrument was considered to be reliable. Of the six constructs, five were deemed valid and were used in the analysis. One construct, Perception of Self-serving Motives of Large Companies, was dropped in the analysis because of a low alpha level. The summary of these reliability tests is summarized in Table 1.

The instrument was distributed through the

professors teaching the courses, who in turn shared them with their students. Participation in the survey was voluntary. Of the 1,089 students enrolled in the two CSR courses, 388 responded to the survey. Only the forms with complete responses for the constructs were used for the analysis, leaving a final sample of 350 respondents.

Descriptive statistics were used to profile the respondents in terms of sex, familiarity with and previous purchases on sustainable fashion apparel. The relationships between the constructs were analyzed using Structural Equation Modeling (SEM).

Table 1.

Reliability Tests and Mean of each construct

Constructs	Cronbach's alpha	Mean
Previous Incidents of Greenwashing	0.69	4.98
General Perception of Self-serving Motives	0.75	4.3
Perception of Self-serving Motives of Large Companies*	0.5	4.38
Skepticism	0.78	3.68
Attitude	0.72	5.04
Purchase Intention	0.92	5.12

Results and Discussion

Of the 350 respondents, 52.6% are female, 45.7% are male, and 1.7% preferred not to disclose their sex. Majority (78.3%) have heard about Sustainable Fashion, while 21.7% have not. Moreover, when asked if they have ever purchased from a sustainable fashion brand, retailer or company, 47.1% answered yes, 31.1% have answered no, and 21.7% provided no response. This shows that while most of the respondents have some familiarity with Sustainable Fashion, most of them have not tried purchasing such apparel. Table 2 Summarizes the profile of the respondents.



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Table 2.

Respondent Profile

		Count	Percent
Sex	Female	184	52.6
	Male	160	45.7
	Prefer not to say	6	1.7
Have you ever heard of sustainable fashion?	No	76	21.7
	Yes	274	78.3
Have you ever purchased an item from a sustainable fashion brand, retailer or company?	No	109	31.1
	Yes	165	47.1
	No Response	76	21.7

Two regression models were constructed to test the hypotheses in this research. Hypotheses 3 was dropped for failing the reliability test based on Cronbach's alpha threshold levels.

The first regression model tested whether previous incidents of greenwashing (GW) and the perception that companies' sustainability claims are self-serving (SS) positively influenced Consumer Skepticism (SK). Results showed that GW has a significant positive relationship with SK with a coefficient of 0.14 at $p = .012$, that is, for every one unit increase in GW, one can expect a 0.14 increase in SK. Thus, H1 is supported. Furthermore, there is also a significant positive relationship between SS and SK, with a coefficient of 0.46 at $p < .001$. This means that for every one unit increase in SS will have a corresponding 0.46 unit increase in SK, thus H2 is also supported.

The second regression model tested the relationship between Consumer Skepticism (SK) and Purchase Intention towards Sustainable Fashion (PI), as well as the moderating effect of Attitude towards Sustainable Fashion (ATT) to this relationship. ATT was found to have a positive relationship with PI, with a coefficient of 1.12 at $p < .001$. This means that every one unit increase in ATT will lead to a 1.12 unit increase in PI. Moreover, this study also tested the effect of the interaction between Consumer Skepticism and Attitude (SKATT) and Purchase Intention (PI), and found that SKATT has a

significant negative relationship with PI, with a coefficient of -0.14 at $p < .001$. This means that Attitude towards sustainable fashion may be able to allay Skepticism, thus moderation and H4 is supported.

Finally, the relationship between Consumer Skepticism (SK) and Purchase Intention (PI) was also tested and found to be significant, with a coefficient of 0.69 at $p < .001$, i.e., every 1 unit increase in SK may result in a 0.69 unit increase in PI. However, since H5 specified that the expected relationship to be negative, this hypothesis is unsupported. Table 3 summarizes the results of the hypothesis testing. Figure 2 illustrates the path diagram.

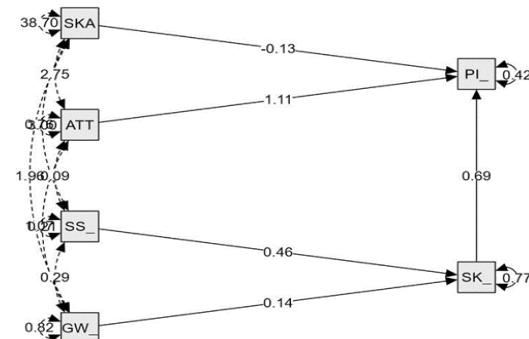
Table 3.

Hypotheses Testing

Hypotheses	Path coefficients	95% Confidence		P-value	Result	
		Lower	Upper			
H1 Greenwashing positively influences Skepticism GW → SK	0.14	0.02	0.28	0.012	Supported	
H2 Perception that companies' sustainability claims are self-serving positively influences Skepticism SS → SK	0.46	0.36	0.56	< .001	Supported	
H4 Attitude towards sustainable fashion moderates the relationship between Skepticism and Purchase Intention ATT → SKATT → PI	ATT → PI	1.11	0.73	1.46	< .001	Supported
	SKATT → PI	-0.14	-0.24	-0.03	< .001	Supported
H5 Skepticism has a negative effect on purchase intention SK → PI	0.69	0.11	1.26	< .001	Unsupported	

Figure 2.

Path Diagram





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Conclusion and Practical Applications

Consistent with the study of Farooq and Wicaksono (2021), this research found that previous incidents of greenwashing positively influence Consumer Skepticism among post-millennial college students. Unlike Farooq and Wicaksono findings, however, this study also showed that perceptions that companies' sustainability claims are self-serving, could also cast doubt about that company and increase Consumer Skepticism as well. As such, SF companies must mindfully craft and communicate their sustainability efforts and messages if they want to avoid consumer skepticism. Sustainability claims must be transparent and clear so that they will not be perceived as greenwashing or self-serving.

Post-millennial students' attitude towards sustainable fashion can positively influence purchase intention. Thus, SF companies can capitalize on post-millennial consumers' positive attitude towards buying second hand and sustainable versions of clothes and how they can contribute to environmental protection through these choices. Attitude can also moderate the relationship between Consumer Skepticism and Purchase Intention, which means a positive attitude towards SF can potentially allay doubts about the claims of SF companies.

Finally, Consumer Skepticism does not necessarily deter Purchase Intention. This study showed that Consumer Skepticism can even positively predict Purchase Intention. This is consistent with the findings of Leonidou and Skarmeas (2017) that consumer skepticism may prompt consumers to seek more information about sustainability claims rather than discourage purchase intention. This reinforces the recommendation to clearly present and communicate SF companies' sustainability claims.

Delimitations and Recommendations for Future Research

This study was delimited to studying only post-millennial college students taking a course in CSR in the interest of having a homogenous sample. The researcher recommends that a similar study be conducted on a bigger and more heterogeneous sample to allow for comparisons in perceptions, attitudes and purchase intention toward SF among various groups (generations, nationalities, etc.). The researcher also recommends that other antecedents to consumer skepticism be examined. Lastly, this study was delimited only to understanding the relationship of consumer skepticism with purchase intention. It would also be worthwhile to examine how consumer skepticism affects actual purchase behavior.

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Investment Practices of Teaching and Non-Teaching Personnel of Selected Schools in Rodriguez, Rizal

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Abstract

Purpose - The study was intended to determine the investment practices of selected Schools in Rodriguez, Rizal. The study was conducted to assess the effectiveness of the investment practices of teaching and non-teaching personnel of selected school in Rodriguez, Rizal.

Design/methodology/approach - The main objectives of the approach are to describe the situation as it is at the time of the research and to look into the reasons of the specific phenomenon. Data was gathered using the descriptive research method to test hypotheses or to respond to inquiries about the current condition of the study's subject.

A descriptive approach was employed in the study and used a survey questionnaire as research instrument. The respondents were personnel with experience in investment. Frequency Distribution, Percentage, Weighted Mean and the Kruskal-Wallis test were employed if the one-way ANOVA's presumptions were not fulfilled, in which case a nonparametric (distribution-free) test was applied.

Findings - The researcher, while employed with the Department of Education where the respondents are employed felt the need to conduct this research about strengthening the knowledge of the respondents when it comes to investing. The population of this study consisted of 281 teaching and non-teaching personnel of selected schools in Rodriguez, Rizal.

With a researcher-made instrument serving as the primary data collection tool, this study used the descriptive technique of investigation. Staff members from chosen schools in Rodriguez, Rizal, both teaching and non-teaching, were given the questionnaire. The following metrics were used: frequency distribution, percentage, weighted arithmetic mean, and analysis of variance (ANOVA).

The majority of the participants are female, and their ages range from 31 to 40 years old. Most of them are in a married civil status. Since the respondents' focus on teaching and non-teaching personnel of selected schools in Rodriguez, Rizal which considered as one of the busiest works during this time of pandemic.

Research limitations/implications - The study aimed to evaluate the level of effectiveness of investment practices of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal.



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The research focused on measuring the level of effectiveness of investment practices and examine its effectiveness with the different teaching and non-teaching personnel's knowledge in investment as well as their financial literacy within the selected implementing units in Rodriguez, Rizal, Philippines only.

The limitations on having practices in investment practices such as strategies and potentials need to be stressed to avoid exaggerated expectations due to a misunderstanding of its effective scope. The researcher recommends other researchers to conduct much broader investigations on having an investment in stock market.

Originality/value - This research can be another contribution to the academe as it will become a reference for future study and research about the effectiveness of investment practices of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal. It will help different business organizations to understand the behavior of the potential investor. This will somehow help each organization to realize, revisit and revamp their assets and realign the same into a more holistic and integrated control in cultivating a high level of awareness. The findings of this study will inspire them to undertake further studies about the level of effectiveness of investment practices of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal.

Key Words: Investment Practices, Investment Strategies, Investment Potentials, Teaching and Non-Teaching Personnel of Schools, Investment Management, Investment Portfolio.

Relevant SDGs: SDG 1 No Poverty, SDG 3 Good Health and Well-Being, SDG 4 Quality Education

Introduction

Investments are, at their core, assets created with the goal of allowing investors' funds to grow and maximize. The return on investment can be utilized for a variety of purposes, including making up for lost income, saving for retirement and the future of the family, or meeting particular obligations like debt repayment or loan payments, kid's education, or the purchase of other assets.

There are two ways that investing can provide revenue. The first is that one may generate money through profit if he invests in a profitable item. The second is that if he invests in a return-generating strategy, he will generate income through the accumulation of profits. Therefore, investing simply

refers to placing his funds into assets that increase in value over time or that will eventually contribute to the generation of an income.

Many people wonder why investing should be given such a high priority when they already know it would be sufficient to save more of their income. Putting a portion of their salary and setting aside money each month may only result in a fund that might not be enough to handle their family's emergency cases. Making investments will meet their future demands and create additional at the same time throughout time. One of the factors to take into account when making an investment is taking a risk.



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Researchers prompt to conduct this study to contribute something to any or all working individual in terms of investing available market similarly because it is a basis for improving awareness of the said industry.

Statement of the Problem

This study aimed to assess the effectiveness of investment practices of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal.

It specifically it sought to respond to the following queries:

- 1 What is the profile of the respondents in terms of the following aspects:
 - 1.1 Sex;
 - 1.2 Age;
 - 1.3 Civil Status;
 - 1.4 Gross Monthly Salary;
 - 1.5 Highest Educational Attainment;
 - 1.6 Investment Engaged In; and
 - 1.7 Investment Amount?
- 2 What is the level of effectiveness of investment practices of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal in terms of the following aspects:
 - 2.1 Invest Early;
 - 2.2 Invest Regularly;
 - 2.3 Invest Long-term; and
 - 2.4 Invest using Diversification?
- 3 What is the level of effectiveness of investment practices of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal in terms of the following aspects:
 - 3.1 Safety of Principal;
 - 3.2 Regularity of Income; and
 - 3.3 Marketability or Liquidity?
- 4 Is there any significant difference on the level of effectiveness of investment practices of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal when they are grouped according to profile?

Scope and Limitations of the Study

The study aimed to evaluate the level of effectiveness of investment practices of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal.

The research focused on measuring the level of effectiveness of investment practices and examine its effectiveness with the different teaching and non-teaching personnel's knowledge in investment as well as their financial literacy within the selected implementing units in Rodriguez, Rizal, Philippines only.

The limitations on having practices in investment practices such as strategies and potentials need to be stressed to avoid exaggerated expectations due to a misunderstanding of its effective scope. The researcher recommends other researchers to conduct much broader investigations on having an investment in stock market.

Significance of the Study

The following benefits may be derived from the study's findings:

The Academe. This research can be another contribution to the academe as it will become a reference for future study and research about the effectiveness of investment practices of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal.

The Business Organization. The study will help different business organizations to understand the behavior of the potential investor. This will somehow help each organization to realize, revisit and revamp their assets and realign the same into a more holistic and integrated control in cultivating a high level of awareness.

The Students. The research will be useful to the students in comprehending the investment, and



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they will utilize it as a source of reference when pursuing formal education.

The Future Researchers. The findings of this study will inspire them to undertake further studies about the level of effectiveness of investment practices of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal.

Literature Review

Relevant literature and studies from both domestic and international sources that offer important concepts relating to the level of effectiveness of investment practices of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal. These materials provide significant information substantial to the present study.

Investment Strategies

According to Kedar Kailaje (April 1, 2020), “concept plays on a way bigger scale when staring at 5, 10, 15 years or maybe more which is precisely why they ought to start investing as early as possible thanks to the longer time horizon. Their first goal in investing should be to earn quite the rate of inflation and beating inflation requires them to speculate in risky securities like Equity. Studies over the past several years have shown that Equities has been the most effective performing asset class. However, daily volatility of costs could worry plenty of beginners if not the experienced ones. However, on a long-term basis, equities have cared-for get on the positive side beating inflation. Having a long-term horizon when investing in risky securities does help considerably and hence investing early are going to be beneficial additionally to the subsequent benefits.”

Invest Early

“Young aged investors (26-35) invest in a very investment trust, while middle-aged investors (36-45) invest in debentures/bonds” (Mittal and Vyas, 2007). “Young investors are more well-off in

investing in equities and derivatives, old investors prefer Public Provident Fund as their first choice and middle-aged investors prefer investing in mutual funds and National Savings Certificate” (Verma, 2008). Jain and Mandot (2012) revealed that “there's a major relationship between the investor's age and level of risk capability”. Das and Jain (2014) described that “the investment objective is related to age, which suggests for various age groups the selection of investment varies supported investment avenues.”

Invest Regularly

According to Lopes (2007), “risk aversion and financial literacy may be important considerations when making investing decisions. The term "risk" refers to situations in which a decision is made whose effects depend on the outcomes of future occurrences with known probability, while different works on risk define it differently.”

Invest Long-Term

Investment strategy is a set of guidelines and principles that direct how an investor chooses their investment portfolio. The choice made by a company to spend its existing capital most effectively in long-term investments in preparation of expected returns over a number of years is known as the investment decision. The issue of the effectiveness of various classes of financial assets within the portfolio management of institutional investors in terms of the risk-return trade-off is highlighted by the Russian Government's decision to maintain mandatory retirement savings and consequently the deficiency of capital interest in long-term infrastructure projects.

Invest using Diversification

According to research by A. Sarangapani and T. Mamatha on the investment preferences of Indian investors (July 2011), “the majority of investors prefer to invest in equity shares over other products. The examination of investors' portfolios also reveals



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that 72% of investors prefer to invest in a variety of securities, with the remaining 28% choosing to buy exclusively equities shares. Non-convertible debentures make up a sizable portion of Hyderabad's convertible debt balance.”

In recent years, educators and students have paid a lot of attention to international diversity. International investing has become so common to investors in the age of globalization. Investors occasionally make foreign investments without being aware of it. Researchers (Imade, 2003) found that a number of factors, including the free flow of capital between nations, improvements in communication and transportation, and trade relations among nations, have accelerated international trade. As a result, these factors have aided investors in looking for alternative investment options and lowering the risk of investment.

Investment Potentials

Safety of Principal

The study by Ramprasath and Karthikeyan (2013), which focused on individual investors' behavior toward investment selection, shows that the majority of investors are providing significant weight for the component "safety" with regard to the focus on investing patterns in India. Similar to this, individual investors have preferred investment options such bank savings, LIC policies, and gold. Similar to this, the majority of investors regularly assess how their various investment vehicles are performing.

Regularity of Income

The motivation for examining individual investor behavior, according to Barber (2011), comes from the fact that the majority of economics research in the contemporary era has been based on the idea that people are logical thinkers who aim to increase wealth while reducing risk. The study's findings indicate that while the general public has a poor degree of understanding of modern financial goods,

respondents are fairly knowledgeable about classic and secure financial products. Additionally, the majority of responders spend their money through tried-and-true, secure methods.

Marketability or Liquidity

In their study on aligning alternative investments for insurance companies, Sehat and Rad (2011) came to the conclusion that choosing the right investment strategies for covering future obligations is one of the challenges facing insurance companies' investments. The writers pointed out that the ability to pay obligations, as well as earnings and investment return are in fact the insurance manager's top concerns.

There have not been many studies on the PSEi's volatility. According to Bautista's 2003 analysis, the Philippine stock market's high return volatility came before a crash cycle. His research also demonstrated how vulnerable the Philippine exchange is to abrupt changes in the political context.

Research Philosophy, Framework, Design, and Methodology Theoretical Framework

Discipline and the appropriate methods are essential to a successful stock investment plan. They can stay on track by grasping and applying these four fundamental rules.

Investment Strategies

Invest Early. Over the past 20 years, a significant corpus of research has emerged from a variety of fields, including economics, psychology, cognitive development, and cognitive science, showing the value of laying a strong foundation in childhood. The results of the research have helped to identify the variety of prenatal programs that can successfully set families and their children on the path to long-term health and wellbeing, especially those who are most at risk.



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Invest Regularly. They can stay away from the risks of trying to timing the market by making consistent investments over time and adding additional money as they can. When they predict the direction, the market will take and then purchase or sell shares to confirm those predictions, they essentially timing the market, which is almost never a good idea.

Invest Long-Term. Due to the difficulty in predicting the outcomes of political situations, long-term investment has gained prominence. Market timing could be a foolish endeavor. Few retirement plans are capable and quick enough to participate in it. In the current climate, investing also involves separating the important investment indication from the market clutter.

Invest using Diversification. The likelihood of certain severe and unusual catastrophes, such a global financial meltdown or a fall in a specific financial sector, increases with the length of the investing term. Such occurrences might, for instance, result in losses and short-term capital losses on the portfolio's assets. This might ultimately result in lower returns by increasing return volatility.

Investment Potentials

Safety of Principal. Ramprasath. S and Dr. B. Karthikeyan, December 2013, "According to how individual investors choose their assets, the majority of investors place a high priority on "safety". Similar to this, individual investors have preferred investment options such bank savings, LIC policies, and gold. Similar to this, the majority of investors regularly assess how their various investment vehicles are performing."

Regularity of Income. After examining the investing patterns of middle-class households, Sanjay (2012) found that these patterns don't appear to be consistent across different financial instruments. According to the report, bank deposits continue to be the most often used form of investment, followed by insurance and small savings plans, with the

majority of respondents choosing a fixed - income securities bearing option.

Marketability or Liquidity. A crucial characteristic of capital assets, and it has a significant impact on pricing. Comparable to the well-known impact of risk on capital assets is the liquidity effect. Investors that are risk averse need larger projected profits to offset more risk.

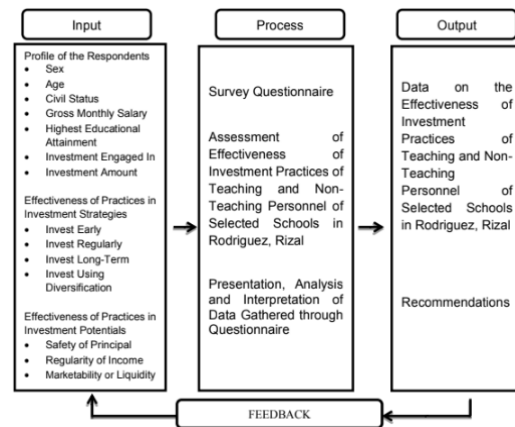
Conceptual Framework

The conceptual framework that will use in this study is the Input-Process-Output Model.

The IPO model, a process is viewed as a series of boxes connected by inputs and outputs.

Figure 1.

Research Paradigm



The input in the diagram refers to the subject of study which includes the demographic profile of the respondents in terms of sex, age, civil status, gross monthly income, highest The input in the diagram refers to the subject of study which includes the demographic profile of the respondents in terms of sex, age, civil status, gross monthly income, highest educational attainment, investment engaged in, Investment Amount as well as the perception of the respondents on the effectiveness of practices in investment strategies and investment potentials.



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The procedure indicates to an assessment of the method used by the researcher to collect data, tabulated, examined, interpreted, and analyzed questionnaire form, and then present the findings using the statistical tools of frequency, percentage, and weighted mean.

The output of the study includes the assessed the effectiveness of practices in investment strategies and investment potentials and the list of recommendations.

The feedback stage establishes the link between the three elements and creates cycle among them.

Methodology

The descriptive approach of study was used by the researcher. This status trend research (Sevilla et al., 2001) deals with the current and prevalent features and circumstances of investment taken by teaching and non-teaching employees in certain schools in Rodriguez, Rizal, it is a descriptive technique of investigation.

The descriptive approach is intended for the investigator to obtain data regarding current actual circumstances, according to Sevilla et al. (2001). The main objectives of the approach are to describe the situation as it is at the time of the research and to look into the reasons of the specific phenomenon. Data was gathered using the descriptive research method to test hypotheses or to respond to inquiries about the current condition of the study's subject

Population, Sample Size and Sampling Technique

The researcher focused on different teaching and non-teaching personnel in selected schools in Rodriguez, Rizal. These are composed of 9 secondary schools known as the implementing units in Rodriguez, Rizal. The population of the study consisted of two hundred eighty-one (281) teaching and non-teaching personnel in selected schools.

The researcher used random sampling to determine the level of effectiveness of investment practices of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal.

To determine the sample size, the researcher used the Slovin's formula: $n = N/(1+Ne^2)$

In which:

n – Sample Size (281)

N – Population Size (1,011)

e – Margin of Error (5%)

Computation:

$$n = 1,011/(1+1,011 \times [0.05]^2)$$

$$n = 1,011/(1+(1,011 \times .0025))$$

$$n = 1,011/(1+2.53)$$

$$n = 1,011/3.53$$

$$n = 281$$

Description of Respondents

From a total population of 1,011 different teaching and non-teaching personnel in selected schools in Rodriguez, Rizal, a total of 281 respondents were asked to participate; they are randomly selected by the researcher. The researcher did not include the names of the respondents to keep them confidential and since identity is not necessary.

Research Instrument

The information acquired through the respondents' completion of structured questionnaires will be used by the researchers. The major data collection tool for the study was a survey questionnaire with two sections. The purpose of Part I is to collect information about the respondents' demographics. The success of procedures used in investment strategies in Rodriguez, Rizal is covered in Part II. Part III discusses the level of effectiveness of practices in investment potentials in Rodriguez, Rizal.

My statistician, Dr. Rogel L. Limpiada, verified the survey questionnaire and gave it a reliability score of 81% after doing a dry run. The majority of the



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questions use a five-point Likert scale. Due to its well-established, widespread use in research, a Likert-type scale question was chosen. Cooper and Schindler (2014) list simplicity and dependability as two benefits of the Likert scale. Interval data are produced by the scale. The leadership behavior measure utilized a 5-point Likert scale, with 1 denoting ineffective conduct and 5 denoting highly effective behavior.

The researcher employed weighted mean in order to be able to respond to the data that were obtained from the respondents' answers based on the survey questionnaire, particularly on the level of effectiveness of investment practices of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal. The respondents' responses on each item on a five-point scale added up to the following main idea:

Weighted Mean Verbal Interpretation Scale

4.51 – 5.00	Very Effective	81% - 100%
3.51 – 4.50	Effective	61% - 80%
2.51 – 3.50	Somewhat Effective	41% - 60%
1.51 – 2.50	Less Effective	21% - 40%
1.00 – 1.50	Not Effective	1% - 20%

Data – Gathering Procedure

The researcher decided on who are the participants based on certain criterion. The selection process was based on the total number of populations of teaching and non-teaching personnel of selected secondary schools in Rodriguez, Rizal. These schools are what known to be the implementing units whose budget is directly transferred to each school. The assigned statistician validated the questionnaires and instructed the researcher to do the dry-run right after the validation process, to test the reliability of the said questionnaire. The gathering of the total

population was done last April 11, 2021 and was immediately forwarded to Dr. Limpiada, the statistician to compute the sample size. Upon knowing the sample size, Dr. Limpiada, instructed the researcher to proceed to my actual survey from April 11 to April 19, 2021. On April 19, 2021, the researcher was able to complete my target respondents and directly forward the summary of responses to Dr. Limpiada for him to tabulate the results. The chosen ones were asked for their consent. The participants were asked to answer survey questionnaires with sincerity and reliability so that the researcher would gather comprehensible data. The data needed for the study were processed by the researcher.

Statistical Treatment of Data

Statistics are increasingly playing a big part in research thanks to advancements in computer technology, much like in this study. Statistics are used to interpret and give meaning to data. To use data in the proper form, statistical technique of the data is necessary. Only one part of any research project is gathering raw data. To enable the drawing of proper conclusions, data organization is equally crucial. Statistical methods let the researcher assess the reliability and validity of the study equipment.

The survey's data sets were totaled, tabulated, and summarized for the purposes of analysis and interpretation, drawing conclusions, and making suggestions using statistical methods. The respondent profiles for Questionnaire Part I were totaled and statistically analyzed using Frequency and Equivalent Percentage. Through the use of the following formula, percentage (%) was used to determine the ratio of response frequencies:

$$f \quad \% = \frac{\text{-----}}{N} \times 100$$

Where:
f = is the frequency of response
N = is the number of respondents

The weighted arithmetic mean is used in Part II to statistically treat the raw data collected to



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determine the success of investment strategy techniques; and The degree of practice efficacy and investment possibilities in Rodriguez and Rizal are discussed in Part III. The following equation was used to get the weighted mean:

$$X_w = \frac{\sum fw}{N}$$

Where:
 \sum = is the summation
 f = is the frequency in each weight
 w = is the assigned weight
 N = is the number of respondents

The level of efficacy of practices in investment strategies and investment potentials in Rodriguez, Rizal, as determined by the respondents, was tested using the analysis of variance (ANOVA). The following criteria were used to determine the scale of statistical values:

Weighted Mean	Verbal Interpretation
4.51 – 5.00	Very Effective
3.51 – 4.50	Effective
2.51 – 3.50	Somewhat Effective
1.51 – 2.50	Less Effective
1.00 – 1.50	Not Effective

The Kruskal-Wallis test was employed if the one-way ANOVA's presumptions are not fulfilled, in which case a nonparametric (distribution-free) test was applied. Using a categorical independent variable and a continuous dependent variable, the Kruskal-Wallis test and one-way ANOVA both look for significant differences (with two or more groups).

Grouping Variables	Mean	Kruskal-Wallis Sig.	Decision
Sex			
Female	4.2	0.003	Reject the null hypothesis
Male	4.38		
Age			
21-30	4.29	0.178	Retain the null hypothesis
31-40	4.2		
41-50	4.36		
51 and above	4.31		
Civil Status			
Married	4.31	0.013	Reject the null hypothesis
Separated	4.57		
Single	4.18		
Widowed	4.36		
Monthly Salary			
20,000 and below	3.97	0	Reject the null hypothesis
20,001-30,000	4.21		
30,001-40,000	4.41		
40,001-50,000	4.49		
50,001 and above	4.6		
Highest Educational Attainment			
College	4.3	0.736	Retain the null hypothesis
Master's Degree	4.4		
Doctor's Degree	4.2		
Investment Engage In			
Banks and Financials	4.3	0.058	Retain the null hypothesis
Commercial and Industries	4.07		
Conglomerates	4.34		
Consumer	4.18		
Mining and Power	4.59		
Property and Telecoms	4.39		
Investment Amount			
50,001-100,000	4.13	0	Reject the null hypothesis
100,001-150,000	4.54		
150,001-200,000	4.64		
200,001 and above	4.24		

The P-values for the Kruskal Wallis test, which was used to examine whether there is a significant difference in the respondents' investment plans when they are grouped by profile, are shown in table 17.

The P-value for sex groups is 0.003, which is lower than the alpha value of 0.05. This shows that the null hypothesis should be rejected. When



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respondents are categorized by sex, there is a sizable disparity in their investment approaches.

The P-value, which is more than the alpha value of 0.05 when age is used as a grouping variable, is 0.178. This suggests that the null hypothesis should be accepted. When respondents are categorized by age, there are no significant differences in their investment approaches.

A P-value of 0.013 was obtained after the respondents were divided into groups based on civil status. This shows that the null hypothesis should be rejected because it is less than the alpha value of 0.05. When the respondents are divided into groups based on their civil status, there is a noticeable variation in their investment approaches.

The P-value calculated when grouped according to average monthly income is 0.000, which is less than alpha value of 0.05. This shows that the null hypothesis should be rejected. When the respondents are divided into groups based on the average monthly income, there is a noticeable difference in their investment methods.

When respondents were categorized according to highest educational attainment, the P-value of 0.736 was achieved. This value above the alpha value of 0.05 allowed for the null hypothesis to be accepted. When respondents are categorized by profile, there are no significant differences in their investment approaches.

The P-value is 0.058 when the participants are classified according to the type of investment they engage. This above the threshold of 0.05, hence the null hypothesis is accepted. When respondents are categorized by profile, there are no significant differences in their investment approaches.

Finally, the P-value is 0.000 when the respondents are divided into groups based on Investment Amount. This is less than 0.05 in size. The naive theory is disproved. When the respondents are

categorized by profile, there is a considerable disparity in their investment approaches.

Kruskal-Wallis test results to determine if there is a significant difference on the effectiveness of Investment Strategies when the respondents are grouped according to Profile.

Discussion, Conclusions, Recommendations

The summary of findings, conclusions, and recommendations of the researcher based on the analysis and interpretation of the gathered data.

Summary of Findings

This study assessed the effectiveness of investment practices of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal. Specifically, it sought to identify the profile of the respondents according to sex, age, civil status, gross monthly salary, highest educational attainment, investment engaged in, and Investment Amount; to know the level of effectiveness of practices in investment strategies of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal in terms of invest early, invest regularly, invest long-term, and invest using diversification; to know the level of effectiveness of practices in investment potentials of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal in terms of safety of principal, regularity of income, and marketability or liquidity; and to determine the significant relationship on the assessment of the respondents on the level of effectiveness of practices in investment strategies and investment potentials when grouped according to profile.

The population of this study consisted of 281 teaching and non-teaching personnel of selected schools in Rodriguez, Rizal.

The findings revealed the following based on the collected data:



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Profile of the Respondents According to Sex, Age, Civil Status, Gross Monthly Salary, Highest Educational Attainment, Investment Engaged In, and Investment Amount

In terms of sex of the respondents, 56.90% are female and 43.10% are male. In terms of age, 35.20% are 31 - 40 years old, 32.70% 21 - 30 years old, 22.10% 41 - 50 years old and 10% are 51 years old and above.

In the aspects of civil status, 55.90% are married, 36.70% are single, 4.60% are widowed and 2.80% are separated.

In relation to gross monthly salary, 43.40% are earning Php 20,001.00 – Php 30,000.00, 21.70% are earning Php 30,001.00 – Php 40,000.00, 16.00% are earning Php 20,000.00 and below, 12.10% are earning Php 40,001.00 – Php 50,000.00, and 6.80% are earning Php 50,001.00 and above. In relation to the highest educational attainment, 72.60% earned College degree, 26% earned Master's degree, and 1.4% earned Doctor's degree.

In terms of investment engaged in, 57.70% is in Banks and Financials, 13.50% is in Consumer, 13.20% is in Commercial and Industrials, 10% is in Property and Telecoms, 3.20% is in Mining and Power, and 2.50% is in Conglomerates. In terms of Investment Amount, 39.90% have Php 0.00 - Php 50,000.00 shares, 27.80% have Php 50,001.00 – Php 100,000.00 shares, 16.40% have Php 100,001.00 – Php 150,000.00 shares, 8.50% have Php 150,001.00 – Php 200,000.00, and 7.50% have Php 200,001.00 shares and above.

Effectiveness of Practices in Investment Strategies as assessed by the respondents based on the Investment Strategies ("Invest Early, Invest Regularly, Invest Long-Term, and Invest using Diversification")

The statement "Invest early to take advantage of compounding over a greater period of time" received the highest weighted mean of 4.43 and is rated as

"Effective" by the respondents, while the statement "An investor's age influences the amount of risk he or she can withstand" received the lowest weighted mean of 4.23 and is rated as "Effective" by the respondents in terms of "Invest Early."

In terms of "Invest Regularly", the statements "Getting in to the habit of making regular payments to yourself helps you budget your day-to-day life around your investing" and "The most reliable way of making your money grow is to stay diversified and keep investing steadily" received the highest weighted mean of 4.28 which is rated as "Effective" by the respondents, while the statement "Investing success is more about steadiness and commitment than fancy maneuvers" obtained the lowest weighted mean of 4.23 which is rated as "Effective" by the respondents.

In terms of "Long-Term", the statement "Long term investing solves the problem of short-term volatility (choppiness in price)" obtained the highest weighted mean of 4.27 which is rated as "Effective" by the respondents, while the statement "Long-term investing might also save you other expenses, such as transaction costs from active trading. Certain mutual funds may defer sales charges if you hold your shares for a long period" obtained the lowest weighted mean of 4.21 which is rated as "Effective" by the respondents.

In terms of "Invest using Diversification", the statement "The management of risk should always come hand-in-hand with your choice of investment" obtained the highest weighted mean of 4.32 which is rated as "Effective" by the respondents, while the statement "One way of containing risk is through diversifying or by spreading investments around and away from one single asset class" received the lowest weighted mean, 4.26, among the respondents, who evaluated it as "Effective."



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Effectiveness of Practices in Investment Potentials as assessed by the respondents based on the Investment Potentials (Safety of Principal, Regularity of Income, and Marketability or Liquidity)

In terms of Safety of Principal, the statement “Focus on the company with strong growth” obtained the highest weighted mean of 4.43 which is rated as “Effective” by the respondents, while the statement “Investing in blue chip company” obtained the lowest weighted mean of 4.02 which is rated as “Effective” by the respondents.

In terms of Regularity of Income, the statement “Regularity of income at a consistent rate is necessary in any investment pattern” got the highest weighted mean of 4.34 which is rated as “Effective” by the respondents, while the statement “When evaluating possible mutual funds as investments, take a close look at the ratio of stocks to bonds” got the lowest weighted mean of 4.22 which is rated as “Effective” by the respondents.

In terms of Marketability or Liquidity, the statement “Stocks are easily marketable only when they provide adequate return through dividends and capital appreciation” obtained the highest weighted mean of 4.33 which is rated as “Effective” by the respondents, while the statements “The investor invests in high grade and readily saleable investments in order to ensure their liquidity and collateral value” and “A negotiable security is said to have good marketability if there is an active secondary market in which it can easily be resold” received the lowest weighted mean of 4.20 which is rated as “Effective” by the respondents.

Significant Difference in the Respondents’ Assessments on the Level of Effectiveness of Practices in Investment Strategies when grouped according to profile

When respondents are grouped by age, highest educational level, and type of investment they engage in, there are no significant differences in

their assessments of the effectiveness of practices in investment strategies. However, when the respondents are divided into groups based on their sex, civil status, gross monthly wage, and investment amount, there is a significant difference.

Significant Difference in the Respondents’ Assessments on the Level of Effectiveness of Practices in Investment Potentials when grouped according to profile

When respondents are grouped by age, civil status, and highest educational attainment, there are no significant differences in their assessments of the effectiveness of practices in investment potentials. When the respondents are divided into groups based on their sex, income, investments made, and investment amount, there is a significant difference.

Conclusions

These conclusions were drawn in light of the findings of the study:

The majority of the participants are female, and their ages range from 31 to 40 years old. Most of them are in a married civil status. Since the respondents’ focus on teaching and non-teaching personnel of selected schools in Rodriguez, Rizal which considered as one of the busiest works during this time of pandemic.

The people are very much concerned with the amount of money they are earning to be able to provide for the needs of the family and at the same time give importance on having investments for future. Most of them are earning Php 20,001.00 – Php 30,000.00 gross monthly salary. Out of the 281 respondents, most of them already earned College degree as their highest educational attainment. This may imply that the focus of these employees is to finished a college degree and be able to land in a permanent job that is suited to the course they have been taken. Doing further studies may come in to their mind but not their priority at the moment.



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The majority of respondents placed their funds in financial institutions and financials when asked about their current investments. The researcher thinks that these people, since they are too busy and not knowledgeable enough, are relying their finances with the banks. Most of the respondents have Php 0.00 – 50,000.00 shares. This is an indication that most of them do not prioritized investments such as buying stocks and maybe some of them cannot maintain this investment on a regular basis due to lack of interest, urgencies, and unforeseen events.

Generally, all factors enumerated under Investment Strategies (“Invest Early, Invest Regularly, Invest Long-Term, and Invest using Diversification”) and Investment Potentials (Safety of Principal, Regularity of Income, and Marketability or Liquidity), were rated as effective by the respondents. These are the factors affecting the level of effectiveness of practices in investment strategies and investment potentials of teaching and non-teaching personnel of selected schools in Rodriguez, Rizal. According to the respondents' opinions, investing regularly as one of the investment strategy indicators had the highest weighted mean. This is because making regular contributions to themselves can help them plan their daily expenses around their investing. Regularity of Income as one of the indicators in Investment Potentials, got the highest weighted mean based on the respondents' assessment regarding necessity of income at a consistent rate. On the other hand, the consistency of the weighted mean as a result of the statistical treatment made are proof that the assessments of the respondents are relevant to the practices and awareness of the teaching and non-teaching personnel of selected schools in Rodriguez, Rizal.

In terms of age, highest level of education attained, and kind of investments they are engaged in, the researcher comes to the conclusion that there is no significant difference in the investing strategies. This is because the respondents' age and educational attainment are not considered as hindrance in investing, as long as they are capable of doing so.

The researcher also thinks that it doesn't matter on what sector they are going to invest, as long as they are sure on who to trust and how to manage their investment.

There is a significant relationship on investment strategies in terms of sex, civil status, gross monthly salary, and Investment Amount. The researcher concludes that females are more engage in entering into investment and most of them are those who are in a married status with enough salary to invest and that the researcher thinks it is more matured to think of the future of their family.

The researcher concludes that there is no significant difference on the investment potentials in terms of age, civil status, and highest educational attainment. This is because these profiles don't matter at all as long as they have the drive and will to invest. It doesn't matter whether they are starting it an early age, in a married status or what level of education of one investor is.

There is a significant relationship on investment potentials in terms of sex, gross monthly salary, investment engaged in, and Investment Amount. According to the researcher, males like hazardous investments while women prefer risk-free ones. Small adjustments to family consumption and income might result in far more significant adjustments to investment. They can control how they are managing their financial security by investing. It enables them to increase their wealth while also creating a backup income source in case they need one before retiring.

When they take investing seriously, the income they receive from their investments can guarantee their future financial security.

Recommendations

Based on the conclusions, the researcher recommends the following:



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Before entering into investment, the investors should know the level of risk they can withstand and known the risk that they may encounter by attending free seminars/webinars provided by COL Financial and other investing company wherein investment is properly discussed and explained.

The investors must open their mind in understanding the stability and the commitment that investing have for them, to avoid confusion on whether they will invest regularly, add up to their investment or they will withdraw their existing investment and divert it to more established company. Attending seminar/webinar, financial literacy and talking to an expert such as financial advisors are also needed.

Investors need to be mindful that long-term investments may allow them to reduce other costs, including the transaction fees associated with active trading. If they retain their shares of some mutual funds for a longer period, sales costs may be postponed. Attending a brief course on stock trading and investing may also be applicable.

Investment diversification, or distributing their money among several asset classes, is strongly advised. Talking to a licensed broker may help all the personnel understand on why and how this strategy is important and be able to know the advantages of doing such.

It is advisable to invest in a blue-chip company for the safety of their investment. Most banks offer such kind of investment and invest it to different asset class. This is highly recommended to those who do not have time in managing their own investment.

It is recommended that the investor must attend financial literacy program offered by investment and insurance company such as Pru Life, wherein the topic will cover ways on how to budget funds in order to save a portion of it for investment. Stability of income is one of the keys to be able to maintain regular investment.

For the investors' accessibility and collateral value to be guaranteed, they must make investments that are of a high caliber and are easily tradable. It is recommended to seek the help of a broker if the investor have high value of stocks and it can be easily traded in stock market. They can go to Philippine Stocks Exchange (PSE) wherein they can find a good broker.

The other researchers could make their own research similar to this paper using other population to know the effectiveness of practices in investment strategies and investment potentials in other areas. They can also add up some other relevant profile and indicators to expand the scope of this research.

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Correlation of Customer Satisfaction and Loyalty: The Heritage Tourism Site of Dongguan Street in Yangzhou, Jiansu Province, China

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Abstract. The study utilized the descriptive-correlational research design. It evaluated customer satisfaction and loyalty in the context of various small, micro, and medium-sized businesses on DongGuan Street in Yangzhou, Jiansu Province, China. Customer satisfaction was established using the eight factors of the Customer Service Theory of Ahmed (2018), namely: (1) speed, (2) transparency, (3) availability and accessibility, (4) friendliness, (5) simplicity, (6) empowerment, (7) accuracy, and (8) details. Customer loyalty was established using the four stages of customer loyalty of Price (2019), namely: (1) cognitive loyalty, (2) affective loyalty, (3) cognitive loyalty, and (4) action loyalty. Thereafter, the two variables were analyzed further to determine their association. Based on the study's findings, conclusions were drawn, and recommendations were forwarded to strengthen the marketing strategies of the small, micro, and medium size business enterprises on DongGuan Street.

Keywords: *customer satisfaction, loyalty, Heritage Tourism Site, Dongguan Street, China*

Introduction

Cultural heritage is "the legacy of tangible objects and intangible societal characteristics passed down from earlier generations" (Wilkinson & Remey, 2017). Due to the country's long and rich history and extensive landmass, the heritage resources in China have been described as diverse, culturally anchored, and developed via the fusion of culture and nature (Fang, 2004; as cited by Su & Wall, 2011). Recognizing the conflict between cultural preservation and economic development, China must face this challenge leaning towards the latter, but ensuring a balance with the former (Xiao, Kee-Cheok, Qianyi, & Yurui, 2020).

The Chinese government acknowledges that sustainable development is dependent on a balance of its impact on society (people), the environment (planet), and economic value (profit). These three dimensions are interlinked in a way that government administrations should jointly consider

the public and private policies to be developed and formulated for such without compromising sustainability and prosperity (Kambewa, 2007).

One of the positive outcomes of heritage tourism is the influx of people, both domestic and foreign tourists, who want to visit and see the fragile and cultural resources, not only by the former, but especially by the latter, because these sites are essentially within their reach (Su & Wall, 2011). And, if we expect tourism to grow, we must completely satisfy customers (tourists) with the end goal of achieving customer (tourist) loyalty, it is a fervent desire to repeatedly purchase or use a favored good or service in the future.; in this case, for the customer (tourists) to visit the heritage site again (Khan, 2013). As a result, customer (tourist) satisfaction is viewed as one of the key factors in achieving customer loyalty, which contributes to the success of heritage sites in China such as DongGuan Street in Yangzhou, Jiangsu Province.



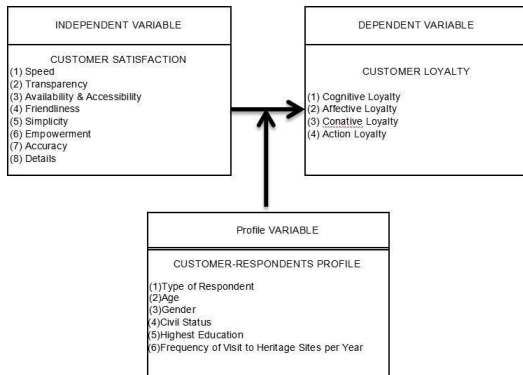
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The purpose of this study was to determine the relationship between customer loyalty and satisfaction in relation to a heritage tourism destination on DongGuan Street in Yangzhou, Jiangsu Province, China.



This study utilized the paradigm illustrated above. The box on the left is for the variable Customer Satisfaction, which was measured in terms of the Customer Service Theory of Ahmed (2018) while the box on the right is for the variable Customer Loyalty, which was weighed in terms of the four stages of customer loyalty as espoused by Price (2019). For the first variable, the customer-respondents assessed their level of customer satisfaction from the various small, micro, and medium business enterprises operating in DongGuan Street in Yangzhou, Jiansu Province in China, utilizing the eight factors suggested by Ahmed (2018). These were: (1) Speed, (2) Transparency, (3) Availability and Accessibility, (4) Friendliness, (5) Simplicity, (6) Empowerment, (7) Accuracy, and (8) Details. The latter variable, Customer Loyalty, on the other hand, was assessed by the customer-respondents using the four stages of customer loyalty (Price, 2019), which are: (1) Cognitive Loyalty, (2) Affective Loyalty, (3) Conative Loyalty, and (4) Action Loyalty. The third and final box at the bottom of the two boxes signifies the respondents' profile, which was created using the variables listed below: (1) Type of Respondent, (2) Age, (3) Gender, (4) Civil Status, (5) Highest Educational Attainment, (6) Frequency of Visit to the Heritage Sites (e.g., DongGuan Street).

This study is deemed significant to the following: to store and shop owners and/or entrepreneurs as the results may provide them guidelines to better deliver customer service that leads to customer satisfaction; to customers, given the improvement in the delivery of customer service, both local and foreign visitors may be enticed to return; to the government and local chief executives – findings of the study may assist them in updating marketing plans for the heritages sites in their respective jurisdiction; and to the academe and research community as this study adds to the knowledge already in existence about client loyalty and satisfaction.

Literature Review

All commercial endeavors focused on meeting customer requirements and desires through the exchange process, and these are included in marketing. The "right" principle is used by marketing managers to bring the right products or services to the right customers at the right time, place, and price while utilizing the appropriate promotional strategies. Today, a lot of organizations fervently follow this marketing principle. Marketing as a process would entail determining the wants and desires of consumers before providing goods, services, or both that satisfy those demands while turning a profit. Long-term client ties are developed through relationship marketing, which can lead to recurring business, lower expenses, and more solid relationships.

Marketers use the "right" principle to encourage these exchanges. For instance, a potential client will not pay money for a new lipstick from Avon if a local Avon representative is unable to locate the ideal lipstick for the consumer at the ideal price and when the customer wants it. Think about your most recent transaction (purchase): What if the cost had been 30% higher? What if getting to the store or other source was more challenging? Would you have made a purchase? According to the "right" concept, marketers have a lot of influence over the variables that affect the success of their campaigns.



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Many top firms have embraced the marketing approach, which is founded on the "right" notion. To design marketing strategies that not only meet the needs of the customers but also help the organization reach its objectives, it uses marketing data to focus more attention on the needs and wishes of the customers. When a business employs marketing, it determines the needs of the customer before producing the goods, services, or both to satisfy those demands (using the "right" principle). The marketing strategy is geared around winning over customers with the fundamental tenet of offering value.

For the business to set its product(s) apart from those of competitors, the marketing idea specifically calls for (a) focusing on the wants and wishes of customers. Merchandise can be commodities, services, or ideas; (b) integrating all the organization's activities, including as production and promotion, to meet these wants and needs; and (c) accomplishing long-term organizational goals by ethically and legally meeting the needs and wants of the consumer.

Today, marketing is a concept used by businesses of all sizes and in all sectors. For instance, Enterprise Rent-A-Car found that its clients preferred not to drive to the company's locations. As a result, Enterprise began sending cars to customers' homes or places of business. It was observed by Disney that some of its visitors detested standing in line. In response, Disney started charging more for "Fast-Pass," which allows visitors to skip waiting in line for attractions. Understanding that applying the marketing concept entails developing a product after performing market research to determine the needs and preferences of the target market is essential to understanding it. Production departments don't merely create products for the sake of producing them; the marketing department is also expected to figure out how to promote them. When developing the best product, service, or both, and other marketing techniques to support it, a firm that properly grasps the marketing concept leverages data on potential customers from the product's

inception.

The ratio of benefits received by the customer (or organization) to the expense incurred in achieving those benefits is known as customer value. The value of the advantages and the costs can only be determined by the consumer. However, other factors such as product reviews, recommendations from family and immediate relatives, and the perspectives of colleagues and friends who purchased the same product, among others, can sometimes influence the customer. Many successful businesses base their core business strategy on creating customer value.

The idea that pricing isn't always the most crucial aspect is the foundation of customer value. A company that prioritizes cost of production and price to the client is treated as a commodity with only price distinction. Some companies think that giving customers value is crucial and that many customers will pay more for excellent customer service or settle for less offerings for a lower price. In the Philippines, a classic example of this is the application and processing for a passport. Applicants are willing to pay a premium to receive their passports sooner than the standard processing time.

Because clients who just value money will purchase from a rival as soon as they can provide a cheaper price, it is crucial not to establish value on price (rather than on service or quality). Relationship- and service-based marketing tactics are much more successful and challenging for rivals to imitate. A seat assignment service, meals, or in-flight entertainment are not offered by Southwest Airlines. Instead, the low-cost carrier delivers on its promise of timely departures. In "service value" surveys, Southwest routinely outperforms full-service airlines like American Airlines, which offer luxuries like movies and food on selected long-haul flights.

Experiential marketing, as defined by Wood (2009) and Gilmore and Pine (2002), is a communication tool that allows a consumer to have a personal,



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emotional, one-of-a-kind, and noteworthy experience with a brand by immersing the consumer in an environment (physical or virtual) created by brand marketers.

Schmitt (1999) defined experiential marketing from the customers' perspective as "customers developing acknowledgement and purchasing goods and/or services from a business or a brand after they get experiences from having attended activities and perceiving stimulations." Creating an emotional perception within the consumer self is measured using five main indicators: sense, feel, think, act, and relate, according to Schmitt (1999).

Customer Satisfaction may be viewed from the perspective of the Customer Service Theory (Ahmed, 2018). There are eight factors the customer needs to assess to establish their level of satisfaction. These factors include the following: (1) Speed, (2) Transparency, (3) Availability and Accessibility, (4) Friendliness, (5) Simplicity, (6) Empowerment, (7) Accuracy, and (8) Details.

When these factors are combined, they aim to achieve good customer service resulting in customer satisfaction. The meaning of each factor are as follows:

- **Speed**. Because customers want everything fast, this principle refers to the response time from employees (in the stores, restaurants, hotels, and other establishments in the DongGuan Street) or the time it takes to serve and/or resolve a customer issue.
- **Transparency**. This principle refers to the clear explanations given to customers, especially when something goes wrong, considering that customers want to be kept informed.
- **Availability and accessibility**. This principle refers to the store ensuring that customers can readily communicate with the store and its employees, in either one or a combination of the several contact

channels such as phone, email, web chat and social media.

- **Friendliness**. This principle is one of the vital parts of good customer service, i.e., always being polite, fair, and nice to customers, but quite challenging in terms of inculcating in the employee's mindset; thus, training employees is a must.
- **Simplicity**. This principle refers to the ability of the store to make things simple for the customers through having simple processes and clearly communicating for customers to properly understand.
- **Empowerment**. This principle refers to the customers having that feeling of being able to have a say in the service and/or giving them self-service options and the ability to provide feedback.
- **Accuracy**. This principle refers to ensuring employees of the store are doing things right for the customers, i.e., providing accurate service to customers. This in a way would require providing training, tools, and processes needed to deliver correct service.
- **Details**. This principle refers to paying attention to the small stuff that customers are regularly observing and expecting from store employees, i.e., being careful and detail oriented.

Loyalty is a phenomenon that has piqued the attention of marketers (Reddy, N., Ramana, R.V.; Reddy, T.N., and Abdul Azeem B., 2011); Although there has been an increase in interest in customer loyalty recently (Kuusik, 2007), most marketers were thinking about it in the 1980s, and a few businesses invested a lot of money on customer relationship management initiatives with the goal of encouraging patron loyalty (Pitta, Franzak, & Fowler, 2006).

During the last two decades, the importance of loyalty and customer loyalty has increased because of the increasing competition. Companies have concluded that "loyalty" has a similar meaning in both cases. Because of this, companies created smart



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marketing and advertising campaigns aimed at forging bonds with their clients (Liang 2008). The inclination to repurchase goods and services indicates customer loyalty, which is the objective of any firm (Pi, & Huang 2011).

In a corporate setting, a client's loyalty to a particular company affects how long they continue to use the products and services provided by that company, which leads to client referrals to friends and colleagues (Bose & Rao, 2011). In a similar vein, Musriha defines client loyalty as a client's readiness to repurchase or continue using a good or service (2012). Additionally, it is believed that one of the most critical elements in determining a company's success is its ability to retain customers, and retaining customers requires that customers feel that the organization provides excellent customer service (Krumay & Brandtweiner, 2010).

A borderless economy has been made possible by information technology breakthroughs, market saturation, and globalized competition. This has raised consumer knowledge and produced a situation in which long-term success is no longer dependent on product price and quality. Long-term client relationships are the foundation of successful businesses (Kuusik, 2007).

The importance of a customer's loyalty to a business is usually overlooked by consumers (Pitta et al, 2006). Customer or brand loyalty, however, is crucial for most organizations; in terms of behavior, it simply refers to having customers who keep buying from you. Many corporate initiatives are purely aimed at boosting the proportion of repeat business from current clients. Predictive models created by marketing strategists show the huge effects on profitability of increasing the likelihood that existing consumers would make additional purchases.

Loyalty, in the opinion of Li and Green (n.d.) and Chen and Ching (2007), is a long-term commitment to repurchase or re-patronize a chosen good or service in the future, despite external influences and

marketing initiatives that can prompt switching behavior. Loyalty is more strongly influenced by a customer's preferences and level of devotion toward a product (brand) or service. To that aim, loyalty is defined by quality, which is a crucial factor.

Service quality, perceived value, and customer pleasure are frequently linked to loyalty. Thus, according to Li and Green, loyalty strategies are developed by utilizing the ideal marketing mix, product, price, place, promotions, and outstanding deal proposition in order to support the target customer groups and to have the proper positioning in their minds relative to rivals (n.d.).

Due to the popularity of customer loyalty among firms, it has been extensively studied in the field of marketing (Leong, Michael, Abu Bakar, Ibrahim, Veerappan, & Rajamanickam, 2012). In recent years, there has been an increase in interest in the topic (Kuusik 2007). (2011) Bose & Rao A favorable claim about a company's worth is loyalty, which over time leads to increased purchases. "A favorable perception that has grown over time in the significance that a business and its products or services give, leading to continuous interactions and purchases," says the definition of loyalty (Oracle Corporation, 2005). However, there are divergent viewpoints in business regarding the specific elements of loyalty (Thompson, 2007).

Uncles, Dowling, Grahame, and Hammond (2002) claim that consumers can be loyal to businesses, products, services, retailers, and activities (e.g., shopping). Customer loyalty, as opposed to brand loyalty, highlights the fact that loyalty is a quality shared by people as opposed to a property of brands. Unfortunately, there isn't a definition that is acknowledged by everyone. Three widely accepted conceptualizations have been put forth in order to achieve this goal: (a) loyalty is primarily an attitude that sporadically results in a relationship with the brand; (b) loyalty is primarily expressed through the use of disclosed behavior (i.e., the pattern of past purchases); and (c) it is buying that is moderated by the individual's traits, circumstances, and purchase



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situation.

The development of client loyalty has thus become a primary focus of marketing strategies since Bagdonien and Jaktait's explanation of the importance and value of customer loyalty in 2007. Researchers have proven the benefits of customer loyalty to a provider, including reduced price sensitivity, cheaper costs for acquiring new customers, and greater organization profitability. They have also found that loyal customers are more likely to recommend a business or product to others. Making repeated purchases is simply one aspect of loyalty. Someone who keeps making purchases could not be driven by loyalty but rather by inertia, indifference, or impediments to departure. Customers' attitudes and behaviors can both demonstrate their loyalty. The latter aids in determining attachment to products, services, or organizations since a specific thought and feeling triggers a particular reaction to things, people, and events.

Since it has been shown to be associated with future usage, better word-of-mouth referrals, and, ultimately, customer profitability, a greater knowledge of the attitudinal component of loyalty is essential. In addition to changing over time, loyalty based on attitude is less consistent than loyalty based on conduct. Both an emotional and a rational base underpins customer loyalty. While rational loyalty is determined by reasoning, accessibility and understanding, and cognition of organization activity processes, emotional loyalty is determined by feelings, expectations, and relationships with organization employees.

Some researchers claim that there are six different types of loyalty, including: (1) monopoly loyalty, (2) inertia loyalty, (3) convenience loyalty, (4) price loyalty, (5) incentivized loyalty, and (6) emotional loyalty. These four types of loyalty are based on behavior and attitude, and they are: true loyalty, spurious loyalty, latent loyalty, and no loyalty. Customers can be made to be loyal when they have no other choice (prisoners), they can be faithful

under different circumstances (separated loyalists), they can be devotedly loyal (bought loyalists), they can be loyal out of satisfaction (satisfied loyalists), and they can be implicitly loyal (apostles).

Customer loyalty is the willingness of a customer to make repeat purchases and sign up for the service provider's membership program. According to Cheng, Chan, Chiu, Hu, and Chang, the four stages of customer loyalty are perceived loyalty, emotional loyalty, intentional loyalty, and action loyalty. Customer loyalty is defined as a consumer's choice to keep using a product or service despite comparing it to those of competitors based on the competitive product's ease of purchase (2011).

Researchers found that rather than being a result, loyalty is a constant process of interaction between the brand and the customer. There are two types of loyalty: (a) inertia-based loyalty, in which a customer repurchases a brand because they used to do so but will change the item if the situation permits, and (b) genuine brand loyalty, when the decision to make a repeat purchase is based on a favorable experience with an attitude toward the favored brand.

Researchers typically distinguish between behavioral loyalty and attitudinal loyalty. The first is loyalty as a mindset that fosters a lasting bond with the brand through time. The latter is a prerequisite for fostering genuine brand loyalty (or a powerfully favorable attitude). Using a number of prior purchases as examples, the behavioral loyalty model is illustrated by examining consumer commitment and motivation to a certain brand. Studies show that most consumers are "polygamous"—loyal to a group of brand names in a particular category—and that only a small percentage of users are "monogamous," or wholly devoted to a single brand, or "promiscuous," or disloyal to any trademark. Behavioral loyalty is described as loyalty that develops over time because of repeated product purchases made after the consumer has likely found the brand's benefits to be satisfactory and realized that all brands in the



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category are more or less comparable. Loyalty models based on behavior and attitudes are "highly interwoven." The third common loyalty profile is when the acquisition is influenced by personal qualities, the surroundings, and the purchasing conditions, and even a good attitude and strong brand devotion are irrelevant when faced with specific co-determined factors.

Four categories were developed by researchers to group the factors that influence loyalty: (a) environmental factors, (b) relationship factors, (c) customer factors, and (d) consumer impression of the company). Additionally, three user loyalty components that are essential for the growth of enduring consumer-brand relationships have been identified by certain academics. There are three different kinds of commitment: brand satisfaction, affective commitment, and calculative commitment.

Ivanauskiene and Auruskevicien (2009), citing some researchers, proposed categorization of customer loyalty types by subdividing loyal ones into four categories, namely: (a) Captive, (b) Convenient seeker, (c) Contented, and (d) Committed, and provided brief descriptions of typical behaviors and attitudes associated with each.

Lin and Wang (2006) state that customer loyalty is bi-dimensional, including both attitudinal commitment and behavioral repurchase intention. In previous studies, customer loyalty was characterized as the customer's positive feeling toward a brand, resulting in repeat purchase behavior. According to Agrawal, Gaur, and Narayanan (2012), the following factors influence customer loyalty: (a) trust, (b) commitment, (c) emotions, (d) perception of corporate image, and (e) value perception.

In 2019, Chinese tourists shelled out \$254.6bn traveling abroad, according to the data of the UN World Tourism Organization. It should be noted that 2019 is the year before the Covid-19 pandemic upended global tourism. Given this situation and the associated health and travel restrictions since then,

Chinese tourism has no choice but to shift interest to local and domestic tourists.

Bai Yu, the founder of the travel company Lishi Jiangtan (Travel on History), quit the tech sector in 2015 to pursue cultural tourism, offering tailored trips to small groups of 10 to 20 people. According to Bai, China has over nine million regular international travelers, and many of them are eagerly pursuing in-depth and themed tourism products with a price tag as alternatives.

In terms of profile, Bai's customers are over 35 years old, well-educated, and wealthy, and they travel as individuals rather than in groups. He estimates that 90% of them are women. These wealthy newcomers demand quality and spend accordingly.

Prior to the pandemic grounded international flights, there has been a surge in interest in China's cultural treasures and heritage sites since 2014, when Chinese President Xi Jinping made "confidence in our culture" a national political doctrine. In 2018, the state's completely separate tourism and cultural agencies merged to create the Ministry of Culture and Tourism.

"You will miss out on a blue ocean if you are reluctant to follow [the president's] guideline, especially when state propaganda is promoting the entire industry," says Yang Jie, who founded Jinxingji (Shanxi Travels) in 2017 after a 15-year management role at McDonald's. Yang's team led cultural tours for over 5,000 people in 2020. A weekend visit to Tang dynasty Buddhist temples in Shanxi's Wutai County, about 250 kilometers southwest of Beijing, is the most popular route. Unlike natural attractions, "cultural attractions must be narrated in order to be fully appreciated," according to Yang, and this is where the agencies come in.

Even as Covid-19 outbreaks and lockdowns prompted the cancellation of some field trips, agencies have remained open by charging for online courses. According to Nie Mengqiao, a partner at Yilü (Art Travels), online offerings account for half



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of her company's workload, which include lectures on Buddhist statues, ancient architecture, and Chinese heritage in Western Museum collections. Specialists from top universities and research institutions record the material, and some of them also lead on-site visits as lecturers. Depending on their qualifications, lecturers receive daily honoraria ranging from Rmb1,000 (\$155) to even more than Rmb20,000 (\$3,100), with the most well-known specialists commanding Rmb100,000 (\$15,500).

“Most of the professionals in cultural institutions graduated from acclaimed universities but work for a humble income. The honorarium that we pay them is a recognition of their academic achievements,” Nie said. “And we offer more job opportunities to those who recently graduated.”

Increased visitor numbers invariably raise concerns about the conservation and protection of ancient sites and the security of their artifacts. According to a 2012 national survey, mainland China has over 766,000 sites of immovable cultural relics but only about 130,000 designated custodians. Due to a lack of personnel, some sites are left unsecured, whereas others are closed to the public. The bottom line in these situations is plainly a loss of opportunity. While the conservation of China's heritage sites is a state responsibility, tourism agency managers concurred that they have a duty to increase social awareness, and some even make small donations to help with maintenance. Bai Yu's company works with the cultural authorities to obtain access to some closed sites in exchange for a fee. “It's the fairest way to obtain such a privilege,” Bai says. “The price you pay for a cultural attraction stands for the visitor's recognition of its value.”

DongGuan Street is a historic alley in Yangzhou, Jiangsu Province. It is hidden by many buildings, but it has two grand gates that stand at opposite ends of the street. East of the Grand Canal and west of the National Road is DongGuan Street.

It is 1,122 meters long and slate paved. It was once not only Yangzhou's water and land transportation route, but also a commercial and cultural center. DongGuan Street connects with the Circle East Gate Streets. Two blocks have been merged to organize, renovate, develop, and become Yangzhou's highlights. There are many old shops as well as many monuments and heritage sites. DongGuan Street is imbued with Ming and Qing Dynasty characteristics (Xue, 2006).

It was named one of the "10 Famous Historical and Cultural Streets" in 2010 by a national program that assessed streets based on their historic significance, cultural significance, preservation, economic vitality, social visibility, and protection and management (People's Daily Online, June 13, 2010).

Customer service is an essential component of any reputable or professional business. It aids customers both before and after they make a purchase. It is an important part of providing a positive customer experience. Most companies' services today go far beyond simply providing phone support. Social media, text messaging, the web, and email are all ways to contact customer service. You may have the finest product available on the market, but if your customer support is subpar, consumers' perception of your brand may be less favorable than you believe. Companies that appreciate excellent customer service invest more time and money in employee training than the average company in their industry. They are also more likely to gather customer feedback early on so that any shortcomings or complaints can be addressed before they become major issues.

Many companies undervalue the cost of gaining a new client. Investing in keeping current clients rather than constantly pursuing new ones is far more cost-effective. Those who buy from you are considerably more likely to buy from you again if you concentrate on their satisfaction. From the perspective of the Heritage Tourism Sites in China, it is best to focus on local tourists and travelers as their volume is large compared to foreign visitors.



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Materials and Methods

The study utilized the descriptive-correlational research design. The study illustrated “what is” currently happening at the time the research was conducted (Salking, 2013). Specifically, it looked at the level of customer satisfaction and loyalty in the context of the heritage tourism site in DongGuan Street in Yangzhou, Jiangsu Province in China. Mainly the study utilized a questionnaire as its data-gathering instrument. Items of the instrument were taken from Customer Service Theory of Ahmed (2018) and customer loyalty as espoused by Price (2019). The level of customer satisfaction was established using the Customer Service Theory of Ahmed (2018). There were eight factors the customer-respondents assessed that established the level of customer satisfaction from the various small, micro, and medium business enterprises in DongGuan Street in Yangzhou, Jiansu Province in China. These were: (1) Speed, (2) Transparency, (3) Availability and Accessibility, (4) Friendliness, (5) Simplicity, (6) Empowerment, (7) Accuracy, and (8) Details. The study also elicited from the respondents their level of customer loyalty using the four stages of customer loyalty as espoused by Price (2019). The four stages of customer loyalty were: (1) Cognitive Loyalty, (2) Affective Loyalty, (3) Conative Loyalty, and (4) Action Loyalty. Thereafter, the two variables were further analyzed to establish whether there is a significant association between customer satisfaction and customer loyalty. The survey questionnaire was piloted to 30 target respondents in DongGuan Street before the actual conduct of the data gathering. The completed survey questionnaires were tabulated and served as input data to the Cronbach Alpha Test (CAT) that established the acceptability and reliability of the research instrument. The CAT yielded a score of 0.878, finding the survey questionnaire acceptable and reliable when compared to the acceptable range score of between 0.70 and 1.00.

The total number of targeted respondents was pegged at 385 using the Cochran sample size formula considering the large population (> 1,000) of

visitors in DongGuan Street in Yangzhou, Jiangsu Province in China, being a heritage site. About 303 of 385 (78.7%) of the respondents were local visitors while 82 of 385 (21.3%) of the respondents were foreign visitors. This ratio of local to foreign visitors was attributable to the prevailing situation relative to COVID-19 pandemic, including health protocols and/or travel restrictions to China during the data gathering period that started from mid-October and completed in mid-December 2021.

The study elicited the opinions of both foreign and local visitors regarding their experiences as customers to the various small, micro, and medium size business enterprises in DongGuan Street. Random sampling technique was employed to tap the target respondents; hence, both foreign and local visitors were randomly chosen at the time of the data gathering between mid-October to mid-December 2021. All the 385 respondents who agreed to and willingly participated in the survey served as primary respondents of the study and answered the researcher-made questionnaire.

Descriptive Statistics

The profile of the respondent considered the type of respondent where 78.7% are local while 21.3% are foreigner. Most of the respondent age group belong to 18 to 35 years old with 48.3% followed by below 18 years old with 26.5%. Half of the respondents are male with 50.1% and 49.9% are female. Also, half of the respondents are single with 49.1% while 50.9% are married. Most of the participants' education attainment are high school level or high school graduate and college level or college graduate with 40.8% and 26.0% respectively. More than half of the respondents visited the heritage only once with 54.8%, 2 to 3 times with 24.9%, and more than 3 times with 20.3%.

Many companies undervalue the cost of attracting a new client. Investing in retaining current clients rather than constantly pursuing new ones is far more cost-effective. Those who buy from you are more likely to buy from you again if you focus on



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customer satisfaction. From the standpoint of China's Heritage Tourism Sites, specifically DongGuan Street, it is optimal to concentrate on local tourists and travelers because their volume is greater than that of foreign visitors and there the site's access is unregulated and very convenient.

This raises the customer's lifetime value, which implies the amount they spend with you over their entire lifetime rises accordingly. When customers return to buy from you again and again, your investment returns from their product sales cost rises. Simply put, happy customers are loyal customers, and loyal customers are more financially beneficial for the company (<https://www.act.com/en-uk/customer-satisfaction>).

Results and Discussion

Using the instrument as a tool in gathering the data, respondents were asked about their assessment of their customer satisfaction on the small, micro, and medium business enterprises in DongGuan Street in terms of customer satisfaction, speed, transparency, availability and accessibility, friendliness, simplicity, empowerment, accuracy, and details. Respondents were also asked to assess their customer loyalty using the four stages of customer loyalty suggested by Price such as cognitive loyalty, affective loyalty, cognitive loyalty, and action loyalty. And lastly, the study identified the marketing strategies that can help entrepreneurs of the small, micro, and medium business enterprises in DongGuan Street to improve customer satisfaction and loyalty.

Respondents' Level of Customer Satisfaction from the Small, Micro, and Medium Business Enterprises

Customer Satisfaction

Table 1.

Respondents' Overall Assessment of Customer Satisfaction

Customer Satisfaction	Mean	S.D.	Verbal Interpretation
Speed	4.01	0.36	Very Satisfied
Transparency	4.02	0.35	Very Satisfied
Availability & Accessibility	3.99	0.38	Very Satisfied
Friendliness	3.98	0.38	Very Satisfied
Simplicity	4.00	0.37	Very Satisfied
Empowerment	3.99	0.37	Very Satisfied
Accuracy	4.00	0.37	Very Satisfied
Details	4.00	0.37	Very Satisfied
Overall Customer Satisfaction	4.00	0.37	Very Satisfied

Table 1 shows the respondents overall assessment of their CUSTOMER SATISFACTION received a mean rating of $\bar{x}=4.00$ with a verbal interpretation of Very Satisfied. All the factors included in the assessment of the CUSTOMER SATISFACTION based on the Customer Service Theory of Ahmed (2018) indicated that customers are Very Satisfied with Factor #2, Transparency, obtaining the highest mean of $\bar{x}=4.02$ while Factor #4, Friendliness, received the lowest mean rating of $\bar{x}=3.98$.

Friendliness is one of the vital parts of good customer service, i.e., always being polite, fair, and nice to customers, but quite challenging in terms of inculcating in the employee's mindset; thus, training employees and its continuing conduct is a must, Ahmed (2018) explained.

Customer satisfaction is a summary of the affective response (or emotional response, like being friendly with customers), which can vary in intensity within a time-specific point of determination and have a limited lifespan when directed toward the key features of product acquisition and/or consumption (Giese & Cote, 2000). The type of emotive response and level of intensity that the client is likely to experience must be stated explicitly depending on the situation of interest. Given the likelihood that



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customers will carefully consider their response to the satisfaction question, time will likely be needed to obtain the true result.

Speed

The table shows that the respondents' overall assessment of the Customer Satisfaction factor - SPEED based on the Customer Service Theory of Ahmed (2018) obtained a mean rating of \bar{x} =4.01 with a verbal interpretation of Very Satisfied.

All the items included in the assessment of the factor SPEED indicated that customers are Very Satisfied with Item#3 obtaining the highest mean of \bar{x} =4.05 while Item#1 received the lowest mean rating of \bar{x} =3.97.

Table 2.

Respondents' Overall Assessment of Speed

SPEED	Mean	S.D.	Verbal Interpretation
The shop/store employees are fast in responding to customer needs.	3.97	0.80	Very Satisfied
When issues arise, shop/store employees resolve them with the customers immediately.	4.01	0.83	Very Satisfied
Quality is inherent in the speedy delivery of service.	4.05	0.81	Very Satisfied
Customers always feel very comfortable receiving speedy service.	4.00	0.84	Very Satisfied
Providing speedy service to customers is important to shops/stores in DongGuan Street to succeed.	4.02	0.82	Very Satisfied
OVERALL SPEED	4.01	0.36	Very Satisfied

This factor basically refers to the time it takes to serve a customer. Such a need and objective of a customer, especially in a Heritage Tourism site, is to visit as many stores as possible. Thus, customers want everything fast so they can move around to all the shops in the area. Creating an emotional perception within the consumer self is measured through five main indicators, which are sense, feel, think, act, and relate, added Schmitt (1999). The aspect of "relate" in this instance may be the contributing factor that led to Item #1 receiving the lowest mean rating. It can be viewed from the context of communication, especially in the case of foreign customers wherein language is a barrier.

Transparency

Table 3.

Respondents' Overall Assessment of Transparency

TRANSPARENCY	Mean	S.D.	Verbal Interpretation
Shop/Store employees can easily explain to customers the products/items the shop/store is selling.	3.95	0.80	Very Satisfied
The concept of "what you see is what you get", especially on prices is true for the shops/stores in DongGuan Street.	3.99	0.81	Very Satisfied
Customer inquiries are clearly responded to by shop/ store employees.	4.00	0.81	Very Satisfied
Shop/Store employees are honest when dealing with customers.	4.11	0.79	Very Satisfied
The transparency of shop/store employees is key to building customers' trust.	4.05	0.83	Very Satisfied
OVERALL TRANSPARENCY	4.02	0.35	Very Satisfied

Table 3 displays that the respondents' overall assessment of the Customer Satisfaction factor TRANSPARENCY based on the Customer Service Theory of Ahmed (2018) attained a mean rating of \bar{x} =4.02 with a verbal interpretation of Very Satisfied. All the items included in the assessment of the factor TRANSPARENCY indicated that customers are Very Satisfied with Item #4 obtaining the highest mean of \bar{x} =4.11 while Item #1 received the lowest mean rating of \bar{x} =3.95.

Given the number of visitors entering a shop/store, explaining and/or presenting all the products/items of the store to all customers is basically not feasible, especially when it involves foreign visitors. Also, in most instances, customers would like to be left alone and to be able to freely look and scrutinize the products of the store. And once they call the sales staff for assistance, it often entails asking for the price of the product.

Organizations should not assume they know what their customer wants. Rather, it is important to understand the voice of the customer through the use of Organizations should not make the assumption that they know what their customers want. Rather, it is critical to understand the customer's voice using tools such as customer surveys and polling, or simply by asking them, so that detailed insights into what customers want can be obtained and the store's products and/or services can be tailored to satisfy or even exceed customer expectations(<https://asq.org/quality->



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resources/customer-satisfaction).

Availability and Accessibility

Table 4.

Respondents' Overall Assessment of Availability and Accessibility

AVAILABILITY and ACCESSIBILITY	Mean	S.D.	Verbal Interpretation
Customers are free to get business cards with contact details from shops/stores to reach them easily.	3.98	0.84	Very Satisfied
The shops/stores can be reached thru email.	4.01	0.79	Very Satisfied
The shops/stores have a website so customers can communicate prior to their visit to the shop/store.	4.00	0.81	Very Satisfied
The shop/store can be contacted even after shop/store hours.	3.89	0.83	Very Satisfied
Shop/Store employees readily make themselves available when customers call them.	4.05	0.82	Very Satisfied
OVERALL AVAILABILITY and ACCESSIBILITY	3.99	0.38	Very Satisfied

Table 4 above shows that the respondents' overall assessment of the Customer Satisfaction factor AVAILABILITY and ACCESSIBILITY based on the Customer Service Theory of Ahmed (2018) received a mean rating of $\bar{x}=3.99$ with a verbal interpretation of Very Satisfied. All the items included in the assessment of the factor AVAILABILITY and ACCESSIBILITY indicated that customers are Very Satisfied with Item #5 obtaining the highest mean of $\bar{x}=4.05$ while Item #4 received the lowest mean rating of $\bar{x}=3.89$.

This factor in the Customer Service Theory of Ahmed (2018) pertains to and ensures that customers can readily communicate with the store and its employees, in either one or a combination of the several contact channels such as phone, email, web chat and social media. However, the customers despite being able to get the store's business cards with contact details, opined having some difficulty contacting the shops/stores. One possible explanation to this customer's dilemma would be the limited number of employees or staff manning a small, micro, and medium size business enterprise. At any given time, a store is simply manned by at least two to at most three people with one acting as store supervisor and cashier while the other two as sales staff and all-around utility personnel. Thus, answering phone calls, emails, and social media

queries might be next to impossible, especially when the store is filled with customers.

Friendliness

Table 5 on the next page displays that the respondents' overall assessment of the Customer Satisfaction factor FRIENDLINESS based on the Customer Service Theory of Ahmed (2018) attained a mean rating of $\bar{x}=3.98$ with a verbal interpretation of Very Satisfied. All the items included in the assessment of the factor FRIENDLINESS indicated that customers are Very Satisfied with Item #1 obtaining the highest mean of $\bar{x}=4.04$ while Item #2 received the lowest mean rating of $\bar{x}=3.95$.

Table 5.

Respondents' Overall Assessment of Friendliness

FRIENDLINESS	Mean	S.D.	Verbal Interpretation
It is common to see shop/store employees in DongGuan Street smiling at customers.	4.04	0.79	Very Satisfied
Shop/Store employees in DongGuan Street always project a warm aura of kindness that attracts customers.	3.95	0.81	Very Satisfied
Customers feel comfortable when attended to by shop/ store employees that are courteous.	3.96	0.83	Very Satisfied
Customers at times are not in the mood to buy but changes their minds when friendly shop/store employees talk to them.	3.96	0.83	Very Satisfied
Shop/Store employees conducting themselves fairly establishes a strong bond with their customers.	4.01	0.84	Very Satisfied
OVERALL FRIENDLINESS	3.98	0.38	Very Satisfied

While respondents opined that it is common to see shop/store employees in DongGuan Street smiling at customers ($\bar{x}=4.04$), they also observed that some store employees do not always project a warm aura of kindness to attracting customers ($\bar{x}=3.95$). This kind of assessment by the respondents would fall under the "Excitement" attribute in the Kano model (1984), which until today remains a useful tool in product and service development.

The model categorizes product/service attributes based on how customers perceive them and their impact on customer satisfaction. The classifications serve to guide design decisions by indicating when good enough is good enough and when more is



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better. Customers do not express these excitement attributes openly, and they are generally unexpected. As in Item #1, the appearance of these attributes delights the customer and results in high satisfaction. However, unlike in Item #2, the loss of these characteristics does not result in dissatisfaction. The excitement attributes appear to meet the customers' latent needs.

There may be various reasons why some store employees in DongGuan Street are unable to always project a warm aura of kindness that attracts customers. First, maybe the sheer volume of customers on any given day is already a gargantuan task to the store staff. Second, given the limited number of employees in the store (minimum of two to a maximum of three), it is easy to get tired entertaining customers unless there is no customer entering the store.

Simplicity

Table 6.

Respondents' Overall Assessment of Simplicity

SIMPLICITY	Mean	S.D.	Verbal Interpretation
Facility in the English language of shop/store employees is key to successful communication with customers.	3.98	0.81	Very Satisfied
Customers are usually happy when shop/store employees make the transactions simple.	3.98	0.84	Very Satisfied
Customers enjoy the little/small/simple things that shop/ store employees do for them.	3.96	0.80	Very Satisfied
Customers appreciate more small deeds from shop/store employees.	3.98	0.83	Very Satisfied
Sometimes shop/store employees and customers easily agree with the use of a calculator.	4.09	0.82	Very Satisfied
OVERALL SIMPLICITY	4.00	0.37	Very Satisfied

The table presents the respondents' overall assessment of the Customer Satisfaction factor SIMPLICITY based on the Customer Service Theory of Ahmed (2018) got a mean rating of $\bar{x}=4.00$ with a verbal interpretation of Very Satisfied. All the items included in the assessment of the factor SIMPLICITY indicated that customers are Very Satisfied with Item #5 obtaining the highest mean of $\bar{x}=4.09$ while Item #3 received the lowest mean rating of $\bar{x}=3.96$.

In some instances, and because of the language barrier, the power of the calculator cannot be overemphasized as a basic communication tool for the buyer and the seller to better understand each other, especially when we are talking about two foreign nationals and when the buyer is trying to haggle for higher discounts. Thus, Item #5 received the highest mean rating of $\bar{x}=4.09$.

On the other hand, Item #3 received the lowest mean rating of $\bar{x}=3.96$. This, however, does not mean the customers are not satisfied with the other simple things that store employees do for them. It simply shows that while the customers enjoy the simple things store employees do for them, they do not mind so much as their concentration is more on the buying mode and getting big discounts. As explained, using the calculator as the basic communication tool where the customers and sellers properly understand each other already signifies that the principle of SIMPLICITY is inherent in the quality and performance of the store employees.

Empowerment

Table 7

Respondents' Overall Assessment of Empowerment

EMPOWERMENT	Mean	S.D.	Verbal Interpretation
Shop/Store employees in DongGuan Street always give importance to customer suggestions.	4.01	0.82	Very Satisfied
The experiences shown by shop/store employees in DongGuan Street to facing customer complaints reflects their professionalism to handling criticism of customers.	4.04	0.85	Very Satisfied
Customers leaving the shop/store smiling reflects satisfaction to the quality of service rendered by the employees.	4.00	0.79	Very Satisfied
Shop/Store employees fully understand that the only way to improving service is to accept customer feedback.	3.95	0.83	Very Satisfied
Customers provide suggestions because they also want the shop/store to be successful.	3.95	0.82	Very Satisfied
OVERALL EMPOWERMENT	3.99	0.37	Very Satisfied

The table shows that the respondents' overall assessment of the Customer Satisfaction factor EMPOWERMENT based on the Customer Service Theory of Ahmed (2018) obtained a mean rating of $\bar{x}=3.99$ with a verbal interpretation of Very Satisfied. All the items included in the assessment of the factor EMPOWERMENT indicated that customers are Very Satisfied with Item #5 obtaining the highest mean of $\bar{x}=4.04$ while Items #4 and #5



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both received the lowest mean ratings of $\bar{x}=3.95$.

This principle refers to the customers having that feeling of being able to have a say in the service and/or giving them self-service options and the ability to provide feedback. It can be said that store employees in DongGuan Street were able to exhibit professionalism, especially in facing customer complaints including the handling of criticism from customers ($\bar{x}=4.04$).

Store employees are also aware and fully understand that to improve their services would entail accepting customer feedback ($\bar{x}=3.95$); customers also want the store to be successful ($\bar{x}=3.95$), which, in turn, is because of the store employees' improvement in their services.

Today, companies of all sizes and industries use this marketing concept/principle. For instance, Enterprise Rent-A-Car found that its clients preferred not to drive to its locations. As a result, Enterprise began delivering cars to clients' homes or places of business. Disney found that some of its patrons detested standing in line. As a result, Disney started charging more for "Fast-Pass," which enables visitors to skip waiting in line for attractions.

Accuracy

Table 8

Respondents' Overall Assessment of Accuracy

ACCURACY	Mean	S.D.	Verbal Interpretation
Shop/Store employees in DongGuan Street ensures that information is given to customers.	4.00	0.81	Very Satisfied
Shop/Store employees making certain of doing their job with accuracy helps customer conclude the shop/store is credible.	3.98	0.80	Very Satisfied
Customers often sees that shop/store employees being accurate in their job is tantamount to quality service.	3.97	0.81	Very Satisfied
Customers are always watchful of how shop/store employees do their job accurately.	4.03	0.82	Very Satisfied
Customers have observed that shop/store employees who are honest are also accurate in their work.	4.02	0.82	Very Satisfied
OVERALL ACCURACY	4.00	0.37	Very Satisfied

The table exhibits that the respondents' overall assessment of the Customer Satisfaction factor ACCURACY based on the Customer Service Theory

of Ahmed (2018) got a mean rating of $\bar{x}=4.00$ with a verbal interpretation of Very Satisfied. All the items included in the assessment of the factor ACCURACY indicated that customers are Very Satisfied with Item #4 obtaining the highest mean of $\bar{x}=4.03$ while Item #3 received the lowest mean rating of $\bar{x}=3.97$.

The principle of ACCURACY refers to ensuring store employees are doing things right for the customers, i.e., providing accurate service to customers including prices of products, giving exact changes, proper packaging of products, and of course, showing courtesy and respect to customers even when the customers are being difficult at times. This requirement to meet this principle and the store employees doing them correctly would entail due diligence from the store owner to continuously provide training, tools, and processes needed to deliver correct and accurate service in a fast manner. Today, many firms adopt this marketing concept diligently. The goal of marketing is to establish exchanges, which often occur when two parties give one another something of value to meet each other's needs or desires (<https://opentextbc.ca/businessopenstax/chapter/the-marketing-concept/>).

Details

Table 9 displays that the respondents' overall assessment of the Customer Satisfaction factor DETAILS based on the Customer Service Theory of Ahmed (2018) acquired a mean rating of $\bar{x}=4.02$ with a verbal interpretation of Very Satisfied. All the items included in the assessment of the factor DETAILS indicated that customers are Very Satisfied with Item #3 obtaining the highest mean of $\bar{x}=4.06$ while Items #2 and #4 both received the lowest mean rating of $\bar{x}=4.00$.



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Table 9.

Respondents' Overall Assessment of Details

DETAILS	Mean	S.D.	Verbal Interpretation
Customers are not happy with what they have bought from the shop/store, but rather with the pampering they received from the shop/store employees.	4.04	0.78	Very Satisfied
Shop/Store employees know that to make a sale, they need to be sensitive to even the smallest needs of their customers.	4.00	0.83	Very Satisfied
Shop/Store employees exerting extra effort attending to customer details is rewarding because it ends in customer satisfaction.	4.06	0.83	Very Satisfied
Shop/Store employees fully understand that the smaller the detail of service they provide, the greater is its importance to the customer.	4.00	0.82	Very Satisfied
Customers are usually satisfied by the extent of spoiling treatment they received from shop/store employees.	4.02	0.82	Very Satisfied
OVERALL DETAILS	4.02	0.37	Very Satisfied

This principle pertains to paying attention to the small stuff that customers are regularly observing and expecting from store employees, i.e., being careful and detail oriented, said Ahmed (2018). The results showed that they become satisfied as customers with the amount of pampering they received from store employees ($\bar{x}=4.02$) rather than with what they have bought from the store.

Store employees, on the other hand, would want to make a sale so they need to be sensitive to even the smallest needs of their customers ($\bar{x}=4.00$) because they know that the smaller the detail of service they provide, the greater it is for the customer ($\bar{x}=4.00$). However, the store employees would tend to overdo providing the customers with too detailed a service and make the customers annoyed in the process instead of being happy. This is because the store employee is too anxious to make a sale and it becomes obvious for the customer.

Only the customer can determine the worth of both the benefits and the sacrifices. However, other factors such as product reviews, recommendations from family and immediate relatives, and the perspectives of colleagues and friends who purchased the same product, among others, can sometimes influence the customer (Kotler & Armstrong, 2017).

Customer Loyalty

Cognitive Loyalty

Table 10. Respondents' Assessment of Cognitive Loyalty

COGNITIVE LOYALTY	Mean	S.D.	Verbal Interpretation
When I visit DongGuan I always buy at the same stores.	3.99	0.83	Agree
I feel secure buying products from the same stores.	4.00	0.83	Agree
Even when the store raises the prices of its products, I would still buy there.	3.94	0.81	Agree
Even when other stores are offering lower prices, I would still prefer to buy at the same store	3.96	0.81	Agree
No other store staff performs/delivers quality service than in this store.	4.05	0.82	Agree
OVERALL COGNITIVE LOYALTY	3.99	0.35	Agree

The overall average assessment of the level of customer loyalty from the small, micro, and medium business enterprises in DongGuan Street in terms of cognitive loyalty attained $\bar{x}=3.99$ with verbal interpretation of Agree. Among all items identified as Agree, the highest mean score is Statement #5 ($\bar{x}=4.05$) while the lowest mean score is Statement #3 ($\bar{x}=3.94$).

The respondent's cognitive loyalty is built on thinking and believing a brand or service, or product to be superior. In the case of Statement #5, the customer-respondents believe and think that the service they received from the store staff is incomparable with that of other store staff from other stores ($\bar{x}=4.05$). In like manner, the customer-respondents would continue to patronize the store products even when the store raises the prices of its products ($\bar{x}=3.94$).

The ratio of benefits received by the customer (or organization) to the expense incurred in achieving those benefits is known as customer value. The value of the advantages and the costs can only be determined by the consumer. However, other factors such as product reviews, recommendations from family and immediate relatives, and the experiences of colleagues and friends who purchased the same product, among others, can sometimes influence the customer. Many successful businesses base their core business strategy on creating customer value.



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(<https://opentextbc.ca/businessopenstax/chapter/the-marketing-concept/#rfunc112>).

Affective Loyalty

Table 11

Respondents' Assessment of Affective Loyalty

AFFECTIVE LOYALTY	Mean	S.D.	Verbal Interpretation
My deep liking for this store is because of the quality of service the store staff provides to its customers.	3.97	0.80	Agree
I like the warmth feeling when I visit DongGuan Street Heritage Tourism site.	4.09	0.81	Agree
I like the ambiance of the coffee shop in DongGuan Street despite it not being Starbucks.	3.95	0.80	Agree
I feel safe when I go shopping in the different stores in DongGuan Street.	4.06	0.78	Agree
I always love how the store staff in DongGuan Street entertains its customers.	4.00	0.81	Agree
OVERALL AFFECTIVE LOYALTY	4.02	0.35	Agree

While cognitive loyalty is about thinking, affective/attitudinal loyalty is about feeling; in short, the affectively loyal customers genuinely like the brand. In this instance, the Heritage Tourism Site of DongGuan Street and the small, micro, and medium size business enterprises therein.

The table presents the overall average assessment of the level of customer loyalty from the small, micro, and medium business enterprises in DongGuan Street in terms of affective loyalty is $\bar{x}=4.02$ with verbal interpretation of Agree. All the items included in the assessment under affective loyalty determine the customer level of loyalty are identified as Agree. Among all items identified as Agree, the highest mean score is Statement #2 ($\bar{x}=4.09$) while the lowest mean score is Statement #3 ($\bar{x}=3.95$).

The intensity of positive feelings can have a large impact on affective loyalty. At the most basic level, it can easily be a pleasurable experience such as satisfaction or delight. It can be impassioned and depict a deep degree of emotional resonance in the consumer at the higher end. This profound affective loyalty provides a much solid defense against potential detractors of loyalty (<https://opentextbc.ca/businessopenstax/chapter/the-marketing-concept/#rfunc112>).

Conative Loyalty

Table 12.

Respondents' Assessment of Conative Loyalty

CONATIVE LOYALTY	Mean	S.D.	Verbal Interpretation
I would visit again the same stores in DongGuan Street because of the quality of service the store provides to its customers.	3.93	0.83	Agree
I feel safe in DongGuan Street Heritage Tourism site, so I would most likely visit it again.	3.98	0.83	Agree
Given the chance to go back to DongGuan Street, I would not hesitate to do so.	3.95	0.80	Agree
DongGuan Street provides visitors that warmth feeling making you want to stay there for a while.	4.05	0.83	Agree
I know I am helping in a way the small, micro, and medium size business entrepreneurs in DongGuan Street when I buy from their stores.	4.05	0.83	Agree
OVERALL CONATIVE LOYALTY	3.99	0.37	Agree

The conative layer is where consumers start to develop brand loyalty. This is the point at which ideas and emotions become a drive to act. Table 4.19 presents the overall average assessment on the level of customer loyalty from the small, micro, and medium business enterprises in DongGuan Street in terms of conative loyalty is $\bar{x}=3.95$ with verbal interpretation of Agree. All the items included in the assessment under conative loyalty determine the customer level of loyalty are identified as Agree. Among all items identified as Agree, the highest mean score ($\bar{x}=4.05$) are Statements #4 and #5 while Statement #1 is the lowest mean score ($\bar{x}=3.93$).

Customer value is based on the idea that, in some cases, considerations other than price are important. A company that prioritizes cost of production and price to the consumer is run as if it were a commodity with price as the only point of differentiation. Businesses who value their customers may believe that customers are willing to pay more for superior customer service or accept fewer services at a lower cost (<https://opentextbc.ca/businessopenstax/chapter/the-marketing-concept/#rfunc112>). A classic example of this in the case of the Philippines is the application and processing to secure a passport. Applicants are willing to pay extra so that their passports are released earlier than the standard processing time.



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Because clients who value price alone will purchase from a competitor as soon as that competition can offer a lower price, it is crucial not to base value on price (rather than on service or quality). Marketing methods centered on client relationships and service are much more successful and harder for rivals to imitate. Assigned seating, meals, or in-flight entertainment are all unavailable on Southwest Airlines flights. Instead, the low-cost airline keeps its commitment to depart on time. Southwest frequently surpasses full-service carriers like American Airlines, who include frills like movies and meals on a few of its long-haul flights, in "service value" polls.

Action Loyalty

Table 13.

Respondents' Assessment of Action Loyalty

ACTION LOYALTY	Mean	S.D.	Verbal Interpretation
I would visit again the same stores in DongGuan Street because of the quality of service they provide their customers.	3.96	0.80	Agree
Given the opportunity, I would bring my family to visit DongGuan Street Heritage Tourism site.	4.05	0.82	Agree
I would encourage friends or colleagues to try visiting DongGuan Street to have a great shopping experience.	4.05	0.81	Agree
DongGuan Street provides visitors that warmth feeling making you want to stay there for a while.	3.98	0.85	Agree
Because of my personal experience in visiting DongGuan Street, I would visit it again without any hesitation.	4.02	0.82	Agree
OVERALL ACTION LOYALTY	4.01	0.37	Agree

Action loyalty exemplifies a certain level of determination, in which consumers are devoted to making a repeat purchase even in the face of obstacles, such as word-of-mouth promotion of the brand. The table presents the overall average assessment on the level of customer loyalty from the small, micro, and medium business enterprises in DongGuan Street in terms of action loyalty is $\bar{x}=4.01$ with verbal interpretation of Agree. All the items included in the assessment under action loyalty determines the customer level of loyalty are identified as Agree. Among all items identified as Agree, the highest mean score are Statements #2 and #3 both with mean ratings of $\bar{x}=4.05$ while the lowest is Statement #1 with mean rating of $\bar{x}=3.96$.

In the context of business, a customer's desire to work with a particular company affects further purchases of its products and services, which in turn leads to recommendations of those products and services to friends and business partners (Bose & Rao, 2011). In a similar vein, Musriha defines customer loyalty as a consumer's intention to repurchase or enroll in a good or service (2012). Additionally, it is believed that one of the most crucial aspects of a company's success is its ability to retain customers. A customer's assessment of the company's customer service is a critical prerequisite for retaining customers (Krumay & Brandtweiner, 2010).

Marketing Strategies That Can Help Entrepreneurs of the Small, Micro, and Medium Business Enterprises Improve Customer Satisfaction and Customer Loyalty

The degree of satisfaction of a customer is the main factor in determining loyalty. Creating exchanges between two parties in which each provides something of value to the other to meet their respective needs or desires is what marketing implies.

Many people mistakenly believe that there is no distinction between sales and marketing, even though they are two distinct functions that are both essential to a business's strategy. The former involves the sale of a business's goods or services. On the other hand, the latter refers to a strategy for persuading customers of a product or service's value to make a sale (<https://opentextbc.ca/businessopenstax/chapter/the-marketing-concept/rfinc>).

In the context of the small, micro, and medium size business enterprises in DongGuan Street, both selling and marketing are performed by the store staff and/or store owners. The typical scene in the store begins with the store staff or employees welcoming and greeting the visitor-tourists and presenting the store's products, usually from the most to the least expensive, or sometimes from the



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fast to the slow-moving items (marketing), and in the process, will entice the customer to buy and eventually make a sale (selling).

While the overall results of the level of Customer Satisfaction showed that the respondents are VERY SATISFIED from the small, micro, and medium size business enterprises in the Heritage Tourism site of DongGuan Street on the bases of the eight factors of the Customer Service Theory of Ahmed (2018), three of the eight factors, i.e., Friendliness ($\bar{x}=3.98$), Empowerment ($\bar{x}=3.99$), and Availability and Accessibility ($\bar{x}=3.99$), should be given utmost importance and priority to strengthen the business entrepreneurs marketing strategy.

Friendliness, according to Ahmed (2018) is one of the vital parts of good customer service. However, it is also one of the most challenging factors to inculcate in the employee's mindset and it is a must that employers provide training to employees. Difficult to inculcate because it is somewhat attitudinal and behavioral, and such does not happen overnight. The same is also challenging when it comes to training employees as there is no standard training program on the subject and often the approach to designing one is done on a case-to-case basis. In addition, while the business entrepreneur may be willing to send store staff to attend such training, finding a standard training program may also pose a challenge. It is also a fact that the limited employees manning the store when pulled out to attend training may impact the store operations because of their limited number.

Availability and accessibility, according to Ahmed (2018), refers to the store ensuring customers can readily communicate with the store and its employees, in either one or a combination of the several contact channels such as phone, email, web chat and social media. Following the explanation above, because of the limited store staff or employees manning the shop, their priority and focus would be the customers at the store already. Answering phone calls every now and then may be possible while there are customers present in the store. However,

immediately answering emails, web chats, and social media inquiries might be difficult, but not impossible. The strategy is for the business entrepreneur to allocate the first and last store hours when the store opens and closes, respectively, attend to and answer all the emails, web chats, and social media queries. In this way, the queries that come in when the store closes at the end of the day are immediately responded to at the start of the next day while the queries that came in within the day are responded to at the end of the day. Providing immediate feedback to customers would make them feel important.

Empowerment, according to Ahmed (2018), is the customer's feeling of being able to have a say in the service and/or giving them self-service options and the ability to provide feedback. With the approach of the business entrepreneurs relative to the factor on Availability and Accessibility as explained above, customers are likewise able to provide immediate feedback at the store level to the business entrepreneur and store staff as well.

Conclusions

The respondents were very satisfied in terms of customer satisfaction of the small, micro, and medium size business enterprises in the Heritage Tourism site of DongGuan Street in Yangzhou, Jiangsu Province in China, based on the eight factors of the Customer Service Theory of Ahmed (2018), namely: (2.1) Speed, (2.2) Transparency, (2.3) Availability and Accessibility, (2.4) Friendliness, (2.5) Simplicity, (2.6) Empowerment, (2.7) Accuracy, and (2.8) Details.

They agreed with their customer loyalty with the small, micro, and medium size business enterprises in the Heritage Tourism site of DongGuan Street in Yangzhou, Jiangsu Province in China obtaining a mean rating of 4.00 on all the four stages of customer loyalty namely cognitive loyalty, affective loyalty, conative loyalty, and action loyalty.



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The overall results of the level of Customer Satisfaction showed that the respondents were VERY SATISFIED from the small, micro, and medium size business enterprises in the Heritage Tourism site of DongGuan Street on the basis of the eight factors of the Customer Service Theory of Ahmed (2018). The small, micro, and medium size business entrepreneurs should give utmost importance and priority to three of the eight factors of the Customer Service Theory of Ahmed (2018) to strengthen the business entrepreneurs marketing strategy. These are: (a) Friendliness ($\bar{x}=3.98$), (b) Empowerment ($\bar{x}=3.99$), and (c) Availability and Accessibility ($\bar{x}=3.99$).

Recommendations

Friendliness is one challenging factor to inculcate in the employee's mindset and employers should provide training to its employees. The aspect of the difficulty and challenge inculcating the subject into the minds of the employees is its being attitudinal and behavioral in nature, and such does not happen overnight and/or change immediately after the employees' attending a training. As there is no standard training program on the subject, it is often approached to design one on a case-to-case basis. And pulling out limited employees manning the store to attend training would impact daily store operations. Thus, it is recommended that the business entrepreneurs themselves conduct a continuing daily session on the "friendly approach" to handling customers, preferably immediately after and before the opening and closing of store hours, respectively.

Availability and Accessibility, it is easy for the store to ensure customers can readily communicate with the store and its employees, in either one or a combination of the several contact channels such as phone, email, web chat and social media. However, the store being able to immediately respond to these communications from the customer is quite challenging. Given the limited store staff or employees manning the shop, their priority and focus would be the customers already at the store.

Answering phone calls every now and then may be possible while there are customers present in the store.

However, immediately answering emails, web chats, and social media inquiries might be difficult, but not impossible because it is a simple matter of time management. Thus, the strategy recommended is for the business entrepreneur to allocate the first and last store hours when the store opens and closes in the morning and afternoon or early evening, respectively, as the number of customers is still few, attending to and answering all queries thru emails, web chats, and social media will be more convenient. In this way, the queries that come in when the store closes at the end of the day are immediately responded to at the start of the next day while the queries that came in within the day are responded to before the end of the day. Providing immediate feedback to customers would make them feel important.

Empowerment, the customers' feeling of being able to have a say in the service and/or giving them self-service options and the ability to provide feedback is also important. The business entrepreneurs can put up a "smiley" chart where customers can immediately give their feedback about the delivery of customer service by the store staff. At the end of the day, the store owner can tally such feedback and improve accordingly on their shortcomings. Another approach is for the business entrepreneur to use the QR Code, or lesser known as Quick Response Code, which the customer can scan and electronically provide their feedback and opinion about the store and its staff.

The small, micro, and medium size business enterprises through their owners may collectively act as a group and take advantage of the opportunity that are available from the appropriate government bodies with jurisdiction in the Heritage Tourism site of the DongGuan Street in Yangzhou, Jiansu Province in China. The government agencies may include, but are not limited to the following:



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(i) Municipal Commission of Industry and Information Technology (MCIIT). The small, micro, and medium size business entrepreneurs can ask help from the MCIIT, specifically on the area of information technology to make these small, micro, and medium business enterprises in the Heritage Tourism site of DongGuan Street visible on the internet. In doing so, despite these business enterprises being small, micro, and medium in size, their owners will be proud of their stores' presence on the internet. And because of the nature of their size, the maintenance of the web sites of these business enterprises can be easily maintained through the MCIIT as well.

(ii) Municipal Taxation Bureau. Likewise, the business entrepreneurs or owners may, individually or collectively, revisit the existing policies on taxation, especially those pertaining to small, micro, and medium size enterprises, to take advantage on tax policy incentives to enticing new and encouraging existing business entrepreneurs to enter and continue, respectively, to take part in the small, micro, and medium size business industry.

(iii) Municipal Finance Bureau. This agency of the government may provide support to small, micro, and medium size business enterprises and entrepreneurs in the form of financial assistance and other financial support programs, and/or subsidized loans, especially on occasions of difficult times, recessions, or force majeure events like this COVID-19 pandemic. The business owners and entrepreneurs, when they can survive and stand up from these business challenges with the support of their government, will in the end give back and/or share to their community and government their earning and profit.

Strengthen the marketing strategy of the small, micro, and medium size business enterprises and help the entrepreneurs in the Heritage Tourism site in DongGuan Street focusing on three of the eight factors in the Customer Service Theory of Ahmed (2018).

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The Significance of Microfinance to Pototan Rice Farmers in the Philippines: An Analysis

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Abstract

Purpose – The study examines the impact of the COVID-19 pandemic on rice farmers in Pototan, Iloilo, and how to finance access and the COVID-19 pandemic affect them. The researchers identified the following research objectives based on the research questions: (1) To evaluate the association of credit use on the productivity and profitability of rice farmers in Pototan, Iloilo; (2) To determine the impact of the COVID pandemic on the productivity and profitability of rice farmers in Pototan, Iloilo; and (3) To assess the problems and impacts of credit access and the pandemic on rice farmers in Pototan, Iloilo.

Design/methodology/approach—The research paper used a causal quantitative design. It used purposeful sampling, with forty cooperatively active rice growers serving as respondents. Data was gathered through questionnaires and unstructured interviews. The study hypothesized that farmers who took out larger loans would have higher agricultural yields.

Findings—Results of the study revealed that credit utilization enhances rice farmer output. Increasing farmers' credit utilization in thousands boosts their estimated rice output by 4.60 to 4 to 6 sacks (each sack at 50 kgs standard). Profitability is reduced by 400 pesos for every additional thousand pesos borrowed. The efficiency of input consumption, such as farmland acreage, seeds sowed, and fertilizer used, adds equally to productivity and profitability regardless of whether farmers obtain loans. The profitability model generated a negative coefficient, but the variance is too big for a clear conclusion. Future studies may require a larger data set or more farmers to identify this effect precisely. During the COVID-19 outbreak in Pototan, Iloilo, rice cultivation and farming had a negligible to nonexistent effect on profitability and output. Because of lockdown measures and severe health protocols, the farmers' debt climbed considerably throughout the outbreak. According to Pototan's research, the size of the land has the same effect on rice productivity as loan utilization.

Research limitations/implications—The study focused on Pototan Municipality, Iloilo City. The study's single region limited its sample size. Because the results only apply to members of three cooperatives in Pototan, Iloilo—PFMPC, KOICA-PFC, and PSGMPC—they cannot be extrapolated to the entire country. Correspondents were only included if they had a loan in three of the previous five years. Because of the lack of pesticide, insecticide, and herbicide data, the sample size was limited to 40 respondents. The researchers ignored the study equipment since agriculture in some parts of the Philippines is still primitive.



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Practical and social implications—This research has crucial practical and social ramifications for rice farmers in Pototan, Iloilo, and the Philippine microfinance industry. This study will reveal how microcredit affects rice farmers' production, profitability, and input purchases. Policymakers and lending organizations can use this data to help farmers succeed. The insights will also help farmers make loan decisions. The COVID-19 pandemic's impact on rice growers will help prepare for future pandemics. This research could help rice farmers in Pototan, Iloilo, and the Philippines develop sustainably.

Originality/value—The originality of this research lies in its examination of the impact of microfinance on rice farmers in Pototan, Iloilo, and how the COVID-19 pandemic has affected this relationship. Despite microfinance's growing significance in small-scale agriculture, few studies have examined its effects on Filipino rice farmers. This research study fills this gap by examining credit's impact on farmers' production output and ability to purchase inputs and the effects of the COVID-19 pandemic on borrowing's profitability, inputs, and output before and during the pandemic. This study illuminates microfinance's impact on Philippine rice cultivation and informs policy.

Key Words: Microfinance, Sustainable Development, Rice production, Pototan rice farmers, SDG, Philippines

Relevant SDGs: SDG 1 No Poverty, SDG 2 Zero Hunger, SDG 8 Decent work and economic growth

Introduction

Rice is a staple of Asian cuisines, including the Philippines. Various exporters and suppliers in the Philippines see rice farming as a solid source of income. Awareness of rice production and rice production changes is vital for food market security, industries, and those who rely on the process for economic gain (Stuecker et al., 2018). A new ADB report (2022), *Southeast Asia: Rising from the epidemic*, analyzes COVID-19's disruptions, emphasizes growth opportunities, and promotes changes for an equitable and sustained recovery.

COVID-19 has led governments to boost social aid, competitiveness, and small business support. Southeast Asian countries can recover despite problems. The crisis has driven governments to build a more sustainable economy by

strengthening social aid, competitiveness, and small business support (ADB, 2022). Given their role in enabling inclusive economic recovery and resilience, the COVID-19 Pandemic has heightened the importance of ensuring the poorest and most vulnerable have access to formal financial services (Hunter, S., & Rosenkranz, P. 2022).

Microfinance was first included in the 1990-launched Millennium Development Goals (MDGs), the UN's overarching development goals to be fulfilled by 2015. It was then included in the 2015-drafted Sustainable Development Goals (SDGs), to be met by 2030. (UN, 1990; UN, 2015).

MDGs recommended microfinance-related goals. Most of these goals were microfinance-friendly. MDGs, prior policymaking, and literature viewed microfinance as manna from heaven. This view



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ignored the need to couple financial access with important development drivers, including education, food, health, infrastructure, and entrepreneurship (Gatto & Sadik-Zada, 2022).

All UN Member States created the Sustainable Development Goals (SDGs) in 2015 to build a more sustainable future by 2030. They address global issues like poverty, environmental conservation, and peace and prosperity. The 17 goals are critical global projects that balance social, economic, and environmental sustainability. Eliminating poverty, promoting decent work and economic growth, and reducing inequalities are intimately tied to microfinance concepts (Razak, 2020).

Our world is growing more sensitive to global shocks and negative events, necessitating a systemic explanation of complex phenomena (Gatto et al., 2022).

The Sustainable Development Goals (SDGs) adapted to and battled recent severe disruptions, including population challenges to climate justice, resource depletion, and pandemics. This means microfinance should target the more ambitious SDGs. Sustainable Development Goals (SDGs) have a wider scope, a more realistic orientation to results, and a more specified timescale, which corresponds better with sustainable funding requirements. By reviewing the SDGs, evidence supporting this conclusion can be compiled and verified (Gatto & Sadik-Zada, 2022).

Microfinance enables previously unbanked people to become financially integrated, boosting economic growth. Microfinance penalizes poverty owing to low loan values and high running costs. Lending to the impoverished is unprofitable even before considering default costs. Lower the operational costs of microfinance firms to reduce the poverty penalty.

Microfinance has existed in various forms for decades, but it has only recently acquired appeal as a way for "the poor" to get loans. Microfinance

has improved the poor's income and lifestyle. Microfinance has grown to draw the attention of financial procedures and institutions, with 150 to 200 million active borrowers globally (Chase & Galici, 2018). The poor have been barred from formal banking for a long time because of expensive administrative costs.

Microfinance helps those who couldn't use regular banking to become financially connected, boosting the economy. Microfinance incurs a poverty penalty due to low loan values and high operating costs. This makes lending to the poor unprofitable, even before default costs. Minimizing microfinance firms' operating costs is the best way to reduce poverty.

Statement of the Problem

The study examines microfinance's impact on rice farmers in Pototan, Iloilo. The study also examines whether microcredit produces substantial differences amongst farmers before and throughout COVID-19. This research benefits Filipino microfinance farmers. By evaluating microcredit's many components, Iloilo farmers can increase production, profitability, and input purchases.

Research Questions

The study focused on answering the following:

1. What is the extent and direction of credit's influence on farmers' production output and ability to purchase inputs based on credit use?
2. Does the utilization of inputs, production output, and profitability differ between loans? and
3. What challenges did the COVID-19 pandemic pose to the profitability, inputs, and production output of borrowing before and during COVID?



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Research Objectives

The researchers identified the following research objectives based on the research questions: (1) To evaluate the association of credit use on the productivity and profitability of rice farmers in Pototan, Iloilo; (2) To determine the impact of the COVID pandemic on the productivity and profitability of rice farmers in Pototan, Iloilo; and (3) To assess the problems and impacts of credit access and the pandemic on rice farmers in Pototan, Iloilo.

Research Hypotheses

This study was based on the following research hypotheses:

On productivity

The first set of hypotheses assesses the impact of credit usage on farmer productivity and profitability. Results by Girabi and Mwakaje (2013) demonstrate that access to credit institutions has resulted in higher productivity for farmers in Tanzania. The following hypotheses measure this potential impact based on data collected from farmers in Iloilo.

- Ho 1: Credit use has no significant impact on the productivity of farmers in terms of the total number of rice cavans produced.
- Ha 1: Credit use has a significant impact on the productivity of farmers in terms of the total number of rice cavans produced.
- Ho 2: Credit use has no moderating effect on the impact of inputs on productivity in terms of rice cavans produced.
- Ha 2: Credit use has a moderating effect on the impact of inputs on productivity in terms of the rice cavans produced.

On profitability

Meanwhile, results by Pederson, et. al. (2012) has indicated an increase in gross income after farmers joined a state-sponsored loan program. The

following set of hypotheses then reflects the impact of credit usage on the profitability of farmers in Iloilo.

- Ho 3: Credit use has no significant impact on the profitability of farmers in terms of total earned after expenses.
- Ha 3: Credit use has a significant impact on the profitability of farmers in terms of total earned after expenses.
- Ho 4: Credit use has no moderating effect on the impact of inputs on the profitability of farmers in terms of total earned after expenses.
- Ha 4: Credit use has a moderating effect on the impact of inputs on the profitability of farmers in terms of total earned after expenses.

Regarding the impact of the COVID-19 pandemic

An economic review by Debata et al. (2020) demonstrates a tangible impact of the COVID pandemic on economic activity in India. The slowdown in economic activity limits the number of harvest workers and makes selling products on the market much more difficult. Following this result, the present study proposes the following hypotheses regarding the impact of the pandemic on farming activity in Iloilo.

- Ho 5: The COVID pandemic has introduced no significant impact on the overall profitability of farmers.
- Ha 5: The COVID pandemic has introduced a significant impact on the overall profitability of farmers.
- Ho 6: The COVID pandemic has introduced no significant impact on the overall productivity of farmers.
- Ha 6: The COVID pandemic has introduced a significant impact on the overall productivity of farmers.



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Significance of the Study

Since microfinance groups like cooperatives serve and support farmers in the same way that the Department of Agriculture supports agriculture development, the Department of Agriculture in the Philippines stands to benefit from this study. Because Iloilo is the greatest donor of rice in the sixth region of the Philippines and the second-largest producer of rice in the country, the results in Iloilo will be valuable to the academic community. Insights gained from this research into microfinance and the role of cooperatives in providing financial backing, useful resources, and help with crop production and harvesting are expected to be of use to farmers across the country. Microfinance institutions, such as agricultural cooperatives responsible for supporting farmers across the country, will benefit from this study. This study benefits the research community as it will increase their understanding of rice cultivation. They'll have an easier time learning the skills they'll need to run the family firm. The results could be useful for future research if they were to be replicated in other parts of the Philippines and Southeast Asia.

Scope and Limitations

The study was restricted to Pototan, a municipality in the province of Iloilo. Because of the government-imposed Covid-19 limits and the fact that the research was conducted in a particular region, the sample size for this study was limited to 40 participants. In addition, the results cannot be generalized to the entire country because they only apply to members of three (3) cooperatives in Pototan, Iloilo: Pototan Farmers Multi-Purpose Cooperative (PFMPC), KOICA-Pototan Farmers' Cooperative (KOICA-PFC), and Pototan Seed Growers Multi-Purpose Cooperative (PSGMPC) (PSGMPC). In addition, only correspondents who have received a loan for at least three of the past five years were included in this study. This research paper does not require information on the usage of pesticides,

insecticides, and herbicides; hence, the sample size was reduced to forty (40) respondents. As there are still parts of the Philippines where agriculture has not advanced technologically and is still in a primitive state, the researcher will also dismiss the equipment used in the study.

Literature Review

From the early 1970s until the 1990s, the Philippines have been heavily engaged in the provision of subsidized credit schemes. These lending programs were mainly geared toward the agricultural and industrial small business sectors. Despite their prevalence, these credit schemes did not result in the poor having access to credit and other financial services. Most borrowers viewed these programs as handouts most of the time. No longer were non-financial government agencies permitted to launch credit schemes (ADB, 2017).

Filipinos have weak money management skills and low incomes, and the "borrow until you can't borrow anymore" mentality is embedded in the bulk of Filipinos' psyche (Chase & Galici, 2018). Despite the lack of evidence on the effects of microfinance on the lives of the poor and an understanding of its impact on the economy, microfinance remains an effective tool for alleviating poverty (Dahal & Fiala, 2020). Microfinance is also beneficial in rural areas and households with more excellent poverty rates since it has a positive and significant impact on income and expenditures and has enabled participants to minimize their reliance on presumably more expensive loans. Microfinance has also raised the share of those having savings accounts at other microfinance organizations and engaged beneficiaries with their businesses, leading to a growth in employment (Hemtanon and Gan, 2021).

The impact of microfinance on the productivity and profitability of rice farmers has been a topic of research for several years. In the past decade, many studies have been conducted to evaluate the



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effect of access to credit institutions on farmers' output and profitability. Several studies revealed microfinance had showed to increase the productivity and profitability of smallholder rice farmers in several countries, including Cambodia (Chhan & Kim, 2015), Vietnam (Nguyen & Nguyen, 2017), Thailand (Srisawasdi & Chatsiri, 2016), the Philippines (Bautista & Quisumbing, 2012), Sub-Saharan Africa (Labie & Minten, 2011), Ethiopia (Gizaw & Gebre (Srisawasdi & Chatsiri, 2019). Smallholder rice farmers have benefited in terms of increased yield, profitability, income, food security, and well-being.

According to several researchers, microfinance also acts as a mediator between the levels of input consumption and yield among smallholder rice farmers (Srisawasdi & Chatsiri, 2016; Hassan & Rahman, 2020; Rahman & Hassan, 2020). This data shows smallholder rice farmers can benefit from increased productivity when they use microfinance to purchase agricultural inputs like seeds and fertilizer.

Research questions and hypotheses of the study core on the effect of credit on output, profitability, input use, and the influence of the COVID-19 pandemic; overall, the results support the statement of the problem, which seeks to determine the significance of microfinance to rice farmers in Pototan. It's important to remember that these studies were conducted in various nations; thus, the outcomes may not universally apply to the plight of rice farmers in Pototan, Philippines. The applicability and usefulness of these results outside of the Pototan setting should be contemplated. Research is needed to evaluate the other hypotheses (Ho5, Ho6, Ho4) and to analyze the effects of the COVID-19 pandemic on the income and output of rice producers in Pototan.

For instance, Gizaw and Gebre's (2020) research indicates that microfinance increases the production and profitability of smallholder rice farmers in Ethiopia, but it is not apparent

whether this holds for the farmers in Pototan, Philippines. Microfinance has a beneficial effect on the income, food security, and well-being of smallholder rice farmers in Nigeria, according to a study by Onwuka, Nwachukwu, and Onwuka (2021), yet it is unclear whether these results are transferable to the situation in Pototan.

The final research question is focused on the impact of the COVID-19 pandemic on agricultural activity in Iloilo. Debata et al. (2020) discovered that the COVID pandemic had had a measurable influence on India's economic activity, decreasing economic activity and reducing the number of harvest workers. This supports the fifth hypothesis, Ha5, which asserts that the COVID pandemic has substantially affected the overall profitability of farms. It also confirms the sixth hypothesis, Ha6, which shows that the COVID pandemic substantially affects farmers' total productivity.

These results support the hypothesis that smallholder rice farmers in various countries can benefit from microfinance in terms of increased production, profitability, and improved overall livelihoods. The effects of financing on output, profitability, input utilization, and the effect of the COVID-19 pandemic are all areas that need further investigation into the context and impact of microfinance on rice farmers in Pototan, Philippines. Also relevant to the profitability and output of rice farmers in Pototan is the potential moderating function of the COVID-19 epidemic and the moderating effect of credit use on the link between inputs and productivity.

Research Philosophy, Framework, Design, and Methodology

This research adheres to a positivist approach to inquiry. Positivist philosophy claims that reality is objective and can be objectively explored using quantitative means. This indicates that the research relies on empirical evidence, data, and statistical analysis to discover cause-and-effect



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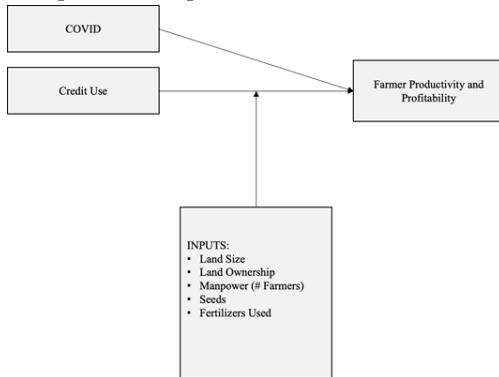
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linkages.

Depicted in Figure 1 is the research framework adopted for this study. Meanwhile, the diagram depicted in Figure 2 illustrates the conceptual framework of microfinance and farmers' productivity. The framework presents the relationship between the variables hypothesized in the study delineated between independent and dependent variables. The primary independent variable proposed for this thesis is the use of loans from microfinance institutions that farmers can use to increase their access to farming inputs and improve their productivity and profitability.

Figure 1

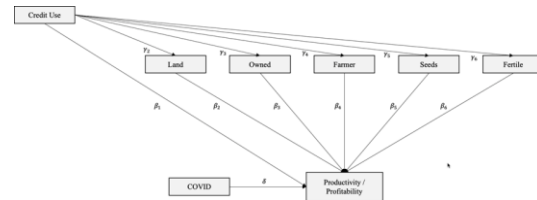
Conceptual Framework Presented as An Independent-Dependent Variable (IV-DV) Model



It is anticipated that individuals who applied for loans could use these inputs more efficiently. Therefore, a moderating effect is proposed, represented in Figure 2 as an arrow pointing from Credit Use to the Inputs. For inputs to farming, this study considers the inputs required for rice production, such as seeds and fertilizers (Girabi & Mwakaje, 2013).

Figure 2

The variables and their relationship with other variables



Because of this relationship, borrowers have greater expectations for their farms' production than non-borrowers (Pederson et al., 2012). There are already rice-producing regions in the Philippines that employ technology, and there is evidence that farmers can adapt to the same technologies adopted by the Department of Agriculture (DA) and the provincial government. Farmers readily adopt new technologies because they are confident that the government will not mislead them.

In this study, the researchers also consider the potential impact of the coronavirus (COVID) pandemic on the profitability and productivity of rice farmers, following a review by Debata et al. (2020). This variable is used as a control indicator in Figure 2, for the study to model and quantify how much—if at all—the pandemic has set back farmers in Pototan in terms of their ability to produce rice and earn from their harvest.

Methodology

This study employed a quantitative causal research method to explain the significance of microfinance to Pototan, Iloilo's local rice farmers. The study aimed to establish a plausible connection between microfinance cooperatives in the region and their effects on rice farmers and the resources they need for rice production. To accomplish the objectives of this study, the researcher selected three active cooperatives in Pototan to determine the number of farmers associated with each cooperative and to pick a



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specified number of farmers.

Purposive sampling was used. Respondents were rice farmers in Pototan, Iloilo, who were active in the cooperatives Pototan Farmers Multi-Purpose Cooperative (PFMPC), KOICA-Pototan Farmers' Cooperative (KOICA-PFC), and Pototan Seed Growers Multi-Purpose Cooperative (PSGMPC) (PSGMPC). This study included 40 cooperative farmers.

The primary data for this study were acquired using standard manual surveys delivered to respondent farmers in the Pototan municipality of the province of Iloilo. The list of farmer-based organizations in Pototan, Iloilo, was utilized to collect data from three of them, each of which has a set number of respondents, including respondent farmers.

The secondary data was collected from existing sources, such as literature, reports, the Philippine Statistics Authority (PSA) and the Department of Agriculture (DA), and the Refinitive Eikon online databases. The secondary data complemented and validated the primary data collected from the smallholder rice farmers.

The researchers designed a five-part survey to collect the key data for this investigation. Section A requests basic information, such as the respondent's name (optional), the land's condition, and the years spent working on the land. Section B requests information on agricultural activities before COVID-19, specifically from 2018 to 2019. Section C asks the same questions as Section B, but the timing is different. During COVID-19, these questions are geared toward the years 2020 to 2021. Section D describes the credit profile of farmers before COVID-19 for the years 2018 and 2019. Section E asks identical questions but is set during COVID-19, in the years 2020 and 2021.

Following the completion of the questionnaire, an unstructured interview was undertaken to ensure the reliability and validity of the survey responses. This is done to ensure that the

respondent comprehended the questions, having them explained in greater detail and modifying their responses if necessary.

Typically, when evaluating the validity of surveys, we consider four types: criterion, face, content, and construct validity. Construct Validity, which includes measurements such as Cronbach's Alpha and Fornell and Larcker's Criterion, is used more frequently in psychological, sociological, and other social science-related research that demands the generalization of items into constructs or latent variables. Since this is not part of the thesis, such testing is neither applicable nor necessary.

Face and criterion validity only consider whether (a) the variables collected on the questionnaire are appropriately identified and (b) the relationships assumed in the questionnaire (e.g., the effect of the loan amount on rice yield and farmer profitability) can be rationally supported. Both (a) and (b) are supported by the literature and theoretical foundation of the investigation.

Because the questionnaire is not designed to measure interrelated constructs, does not involve unmeasurable phenomena that require latent variable analysis, and rather is only collecting straightforward information on variables such as the size of lot farmed, total amount earned from yield, sacks of rice yield in a period, etc., questionnaire validity in its standard usage is not a complicated matter and is resolved in three primary characteristics of reliability, validity, and responsiveness: (a) each question measures factors validated by the research. b) each question is written in plain language and includes a particular time period and unit of measurement, (c) None of the questions request measurements or variables that may be deemed unmeasurable or non-unitary.

This finding is supported by Taherdoost's (2016) comprehensive survey of questionnaire validity testing methodologies.



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Method of Data Analysis

Inferential Statistics through Analysis of Means is a technique used to test the null hypothesis of no difference between farmers before and during the pandemic regarding labor cost, the quantity of input, farm output, income, and cost of production. The test statistic uses the Regression model to describe the relationship between the production of a given output and the factors affecting the production process. The Production Function Analysis is used to estimate the contribution of credit use and farm size and the quantity of inputs in production. In other words, it is used to determine the extent to which the important factor, credit, explains the output variability.

The regression models to be estimated are provided in the discussion below. Table 1 presents a list of the variables collected from the farmers.

Variable	Definition
CREDIT	Indicates the credit use measured as the total amount loaned (LOAN=0 if the farmer is a non-borrower)
LAND	is the size of the land used by the farmer in hectares
FARMERS	is a dummy variable indicating the ownership status of the land used, where OWNED=1, if the land used is owned by the farmers or OWNED=0 if rented
SEEDS	is the amount of seeds used (in bags) by the farmers
FERTILE	is the amount of fertilizers used (in bags)
COVID	is an indicator variable for when the data being modeled is during (COVID=1) or before (COVID=0) the pandemic

To analyze the effect of microfinance credit on the production output of farmers, we propose a regression model taking Q as the number of cavans per harvest as the dependent variable. The full regression function is as follows:

$$\begin{aligned}
 QQ = & \beta_0 + \beta_1 CREDIT + \beta_2 LAND + \beta_3 OWNED + \beta_4 FARMERS + \beta_5 SEEDS + \beta_6 FERTILE \\
 & + \gamma_1 LAND \times LOAN + \gamma_2 OWNED \times LOAN + \gamma_3 FARMERS \times LOAN \\
 & + \gamma_4 SEEDS \times LOAN + \gamma_5 FERTILE \times LOAN +
 \end{aligned}$$

$$\delta \delta COVID + \varepsilon \varepsilon$$

Both β coefficients and the γ coefficients must undergo a significance test to confirm if their stated effect is significant or not. The significance test is based on the t-test. Given the estimate β for the regression model and its standard error $se(\beta)$, the t statistic is obtained as

$$t\beta = \beta / s.e.(\beta)$$

With a corresponding test p-value of $p = P(|t| > t\beta)$ assuming $t\beta \geq 0$ (a similar expression arises when $t\beta < 0$). This leads to a rejection of the null hypothesis that $\beta = 0$ when $p \leq \alpha$ for a set level of significance α (we will be using $\alpha = 0.10$).

A similar analysis was done on the level of profitability for the farmers. Where P is a proxy measure of profit after expenses,

$$\begin{aligned}
 P = & \beta_0 + \beta_1 LOAN + \beta_2 LAND + \beta_3 OWNED + \beta_4 FARMERS + \beta_5 SEEDS + \beta_6 FERTILE \\
 & + \gamma_1 LAND \times LOAN + \gamma_2 OWNED \times LOAN + \gamma_3 FARMERS \times LOAN \\
 & + \gamma_4 SEEDS \times LOAN + \gamma_5 FERTILE \times LOAN + \delta \delta COVID + \varepsilon \varepsilon
 \end{aligned}$$

Given the size of the regression models (up to 11 covariates) it is strongly recommended that a sample size of $n \geq 50$ be collected (pre- and during-COVID data from at least 25 farmers). Likewise, to facilitate the tests required by the additional hypotheses on the impact of the COVID pandemic, it is advised that for each farmer (if available), two sets of data be collected: one for the years 2020 to 2022, and one for any available period before the pandemic (2019 or earlier). Also recommended is the use of the following diagnostic tests to ensure that the model returns valid estimates based on the requirements of the theory surrounding the ordinary least squares regression model:

- Tests for Multicollinearity Test based on the Variance Inflation Factors (VIF)
- Tests for Heteroskedasticity based on the Studentized Breusch-Pagan Test



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- Tests for Residual Normality based on the Shapiro-Wilk test and visual diagnostic through QQ Plots and Histograms

Other measures that will be used to assess the fit of the model and the significance of the results:

- Overall model fit using the raw and adjusted R^2
- A global test for the null hypothesis that $\beta_1, \beta_2, \dots, \beta_p = 0$ using the F Test

Data Results and Analysis

Descriptive Statistics

We begin our discussion of the results with an overall view of the data. Table 2 provides a set of descriptive statistics for each of the variables under study. It is noted that the data collected contains a total of 80 records, divided into 40 for the period before the COVID-19 Pandemic and another 40 during the pandemic. There is a 50% split in the borrowing and non-borrowing farmers, such that for each period 20 farmers took out loans, while the remaining 20 did not take out any loan.

Table 2

Descriptive statistics of variables under study

	Mean	SD	Min	Max
Farm yield (count of 50 kg sacks)	201.60	152.61	120.00	960.00
Net income from yield	66,697.03	46,379.34	31,875.00	268,250.00
Total credit use ¹	34,625.00	22,054.35	20,000.00	100,000.00
Hectares of land farmed	1.68	1.27	1.00	8.00
Kilos of seed per hectare	50.40	38.15	30.00	240.00
Sacks of fertilizer per hectare	10.05	7.64	6.00	48.00
Years worked as a farmer	20.63	13.29	5.00	50.00
% Of borrowers	50%			

On average, the yield of interviewed farmers counted to 201.60 sacks, each sack generally containing 50 kg worth of rice. The lowest recorded yield is 120 sacks, with a maximum of 960 sacks. This wide variation is also reflected in the reported net incomes, with an average of

P66,697.03, while the lowest recorded income is P31,875 and the highest at P268,250. Both yield and net income earned by the farmers exhibit wide variance with the average generally falling closer to the left end of the scale (the minimum) than the maximum. In other words, we expect the distribution of these two variables to be skewed to the right.

Also skewed is the total credit use. Although it should be noted that the statistics reported in Table 2 represent only farmers that took out a loan, in order not to bias the figure when including the zeroes for farmers that did not take out any loans. Credit use among borrowing farmers averaged P34,625.00, with a minimum of P20,000 and a maximum of P100,000.

Table 3

Correlation matrix of variables under study

	Yield	Income	Credit	Land	Seeds	Fertile	Years
Yield	1.000	0.931	0.603	1.000	1.000	1.000	0.203
Income		1.000	0.392	0.931	0.931	0.930	0.095
Credit			1.000	0.603	0.603	0.604	0.453
Land				1.000	1.000	1.000	0.203
Seeds					1.000	1.000	0.203
Fertile						1.000	0.200
Years							1.000

*Only among borrowing farmers

While the correlation coefficients found in Table 3 have already presented some early insights into the possible impact of loans on to yield and incomes of farmers, they are also useful in spotting early possible problems that might enter into the planned regression analysis. In particular, an important assumption in regression analysis is the absence of strong correlations between explanatory variables. This is detected in Table 3 through the perfect correlations between land size, seeds, and fertilizer use. Because of this information, we can say that the size of the land is already a sufficient control variable for the parameters of farming inputs, as the size of the land is a certain predictor of the number of seeds and the amount of fertilizer that the farmers will use. We leave these two other variables out in our



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regression analysis in subsequent discussions and focus instead on land size.

Impact of the COVID Pandemic

It is also of interest in the present thesis that the impact of the COVID pandemic was examined in the productivity and earning power of the farmers interviewed. Thus, we present Table 4, which gives a table similar to Table 2 for all the variables concerned, but this time dividing the data into farming activity before and during the pandemic. Differences in productivity and profitability are not observed to be very large.

Table 4

Mean and variation of variables before and during the Pandemic

	Before COVID		During COVID	
	Mean	SD	Mean	SD
Farm yield (count of 50 kg sacks)	201.60	153.58	201.60	153.58
Net income from yield	66,810.00	46,731.35	66,584.06	46,619.69
Total credit use	14,000.00	19,585.45	20,625.00	26,364.98
Hectares of land farmed	1.68	1.28	1.68	1.28
Kilos of seed per hectare	50.40	38.40	50.40	38.40
Sacks of fertilizer per hectare	10.05	7.69	10.05	7.69

Yield before the pandemic averaged 201.60 with a standard deviation of 153.58, while during the pandemic a similar average and standard deviation were recorded. Income shows a slight decrease between the two periods: average profit before the pandemic was P66,810.00 (SD 46,731.35), compared to P66,584.06 (SD 46,619.69) during the pandemic.

Only credit use is observed to have any observable difference between the two time periods. Before the pandemic, average loans borrowed by the farmers were at P14,000.00 (SD 19,585.45), compared to the period during the pandemic, which averaged P20,625.00 (SD 26,364.98). What is interesting to note in this figure is that the farmers appear to have taken out more loans during the pandemic.

Impact of Borrowing

The study made a preliminary investigation into the possible impact of borrowing on the yield and profitability of the farmers. We compare the distributions of the quantity of yield (left) and the profit earned (right) against those that took out loans (BORROWER = 1) and those that did not (BORROWER = 0).

Borrowing farmers having lower distributions of incomes. We find that, in terms of the quantity yield, distributions are located at very similar levels, but with slightly lower averages for farmers that took out loans.

Result of Regression Analysis

We now proceed to a discussion of the estimated regression lines coming from our data. For quantity yielded, the perfect correlation with land size requires the removal altogether of this variable to come up with a sensible regression line. Therefore, our final model estimate comprises only four variables (credit use, years farmed, land ownership, and the impact of COVID) together with a constant intercept term. The regression model has an R Square of 0.2787, with an F statistic of 7.247 against 4 and 75 degrees of freedom ($p < 0.001$).

Table 5

Regression estimates for the model on the quantity of yield

	Estimate	Std. Err.	P Value	
Intercept	5.1173	0.1114	0.0001	*
Credit Use (Thousands)	0.0120	0.0024	0.0001	*
Years	-0.0009	0.0041	0.8200	
Pandemic	-0.0824	0.0965	0.3960	
Rented	-0.1887	0.1084	0.0858	*

COVID, as initially suspected coming from the results in Table 4, was not found to be significant towards the quantity of yield. Though negative,



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indicating that there may have been a decrease in total yield during the pandemic, this result was much too varying (note the standard error of 0.0965, almost equal to the estimated coefficient - 0.0824 itself) to be conclusive. The impact of credit use, however, is significant. In general, this suggests that each P1,000 increase in the loan is associated with an additional 0.0120 in the logarithm of sacks of rice yield. This is equivalent to a multiplier of 1.127, or an increase of 12.7% in the number of sacks yielded.

The impact of the number of years farmed is also not significant. However, it is interesting to note that the land ownership status appears to be significant at least at a 10% level. Farmers working on rented farm lots appear to have average yields lower by -0.1887 of logs of sacks yielded. This is equivalent to a multiplier of 0.828, or a decrease of about 17.2% in the number of sacks yielded.

The regression estimates presented in Table 5 suggest that we may produce a regression model of rice yield using the equation. Meanwhile, the regression equation uses profitability (transformed) as the response variable. The regression model has an R Square of 0.37 with an F statistic of 11.01 against 4 and 75 degrees of freedom ($p < 0.001$).

Credit use is significant and with a positive coefficient. The coefficient 0.0116 is equivalent to a multiplier of 1.012 and suggests that for each P1,000 additional amount borrowed by a farmer, their profitability is expected to increase by 1.2%. Land ownership status is also significant in this model, and once more with a negative coefficient. The coefficient -0.6536 is equivalent to a multiplier of 0.520 and suggests that farmers working on rented farms tend to bring in net incomes 48.0% lower than those working on owned farms.

In this model, again, COVID did not result in a conclusive change in profitability. The negative coefficient suggests that profitability may have decreased by nearly 8.58% (based on a multiplier

of 0.914) on average during the pandemic, but again, the large standard error implies that this change is much too high in variance to be considered conclusive.

Table 6

Regression estimates for the model on net income

	Estimate	Std. Err.	P Value	
Intercept	11.2107	0.1133	0.0001	*
Credit Use (Thousands)	0.0116	0.0024	0.0001	*
Years	-0.0010	0.0041	0.8139	
Pandemic	-0.0896	0.0981	0.3641	
Rented	-0.6536	0.1102	0.0001	*

From the results of Table 6, we can construct an equation for the net income expected by a farmer based on their loans:

The regression models do not exhibit any problematic features based on recommended diagnostic tests. For the model on yield, the largest variance inflation factor was 1.467, suggesting no serious problems of multicollinearity. The Breusch-Pagan test for heteroskedasticity also indicates no serious issue with the constancy of variances, yielding a test statistic of 0.586 against 4 degrees of freedom ($p = 0.965$).

Similarly, for the model on profitability, the largest variance inflation factor is 1.467. And again, the Breusch-Pagan test fails to present any likely issues with heteroskedasticity ($BP = 0.733$, $p = 0.947$). The normality of the residuals is rejected based on the Shapiro-Wilk test. The model on yield returns a W statistic of 0.908 ($p < 0.001$), while for the income model, this is equal to 0.912 ($p < 0.001$). Nevertheless, the following QQ plots demonstrate this as being merely because of some outlying values that fall outside of the range of normal quantiles. Since there are no existing problems of heteroskedasticity or multicollinearity, we can follow the



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recommendations from Schmidt and Finan (2018) and Osborne and Waters (2002), allowing us to consider the non-normality result as not indicative of any issues in the model's validity.

Discussion, Conclusions, Recommendations

Using data collected from a sample of 40 farmers, with each farmer contributing data for the period before and during the pandemic, it was determined that farmers produce an average of 201.60 sacks of rice, with each sack carrying a standard volume of 50kg of rice. From a minimum of 120 bags to a maximum of 960 sacks, the measured quantities vary. Meanwhile, their entire profitability ranges from a minimum of Php 31,875.00 to a maximum of Php 268,250.00, with a mean of Php 66,697.03.

Before and throughout the pandemic, productivity and profitability levels rarely altered. Between the two periods, the average rice output (in 50 kg sacks) was consistent at 201.60 sacks. The net income decreased a little, from Php 66,810.00.

The above findings lead to conclusions based on the study's hypotheses. First, the null hypothesis on borrowing and productivity is rejected. The number of rice sacks farmers produce is significantly affected by credit use, dependent on the loan amount. Credit use significantly affects farmers' net income after expenses, rejecting the null hypothesis on the effect of borrowing on profitability.

The loan amount and farming input do not moderate productivity or profitability. Regression cannot estimate interaction term coefficients. Only land ownership (rented or owned) was statistically associated with either dependent variable in Chapter 4's final models.

Finally, the COVID pandemic's effects are not significant. Profit and production were unaffected by the outbreak. Regression analysis shows no pandemic effect on either dependent variable.

Based on the survey data analysis results, the researchers would like to make the following recommendations for the government, academia, farmers, and microcredit cooperatives:

Government. This study suggests increasing funding for small rice farmer initiatives under the Department of Agriculture's Rice Competitiveness Enhancement Fund (RCEF). Small rice growers with 2-hectare fields might receive P5,000 in subsidies after typhoons.

This study found that microfinance helps rice farmers in Pototan, Iloilo, through cooperatives and the Department of Agriculture (DA). The DA purchased rice at P12 per kilogram before the pandemic and P14 during it, giving farmers a more stable income.

Pototan rice farmers said more acreage can boost revenues by thirty-nine thousand pesos (P39,000). However, marginalized farmers rent or own less than 2 hectares and earn P10,000 to P20,000 per month, which is not enough to live comfortably. Due to cost and heritage status, marginalized farmers cannot buy greater amounts of land. The study also found a link between yield and loan quantity. However, the data also shows that profitability is anticipated to fall by 400 pesos for every increase in loan amount due to loan repayment expenses and product input quantities, making a bigger loan amount less relevant.

Farmers and Microcredit Institutions. Farmers can employ microcredit loans to maximize productivity and profitability using this study. This study's regression models should estimate outputs for farmers seeking to increase yield or net income. Microcredit institutions should apply this study's findings to enhance farmer loan terms.

Academe. For future researchers who want to replicate or expand the study, a larger study group will improve data accuracy and allow for a more precise analysis of the factors. If possible, use



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balance sheet data instead of a self-reported survey to boost numerical precision. Hierarchical models and more relationships that affect farmer productivity and profitability can be examined using more advanced methods that require more data and a bigger feature set.

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Financial Decision Practices of the Clientele of Armed Forces and Police Savings and Loans Association, Inc.

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Abstract

The current administration prioritized the salary standardization among military and uniformed personnel from 2018 to 2019 which can boost the morale of the personnel and give them motivation to work hard. This also leads to great contribution to the economy as one aspect of it is investing hard-earned money of the personnel to various financial institutions, including AFPSLAI. Since uniformed personnel has low exposure to the financial world, the need to assess the financial decision practices of the individuals are checked and if they are in vision of preparing for their future retirement. Both face-to-face interview and online surveys were done during the course of data gathering as the country is still in pandemic, scoping the survey area initially in Camp Crame, Quezon City. The survey assessed financial behaviors towards deposits and loan services of AFPSLAI. Major results revealed the following: respondents were male, 21 to 40 years of age, single, college graduate, worked two to ten years, receiving Php 200,001 to 400,000 annually, mostly working in Philippine National Police (PNP), and Officer Level. Financial decision practices were assessed with an “agree” rating. Notable profiles have significant differences in financial decision practices in terms of theories used in this paper mainly through their civil status, annual income, length of service, and agency working under.

Purpose – The objective of this study is to assess the clientele whether they can decide on their finances, as well as to help the association to identify what they need to cater for their clientele.

Design/methodology/approach – Descriptive design was used in this study in order to address further appreciation of a certain problem through data collection (Korrapati 2016). Nonexperimental designs, i.e., survey research, gives a quantitative description of degree, behavior or opinion of a whole population by getting a sample size from that population (Creswell 2013). The research paradigm used in this study is the IPO model

Findings – The main objective of the research is to assess the financial investment decision of the clientele of Armed Forces and Police Savings and Loans Association, Inc. (AFPSLAI). First, the respondents were identified according to the profile which covered sex, age, highest educational qualification, civil status, length of service, annual income, agency working under, and job position level. This paper also sought to assess the financial investment decision based on rational and irrational behaviors of the respondents, which are self-efficacy, perceived risk and return, loss aversion, and familiarity bias.



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Research limitations/implications – The researcher surveyed the respondents within the vicinity of AFPSLAI before pandemic. The respondents were mostly active members of AFPSLAI, and minimal portion of it were retired and trainees of the force. Respondents who were performing while on duty were surveyed since they were alert on their posts. Added to the limitation of this study was conducting face-to-face surveys since March 2020 due to COVID-19 outbreak.

Practical and social implications – Practical and social implications of this study is to identify the awareness of the respondents to its target association if they are knowledgeable on the benefits and dangers implied in investing their hard-earned money in the association.

Originality/value – The study differs to other financial decision studies in the aspect of specialty of the respondents. The association limits its membership exclusivity which is why there is a need to conduct a study compared to the vast and general respondents.

Key Words: Polytechnic University of the Philippines, Master of Business Administration, Uniformed Personnel, Financial Decision Practices, Financial Behavior, Investment, AFPSLAI

Relevant SDGs: SDG 1 No Poverty, SDG 8 Decent Work and Economic Growth, SDG 17 Partnership for the Goals

Introduction

Individuals tend to invest their hard-earned money from paycheck, business or any income generating facilities to different investment mediums; be it banks, financial institutions or stock market. It is much better and wiser than saving money since it can yield higher interest rates. Investment is a term that generates income or appreciation of value. Economics and finance have different meanings for investment but the thought still remains the same. In economics, it is an activity where a person purchases a specific goods that will bear wealth in the future. On the other hand, from the finance point of view, it is a monetary asset in which it will give income in the future or will be sold at a higher cost for profit generation. The bottom line is that investors always focus on the cost of such a portfolio today and hope for a greater payout in the near future (Chen 2019).

As shown in Figure 1, the data illustrates the usual investment vehicles in the Philippines. It also includes the minimum initial investment and the minimum additional fund to be placed. The practice of investing as early as young as a person could is practiced today especially in the technological age. Investing now is easier as compared to the old times. A person can now use his or her smartphone to monitor and track his or her portfolio. Investing earlier also leads to higher risk tolerance and as time goes by, lower risk or risk-free investments will be an option to invest on (Farrington 2019).

Figure 1

Common Investment Vehicles in the Philippines

Investment Vehicle	Minimum Initial Investment	Minimum Additional Placement
Mutual funds	Php 100 to Php 5,000	Php 100 to Php 1,000
Stocks	Php 5,000 to Php 1 million	Php 1,000
Time deposit	Php 1,000 to Php 100,000	N/A
UITF	Php 25 to Php 10 million	Php 50 to Php 1 million



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Literature Review

PHILIPPINES UNDER DUTERTE'S ADMINISTRATION

Investing in the Philippines is going steadfast as the current administration is assuring investments to various sectors in the economy: infrastructure, transportation, and real estate. The continuous investment inflow in the country could result in a healthy economy as foreign and local investors are putting up their capital to such sectors. It is evident to the critics of the current administration that the economy is booming. The bulk in investment last 2017 came from various countries like the U.S., Japan, Singapore, Hong Kong, and the Netherlands. One of the top investors under the administration is Japan which has a significant increase of 23.79%, with figures of \$490 million or Php 25.43 billion in 2016 to \$600 million or Php 31.48 billion in 2017 (Heydarian 2018).

Morallo (2018) has reported that it is noticeable that the current administration is generous in giving incentives and salary increases for 2019. The House Joint Resolution 11 which was signed by the President indicates the salary adjustment of military and uniformed personnel in which it will commensurate their role in maintaining national security and peace and order in the country.

Appendices 1 to 3 indicate base rates for uniformed personnel from 2018 to 2019 due to signed Salary Standardization for Uniformed Personnel.

Appendix 4 indicates the salary increment for the military and uniformed personnel from the previous administration to the current administration. It is to uplift the morale and motivate the uniformed personnel to perform their duties especially maintaining peace and order and to protect the fellowmen. The increase in salary is among all of the government employees, although the current administration lined up the uniformed personnel first because of the imminent risks from their duties (Umil 2018).

A majority of the force comes from the Philippine National Police, or the PNP, which comprises 180,767 uniformed personnel (Revilla 2019). Percentage of this population is 83.4% are male and 16.6% female. Armed Forces of the Philippines, or AFP, has an estimated headcount of 125,000 according to GlobalFirepower.com (2021) which measures firepower of every country in the world. Other uniformed personnel that are members of the AFPSLAI are the Bureau of Fire and Protection, or BFP, has an estimated headcount of 25,000 according to Philippine Star (Tupas 2019), and the Bureau of Jail Management and Penology, or BJMP, which comprises of 15,062 personnel (Medina 2020).

To be considered also in the force, one must follow these qualifications: a citizen of the Philippines; a person of good moral character; have passed psychiatric or psychological, drug or physical examinations administered by a specific department; must possess a formal baccalaureate degree or college degree; has Napolcom entrance, or passed the Bar or board exams, or has Civil Service Eligibility to College Honor Graduates, not less than 21 or more than 30 years old, and other requirements that involve good moral character (Hallare 2020).

Added also during the pandemic where establishments and workforce were frozen and slowly opening up, savings and loans associations within the country remain well capitalized. Because money is still being circulated, this can help the economy. Many organizations innovate their methods of connecting with their clients in order to provide convenience, such as online loan applications, balance inquiries, and fund transfers. Loan services increased 14.9% in 2019 to P260.2 billion, up from P226.4 billion in 2018. At 2019, 86.8% of loan services came from military and uniformed personnel-oriented savings and loan associations. These resources were projected to grow by about 5% in 2020 (Lucas 2020).

The increase in salary for the military and uniformed personnel opens opportunities to invest



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in financial institutions in the Philippines. It can serve as an additional income from their salaries which can help their families. Be it on corporate ownerships like stocks and bonds up to putting up small or medium scale business.

ARMED FORCES AND POLICE SAVINGS AND LOANS ASSOCIATION, INC.

AFPSLAI was established in December 1, 1972 as a private, non-stock and non-profit savings and loans association which caters to active and retired uniformed personnel, and regular civilian employees accredited by the association. Supervised by the Bangko Sentral ng Pilipinas, it aims to promote industry, frugality and savings among its members from the AFP, PNP, BFP, BJMP and their civilian employees (AFPSLAI website). The association is composed of almost 600,000 members, both uniformed and non-uniformed personnel, with an estimated percentage of the following members: uniformed personnel (60%); employees (15%); members' dependents (10%) and retired uniformed personnel (15%) (Appendix 6).

Applying for a member in AFPSLAI requires a person should be uniformed personnel; Active, Retiree/Pensioners, or a Regular Civilian Employee of a specific government branch, or non-uniformed personnel; dependents of uniformed personnel or employees of AFPSLAI. Same as other financial institutions, an applicant should meet the requirements and an initial deposit fee upon application.

AFPSLAI has two main services that cater their members; deposit services and loans services. Under deposit services are: Capital Contribution Account, Savings Deposit Account, Savings Deposit Remittance Account, Time Deposit Account and Pension Account. On the other hand, under loans services are: Salary/Pension/Multipurpose Loan, Emergency Loan, PVAO Pension Loan, Calamity Loan, Commutation Loan, Personal Loan, Back-to-Back Loan, Real Estate Loan, Vehicle and Pre-owned Vehicle Loan, and Business Loan.

The advantage of AFPSLAI members compared to other financial institutions is that interest earnings are 3% per annum on Savings Deposit Account and Pension Account and it is tax free. Capital Contribution Account earnings are based on dividend share and pay-out is per quarter. Time Deposit Account on AFPSLAI also has an advantage since it has a minimum deposit for only Php 1,000 compared to commercial banks.

VARIOUS STUDIES ABOUT INVESTMENT DECISIONS

Investment behavior, rational and irrational, always differ from different sets of the portfolio and trends in the market. This can affect an individual to make a good financial decision. Listed below are some of the studies conducted in relation to investment behavior:

According to Farrel, Fry and Risse (2016) on their thesis titled: "The Significance of Financial Self-Efficacy in Explaining Women's Personal Finance Behavior", women with higher financial self-efficacy more likely to hold investment type products rather than loan products based on a 2013 Australian survey. Their results showed that a woman's self-assuredness in her own capacity and ability to manage finances is also a significant aspect.

According to Ntsalaze and Ikhide (2016) on their thesis titled: "Household Over-indebtedness: Understanding its Extent and Characteristics of those Affected", the respondents are generally male-headed in the family, with the head of the household aged 31- 40; unemployed; have secondary schooling; mostly of African ethnicity; are homeowners; live in urban settlements in Gauteng province; have the lowest income; and have never been married. Their recommendations to have an effective policy response to household over-indebtedness must seek to achieve a balance between greater access to credit and prevention of over-indebtedness for the low income groups. Which means households should focus more on the culture of saving rather than rely on debt for their consumption and needs.



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According to Gonzales (2014) in her thesis titled: “The Level of Knowledge Management on Mutual Fund Investments”, the respondents’ profile consisted of young adults aged 21 years old to 30 years old, mostly female, single, who achieved the tertiary level of education and received Php 41,000 above. The age profile of the study is 21 years old to 50 years old which can be considered as the working age. This indicated that these individuals can sustain their investment portfolios through their salary. It is also the age group in which most supervisors and executives work. This also concluded that the majority of respondents are transitioning from having financial obligations to their families to having financial obligations to themselves. Females were more concerned about financial planning and investing in this study. The respondents with higher income indicate that they have the investing power either insurance plans or retirement plans. This can be attributed to a rational choice where an individual considers himself to be insured in the long run, and have a retirement plan after his or her working age which is 65 years old. The age bracket probably considers guidelines from various financial advisors before deciding upon their desired mutual fund investment.

According to Gacutno (2016) in her thesis titled: “Investment Satisfaction on Online Philippine Stocks Trading”, the respondents’ profile comprised of 31 years old to 35 years old, mostly male, single, obtained college degree in education, receiving Php 15,000 to Php 30,000 and also above Php 75,000, had one-year experience as an investor, and has above Php 110,000 of investment value. The age bracket for this thesis mostly contained between 21 years old up to 35 years old and it indicates the working-age for this study. It is also noted that the salary of this study is tied up between the bracket of Php 15,000 to Php 30,000 and above 75,000 which means that the lower end probably is the working force and the higher end is the business force. It is also noted that the years earned on being an investor is relatively low since most are just earning up yet and new to the investment world. We could also note that even

the late adult generation is still tied up with their family obligations and self-interest. This study concludes that the respondents are satisfied with their online stock trading on the aspect of being an investor, investment portfolio and online broker. Nevertheless, the knowledge in online stock trading should be honed continuously by attending seminars to further enhance their appreciation in their market. This could also eliminate the aspect of overconfidence and confidentiality bias in terms of irrational behavior in investment.

Investment decisions arise from the positive outcomes and circumstances that an investor will expect. The right hand of every investment is to gain profit and expand their portfolio. Such certain circumstances involve stability, profitability and liquidity of a company; it can also involve affordability, security and accessibility on real estate properties; economical health can also be a basis for bonds and stocks.

According to Cruzada (2015) in his thesis titled: “Condominium Real Estate Investment Preferences of Young Professionals in National Capital Region”, the respondent profile comprised of 29 years old to 32 years old, mostly male, married, supervisory and managerial level in work and mostly working in Ortigas Center. The respondent profile describes that the investment age for real estate is on the marrying age which is 29 years old up to 33 years old. The respondents are thinking of where they should settle and where the best real estate is located, especially in Metro Manila. Also, it can be considered that the working-age for this thesis is mainly at the managerial level since the investing power of that work position is high and they can afford to purchase a real estate property. This concluded that most of the respondents consider the aspects of accessibility, security and amenities of the property before acquiring such. Since most of the respondents are working in Ortigas Center, where Pasig and Mandaluyong are located, the city government should consider developing these cities since this is the target workplace of the young adults. Considering also the geographical location of



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Pasig and Mandaluyong, these cities are located in the middle of the National Capital Region. This can be connected to the accessibility of acquiring properties. Security and amenity are lesser priorities since different developers' offers different sets of add-ons on acquiring properties.

According to Libatique (2016) in her thesis entitled: "Consumer's Investment on Life Insurance Policy", the respondents profile consists of 21 years old to 30 years old, mostly female, single, has an educational level of tertiary, employed, and mostly new in the policy insurance investment which is below one year. There are three categories on the policy of her study, Horizons, Affluence Builder, and Affluence Income. Among the three categories, the respondents have the Horizons which means it is the retirement fund on the insurance company. The study concluded that the respondents are satisfied in terms of product features, product benefits, company image and its company agents. The researcher's recommendations are that the company continue to innovate products to better serve customers, reduce withdrawal charges to allow investors to enjoy their investment, continue investment strategies that will improve the fund performance of the company, and provide continuous training for agents to address investor concerns. These suggestions will benefit both the company and the investors by broadening investment decisions and leveraging funds.

A foreign study according to Subash (2012) titled, "Role of Behavioral Finance in Portfolio Investment Decisions: Evidence from India", financial stock markets in 2008 have been volatile. The Loss Aversion from this era is high and there has been fear of investing in those years. Out of 92 respondents, 46 of them were experienced investors – aged above 30 years old with 7 years' experience in investing, and young investors – aged 30 and below with less than 7 years' experience in investing. His study found out that among investors, it suffered from all biases in his study. On Weighted Score Analysis, younger investors were affected by Regret or Loss Aversion, Gambler's Fallacy and Hindsight

Bias. Behavioral biases had played a significant role in this crisis among young and experienced investors.

An evaluation from Popat and Pandya (2019) titled, "Evaluating the Effect of Financial Knowledge on Investment Decisions of Investors from Gandhinagar District", shows that some of their respondents are investing in available financial options that are offered in the market. 36% of rural investors and 23% of rural investors are not investing from their income. Urban respondents are more aware of the market's financial options than rural respondents. Their findings on perceived risk are similar for rural and urban investors, but there is a difference in perceived return between the two groups. The evaluation was more focused on young and middle-aged people with a bachelor's degree and jobs in the government sector ranging from Php 66,000 to Php 330,000. With an increase in education level, investing in new market options is a significant investment decision among investors rather than following traditional market options.

A study from Bhushan (2014) titled, "Relationship between Financial Literacy and Investment Behavior of Salaried Individuals", showed that respondents who have higher financial literacy have higher awareness level on their financial products except for post office savings, which is only available in India. It also relates to high self-efficacy of an individual in terms of investment portfolio, data, trends and current events. There was a significant difference in products offered mostly in banks and financial institutions. Respondents also who have low financial literacy tend to invest in traditional and safe investment mediums rather than high risk investments.

A study from Jawaheer (2016) titled, "Gender Differences in Investment Decision Making among the Working Class of Mauritius", studies differentiation of men and women in investment or financial decisions in terms of risk tolerance, financial literacy and types of investment. It can involve loss aversion and perceived risk by



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determining whether streamline investments are good to invest or not. It was found out that no gender differences were affected in the investment decision-making process. Although, Mauritian women view investment as a stressful activity, while men view investment at ease and convenience. In that study, both men and women found out that they do not have a strong financial knowledge, hence there was no gap in the differentiation. Added, women were found to be more risk averse than men, making women a conservative investment player in their area. It is also shown that low salary among women was also a factor for the risk aversion.

A critical analysis on financial literacy from Deepak, Singh, P. and Kumar, A. (2015) titled, “Financial Literacy among Investors: Theory and Critical Review of Literature”, studies how financial literacy affects financial knowledge and financial decisions of their target study. This can include self-efficacy and perceived risk and return since this triggers rational behavior of an investor. According to their analysis, financial literacy pivots though positive financial behavior and decision-making. Financial literate investors tend to make choices and decisions before selecting the best option for their investment. This study also discussed the definition of financial literacy by Lusardi, which states that financial literacy is knowing fundamentals of investing; interest compounding, nominal and real values, and foundations of risk diversification. Low levels of financial literacy will be a challenge especially in providing tools to understand complex investment mediums especially in credit markets which require refined financial decision-making.

A dissertation by Pontiff, M. (2018) titled Readiness for Blended Retirement: A Descriptive Analysis of Financial Literacy among Young American Military Members, discusses the progression of financial literacy of Air Force service as well as the readiness of young military personnel members for retirement with the new Blended Retirement System. The dissertation found out that there is a steady incline on the Test of Financial Literacy and it is caused by increased

experience level of financial management.

A survey study by Baigari, P. and Chakraborty, A. (2018) titled Effect of Gender, Age, and Income on Investors: Risk Perception in Investment Decision reported three demographics in terms of risk perception. According to them, a common stereotype in financial investment decisions is that women are more risk-averse than men and young people are more proactive in investment. Their survey found that independent groupings: gender, age, and income, did not affect investors' perception towards risk. In terms of gender, male respondents are more advanced than the female respondents. In terms of age difference, the level of risk remains constant among age groups. In terms of income, individual income does not affect the perception of the investor. There was a gap between generalization and in practice when risk perception is applied. In general, risk perception is based on concepts and theories that an investor hears or learns; however, personal risk differs with the uncertainty of duration, and perception may differ depending on race and class of individual.

Table 1

Theories in Financial Decision Practices of the Clientele of AFPSLAI

Theory	Research themes of literature published on business incubation
Self-efficacy under Social Cognitive Theory	Social Cognitive Theory by Albert Bandura (1986) postulates that learning is based in social context which includes interaction of the person, environment and behavior. It also emphasizes social influence and emphasis on external and internal social reinforcement. Social Cognitive Theory has six aspects and in connection with financial decisions, self-efficacy is suitable for this study. Self-efficacy refers to the level of a persons' confidence to perform a sound behavior and decide if an opportunity will benefit to him/her or not. Self-efficacy is influenced by capabilities, individual factors and environmental factors.



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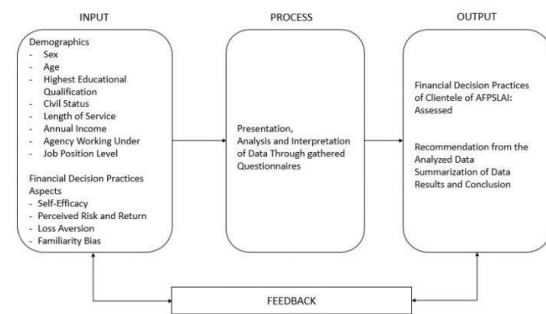
Perceived Return and Risk under Modern Portfolio Theory	Modern Portfolio Theory was developed by Harry Markowitz in 1952 and it hypothesized that it is possible for investors to design an ideal portfolio to maximize returns. It also implies that risk and return have a positive relationship: the lower the risk, the lower the returns, and the higher the risk, the greater the potential for profit or loss. Perception of risk and return is also measured in this theory especially it states that it is not enough to look at a particular stock and expect to manage risk and return.
Loss Aversion or Prospect Theory	This involves weighing the investor's losses over risks. Oftentimes, investors are much worried about their losses rather than the risk involved in the investment. This is also mentioned in Daniel Kahneman and Amos Tversky's Prospect Theory, in which there are several possibilities on gaining and losing on investments. Investors fear losing their capital rather than being optimistic.
Familiarity Bias	It is usually concentrated on one investment based on one's own region or country. It can be beneficial or not since investors only stick to one investment where they know. It is also a threat to a company in some time there would be a liquidity issue. In psychology, it is the phenomenon where people choose for more familiar decisions, whether the outcome will be more or less favorable to people. (Blanchar 2016). Biases in the market are also under Behavioral Finance.

Research Philosophy, Framework, Design, and Methodology

This study aimed to assess the financial decision practices of the clientele of Armed Forces and Police Savings and Loans Association, Inc. (AFPSLAI).

Figure 2

The IPO Model



Specifically, it answered the following questions:

1. What is the profile of respondents in terms of:
 - 1.1. Sex;
 - 1.2. Age;
 - 1.3. Highest educational qualification;
 - 1.4. Civil status;
 - 1.5. Length of service;
 - 1.6. Annual income;
 - 1.7. Agency working under; and
 - 1.8. Job position level
2. How do respondents assess the financial decision practices in terms of the following aspects:
 - 2.1. Self-efficacy;
 - 2.2. Perceived risk and return;
 - 2.3. Loss aversion; and
 - 2.4. Familiarity bias
3. Is there any significant difference of perception of financial decision practices of the respondents when grouped according to profile?

Methodology

Descriptive design was used in this study in order to address further appreciation of a certain problem through data collection (Korrapati 2016). Nonexperimental designs, i.e., survey research, gives a quantitative description of degree, behavior



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or opinion of a whole population by getting a sample size from that population (Creswell 2013).

The study used a quantitative approach; thus, questionnaire survey was used to gather data from the respondents (Hancock 2002). The advantage of this approach included deeper understanding of the research topic, weighing possible outcomes that will contribute to the users, and determining improvements between client and the organization.

Population, Sample Size, and Sampling Technique

The total population of the study covers uniformed and non-uniformed personnel which has an estimated 597,000 members based from the AFPSLAI website. Members were mainly uniformed personnel (60%); employees (15%); members' dependents (10%) and retired uniformed personnel (15%).

The questionnaire was composed of two parts. The first part contained the demographic profile of the respondents, namely: sex, age, highest educational qualification, civil status, length of service, annual income, and agency working under. The second part was composed of Likert scale questions where every answer of the respondent will be counted as the level of financial decision practices of the clientele of AFPSLAI. The Likert scale is ranged and guided based on the table below:

Table 2

Likert Scale

Point Estimate	Verbal Interpretation	Range or Mean Value
5.0	Very Effective	4.51 – 5.00
4.0	Effective	3.51 – 4.50
3.0	Somewhat Effective	2.51 – 3.50
2.0	Less Effective	1.51 – 2.50
1.0	Not Effective	1.00 – 1.50

Data Results and Analysis

Profile of the respondents

The study found that out of the 400 respondents, 328 or 82.0 % are male and 72 or 18.0% are female. It is discovered that there are 281 or 70.3% respondents aged 21 to 30 years old, 109 or 27.3% aged 31 to 40 years old, and 10 or 2.5% aged 41 to 50 years old. The respondents are with a majority of college graduates, 390 or 97.5% of the total respondents, followed by respondents who completed master's degree, 10 or 2.5%. In terms of civil status, 80.8% or 323 respondents are single, and 77 or 19.2% respondents are married. Respondent's tenure or length of service are mostly 2 to 5 years with 250 or 62.5% of the total sample size, followed by 6 to 10 years with 96 or 24.0%, 1 year and below with 42 or 10.5%, and 11 to 15 years with 12 or 3.0%. Annual income of the respondents is also determined and Php 200,001 to 300,000 are the majority of the respondent's income with 182 or 45.5%, followed by Php 300,001 to 400,000 with 163 or 40.8%, Php 400,000 to 500,000 with 37 or 9.3%, Php 100,000 and below with 16 or 4.0%, and Php 500,000 and above with 2 or 0.5%. Majority of the respondents are assigned in Philippine National Police with 282 or 70.5%, followed by Armed Forces of the Philippines with 85 or 21.3%, Bureau of Fire and Protection with 20 or 5.0%, Bureau of Jail Management and Penology with 11 or 2.8%, and Philippine Coast Guard with 2 or 0.5%. Most of the respondents are Officer Level with 289 or 72.3%, followed by Senior Officer/Cadet Level with 100 or 25.0%, Inspector Level with 9 or 2.3%, and Superintendent Level with 2 or 0.5%.

Assessment of the Financial Investment Decision Self-Efficacy

It was found that in the first aspect of financial investment decision which is self-efficacy, "I decide thoroughly before making a deposit account or availing a loan" got the highest weighted mean of 4.33. This was followed by "I have knowledge on deposits and loan offers from AFPSLAI" with



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weighted mean of 4.21, “I avail deposit services of AFPSLAI for my future needs” with weighted mean of 4.17, “I avail loan services of AFPSLAI for emergency purposes” with weighted mean of 4.10, and “The interests offered by AFPSLAI is fair for all clientele” with weighted mean of 4.06. “I, and also my colleagues, avail AFPSLAI services for our future needs” got the lowest weighted mean of 4.01.

The assessment of the financial investment decision of the respondents based on self-efficacy resulted in an overall weighted mean of 4.15 and is verbally interpreted as “Effective.”

Perceived Risk and Return

The second aspect of financial investment decision among the respondents involves perceived risk and return, “I am vigilant before opening a deposit account or having a loan” got the highest weighted mean of 4.41. This was followed by “I am aware that my time deposit savings grow through AFPSLAI’s services” with weighted mean of 4.40, “I review and check my portfolio accounts” with weighted mean of 4.30, and “The dividends earned from clientele are distributed equally” and “My capital contributions will grow in the near future” both have a weighted mean of 4.01. “I deposit my extra savings on deposit services of AFPSLAI” got the lowest weighted mean of 3.92.

The assessment of the financial investment decision of the respondents based on perceived risk and return resulted in an overall weighted mean of 4.17 and is verbally interpreted as “Effective.”

Loss Aversion

The third aspect of financial investment decision among the respondents involves loss aversion, “I prefer availing loan services of AFPSLAI instead of deposit services” got the highest weighted mean of 4.24. This was followed by “I prefer investing in AFPSLAI even there are other financial investments in the market” with weighted mean of 4.21, “I am confident that my deposit will grow in the near

future” with weighted mean of 4.11, “I prefer getting a loan after paying off the previous one” with weighted mean of 4.10, and “I avail deposit services of AFPSLAI even there are existing deposit services in the market” with weighted mean of 3.98. “I avail loan services of AFPSLAI for my luxury” got the lowest weighted mean of 3.48 and interpreted as “Somewhat Effective.”

The assessment of the financial investment decision of the respondents based on loss aversion resulted in an overall weighted mean of 4.02 and is verbally interpreted as “Effective.”

Familiarity Bias

The fourth and last aspect of financial investment decision among the respondents involves familiarity bias, “Investment gives a fair return on my investment” and “I know that services of AFPSLAI is better than other financial institutions” both got the highest weighted mean of 4.23. This was followed by “I am aware of the terms and conditions of the services of AFPSLAI” with weighted mean of 4.18, “Loan rates of AFPSLAI is better and reliable” with weighted mean of 4.00, and “Availing loan on AFPSLAI is easier than other lending or financial institutions” with weighted mean of 3.99. “I invest more on AFPSLAI compared to other financial institutions” got the lowest weighted mean of 3.98.

The assessment of the financial investment decision of the respondents based on familiarity bias resulted in an overall weighted mean of 4.10 and is verbally interpreted as “Effective.”

Significant Difference in the Assessment of Financial Investment Decision of the Respondents by Profile

Self-Efficacy by Sex

With $t=.043$ and $p=.836$, the null hypothesis was accepted and the result for significant difference in the assessment of financial investment decision in terms of self-efficacy of the respondents according to



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their sex was “insignificant.”

Three indicators: “The interests offered by AFPSLAI is fair for all clientele” with $t=7.313$ and $p=0.007$, “I have knowledge on deposits and loan offers from AFPSLAI” with $t=8.708$ and $p=0.003$ and “I decide thoroughly before making a deposit account or availing a loan” with $t=6.059$ and $p=0.014$; rejected the null hypothesis resulting to significant difference in terms of self-efficacy when grouped according to sex.

Perceived Risk and Return by Sex

With $t=2.792$ and $p=.096$, the null hypothesis was accepted and the result for significant difference in the assessment of financial investment decision in terms of perceived risk and return of the respondents according to their sex was “insignificant.”

The indicator “I am aware that my time deposit savings grow through AFPSLAI’s services” with $t=13.253$ and $p=0.000$ rejected the null hypothesis resulting in significant difference in terms of perceived risk and return when grouped according to sex.

Loss Aversion by Sex

With $t=.017$ and $p=.896$, the null hypothesis was accepted and the result for significant difference in the assessment of financial investment decision in terms of loss aversion of the respondents according to their sex was “insignificant.”

The indicator “I prefer investing in AFPSLAI even if there are other financial investments in the market” with $t=3.916$ and $p=0.049$ rejected the null hypothesis resulting in significant difference in terms of loss aversion when grouped according to sex.

Familiarity Bias by Sex

With $t=.400$ and $p=.527$, the null hypothesis was accepted and the result for significant difference in the assessment of financial investment decision in terms of familiarity bias of the respondents according to their sex was “insignificant.”

The indicators “Loan rates of AFPSLAI is better and reliable” with $t=3.909$ and $p=0.049$ and “I am aware of the terms and conditions of the services of AFPSLAI” with $t=8.461$ and $p=0.004$ rejected the null hypothesis based resulting significant difference in terms of familiarity bias when grouped according to sex.

Self-Efficacy by Age

With $t=.151$ and $p=.860$, the null hypothesis was accepted and the result for significant difference in the assessment of financial investment decision in terms of self-efficacy of the respondents according to their age was “insignificant.”

Perceived Risk and Return by Age

With $t=.341$ and $p=.711$, the null hypothesis was accepted and the result for significant difference in the assessment of financial investment decision in terms of perceived risk and return of the respondents according to their age was “insignificant”.

Loss Aversion by Age

With $t=2.142$ and $p=.119$, the null hypothesis was accepted and the result for significant difference in the assessment of financial investment decision in terms of loss aversion of the respondents according to their age was “insignificant.”

Familiarity Bias by Age

With $t=7.878$ and $p=.000$, the null hypothesis was rejected and the result for significant difference in



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the assessment of financial investment decision in terms of familiarity bias of the respondents according to their age was “significant.”

Self-Efficacy by Highest Educational Qualification

With $t=1.587$ and $p=.209$, the null hypothesis was accepted and the result for significant difference in the assessment of financial investment decision in terms of self-efficacy of the respondents according to their highest educational qualification was “insignificant.”

Perceived Risk and Return by Highest Educational Qualification

With $t=13.207$ and $p=.000$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of perceived risk and return of the respondents according to their highest educational qualification was “significant.”

Loss Aversion by Highest Educational Qualification

With $t=5.149$ and $p=.024$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of loss aversion of the respondents according to their highest educational qualification was “insignificant.”

Familiarity Bias by Highest Educational Qualification

With $t=4.350$ and $p=.038$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of familiarity bias of the respondents according to their highest educational qualification was “insignificant.”

Self-Efficacy by Civil Status

With $t=21.327$ and $p=.000$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of self-efficacy of the respondents according to their civil status was “significant.”

Perceived Risk and Return by Civil Status

With $t=27.356$ and $p=.000$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of perceived risk and return of the respondents according to their civil status was “significant.”

Loss Aversion by Civil Status

With $t=8.608$ and $p=.004$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of loss aversion of the respondents according to their civil status was “significant.”

Familiarity Bias by Civil Status

With $t=21.440$ and $p=.000$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of familiarity bias of the respondents according to their civil status was “significant.”

Self-Efficacy by Length of Service

With $t=3.414$ and $p=.018$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of self-efficacy of the respondents according to their length of service was “significant.” The study can affirm the dissertation of Pontiff (2018) that uniformed personnel are having financial literacy gradually and this increases their self-efficacy level that they need to decide first on having a financial decision.



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Perceived Risk and Return by Length of Service

With $t=.534$ and $p=.659$, the null hypothesis was accepted and the result for significant difference in the assessment of financial investment decision in terms of perceived risk and return of the respondents according to their length of service was “insignificant.”

Loss Aversion by Length of Service

With $t=2.931$ and $p=.033$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of loss aversion of the respondents according to their length of service was “significant.”

Familiarity Bias by Length of Service

With $t=2.104$ and $p=.099$, the null hypothesis was accepted and the result for significant difference in the assessment of financial investment decision in terms of familiarity bias of the respondents according to their length of service was “insignificant.”

Self-Efficacy by Annual Income

With $t=11.821$ and $p=.000$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of self-efficacy of the respondents according to their annual income was “significant.”

Perceived Risk and Return by Annual Income

With $t=10.398$ and $p=.000$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of perceived risk and return of the respondents according to their annual income was “significant.”

Loss Aversion by Annual Income

With $t=5.582$ and $p=.000$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of loss aversion of the respondents according to their annual income was “significant.”

Familiarity Bias by Annual Income

With $t=12.727$ and $p=.000$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of familiarity bias of the respondents according to their annual income was “significant.”

Self-Efficacy by Agency Working Under

With $t=1.208$ and $p=.307$, the null hypothesis was accepted and the result for significant difference in the assessment of financial investment decision in terms of self-efficacy of the respondents according to their agency working under was “insignificant.”

Perceived Risk and Return by Agency Working Under

With $t=4.546$ and $p=.001$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of perceived risk and return of the respondents according to their agency working under was “significant.”

Loss Aversion by Agency Working Under

With $t=1.443$ and $p=.219$, the null hypothesis was accepted and the result for significant difference in the assessment of financial investment decision in terms of loss aversion of the respondents according to their agency working under was “insignificant.”



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Familiarity Bias by Agency Working Under

With $t=4.3986$ and $p=.002$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of familiarity bias of the respondents according to their agency working under was “significant.”

Self-Efficacy by Job Position Level

With $t=1.582$ and $p=.193$, the null hypothesis was accepted and the result for significant difference in the assessment of financial investment decision in terms of self-efficacy of the respondents according to their job position level was “insignificant.”

Perceived Risk and Return by Job Position Level

With $t=.866$ and $p=.459$, the null hypothesis was accepted and the result for significant difference in the assessment of financial investment decision in terms of perceived risk and return of the respondents according to their job position level was “insignificant.”

Loss Aversion by Job Position Level

With $t=3.147$ and $p=.025$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of loss aversion of the respondents according to their job position level was “significant.”

Familiarity Bias by Job Position Level

With $t=3.804$ and $p=.010$, the null hypothesis was rejected and the result for significant difference in the assessment of financial investment decision in terms of familiarity bias of the respondents according to their job position level was “significant.”

Discussion, Conclusions, Recommendations

Respondents were male, 21 to 40 years old, single, college graduate, worked two to ten years, receiving Php 200,001 to 400,000 annually, mostly working in Philippine National Police (PNP), and Officer Level. Respondents assessed their financial decision practices in terms of self-efficacy, perceived risk and return, loss aversion, and familiarity bias with “agree” rating. When grouped according to their profile, the data showed that there was significant difference in financial investment decision in terms of self-efficacy of the respondents when they are grouped according to their civil status, length of service, and annual income. In terms of perceived risk and return, there is a significant difference when they are grouped according to highest educational qualification, civil status, annual income, and agency working under. In terms of loss aversion, there is a significant difference when they are grouped according to highest educational qualification, civil status, length of service, annual income, and job position level. In terms of familiarity bias, there was a significant difference when they are grouped according to age, highest educational qualification, civil status, length of service, annual income, agency working under, and job position level.

Recommendations were listed as follows:

1. Privacy and confidentiality are a must especially if money is a topic not only among uniformed personnel, but also in every individual. An effective way to show fairness from AFPSLAI is to be transparent, to communicate and to educate its respondents on their financial structure and organization. The website of AFPSLAI is a great tool for being transparent to its members since it shows its activities, products and services, and annual reports. Added, the drive to disseminate AFPSLAI's deposit and loan services, be it new or existing, is a need to give its members a refresher or any updates



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- on their offerings. Lastly, giving AFPSLAI's members the knowledge on the product and service offerings should be pushed more especially on deposit services and to aid its members on how to use their loans efficiently is also a need since the results give a significant ignorance on sound financial decisions among its members. One recommendation to strengthen transparency, communication and education is to conduct bi-annual orientation among new and existing members on AFPSLAI's offers to its members, how they started, and how the members will benefit from their association.
2. Since most of the respondents are Criminology students and have less exposure to finance and budgeting, they should be given financial awareness seminars mainly on how capital contribution works in which dividends are the benefits of members of AFPSLAI. Explain also how time deposit works and how AFPSLAI is more competitive than on banks since this is a new deposit product of the association.
 3. Help respondents or members who are single to reprioritize their financial needs by conducting a "pulse check" on members. One way to check their members is to implement survey feedback on how they are feeling on becoming a member of AFPSLAI. This step will also strengthen the bond of client and association to address any lapses or praise good services and this activity could help both members and association to assess what their members needs and to offer them the best financial gains within AFPSLAI and also on external financial opportunities.
 4. Give members financial awareness seminars and introduce more on AFPSLAI products. Most self-efficacy seminars could be a comparison of deposit services of AFPSLAI vs deposit services on existing

markets like in banks and other government financial institutions. Perceived risk and return seminars can help members understand the concepts of risk and how to achieve better returns in investments.

5. Push more the Time Deposit Account among members that TDA of AFPSLAI is very competitive compared to banks. This is a great opportunity also to push their new deposit product.
6. AFPSLAI should also offer other deposit services to their members which can compete with the existing financial markets. One example is BDO's Junior Savers account where children of BDO account holders can apply their kids to an account to understand financial literacy at a young age.
7. AFPSLAI should be more transparent to its members to avoid misuse and misalignment of funds. A quarterly financial report should be posted both in bulletin boards and online websites and this should be accessible to members.
8. A more comprehensive communication on financial practices should be passed through its members by means of journals, newsletters, webinars and other mediums that can be beneficial for both AFPSLAI and its members.
9. Educate AFPSLAI's members on how the association works, where their money is being used, what products are more beneficial depending on the age bracket of the members, and other means of education that can attract members and future members to deposit in the association.

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Effectiveness of Working Capital Management Practices of Selected Government Owned and Controlled Corporations in the National Capital Region

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Abstract

The study aims to assess the level of effectiveness of selected Government-Owned and Controlled Corporations in the National Capital Region and to determine whether there is a significant difference in respondents' assessments of the level of effectiveness of working capital management practices when grouped by profile. The sample consisted of 157 finance officers and employees from various GOCCs.

Data was gathered using a survey questionnaire and the information gathered was analyzed and interpreted using frequency, percentages, ranking, weighted means, and analysis of variance (ANOVA). The findings indicate that selected GOCCs' working capital management practices are effective. However, the practice of paying with checks, engaging in frequent and consistent collection efforts, physically safeguarding inventories, and preparing accounts payable aging reports received the least appreciation and require further improvement.

According to the study, there is a significant difference in the respondents' assessments when they are grouped according to job assignment in terms of inventory

management, employment status in terms of accounts payable management, and industry classification in terms of cash management and inventory management. The study's recommendations included re-evaluating the current policy of paying through checks, implementing more proactive collection strategies, automating the receivable and payable process, training officers and employees, and regularizing short-term contract workers.

Keywords: Working Capital Management, Cash Management, Accounts Receivable Management, Inventory Management, Accounts Payable Management, Government-Owned and Controlled Corporations

Introduction

State-Owned Enterprises (SOEs), also known as Government-Owned and Controlled Corporations

(GOCCs) in the Philippines, have been widely recognized by the government as an important tool for economic growth and development. They were originally established by the government to address market failures, such as when the private sector



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refuses to provide basic necessities for public welfare or when it becomes necessary to distort free market operation in favor of disadvantaged groups. The government was able to provide essential commodities and services, particularly to ordinary Filipinos, through the establishment of GOCCs.

GOCCs are also one of the government's primary sources of public funds. Income-generating GOCCs are required by Republic Act No. 7656 (RA No. 7656), also known as the "Dividends Law," to declare and pay dividends in order to generate additional revenue for the government while maintaining their viability. Earning GOCCs, with the exception of those specifically exempted by the law, were able to remit to the Bureau of Treasury (BTr) dividends totaling 47 billion in 2019, 33% more than total remittances in 2018.

While GOCCs contribute significantly to the state's overall earnings, many rely heavily on the federal government to fund their programs and operations. According to the Governance Commission of GOCCs (GCG) 2019 Annual Report on the Financial Profile of GOCCs, subsidies provided to GOCCs in the form of program subsidies and operational subsidies increased by 47% from P128.9 billion in 2018 to P196.4 billion in 2019, while equity (infusion) and net lending increased by 65.4 percent from 4.88 billion in 2018 to 17.06 billion in 2019.

In this study, the researcher only looks at GOCCs in the National Capital Region (NCR). Figure 1 depicts the locations of several GOCCs included in the study.

Figure 1.

Location of Various GOCCs in the National Capital Region



Working capital refers to the short-term resources required by any organization to survive, regardless of whether the organization is profit-oriented or not. As such, it is sometimes referred to as the organization's "lifeblood." While adequate availability is one of the critical factors contributing to an organization's success, ineffective resource management can lead to failure. As a result, it is critical that these investments be carefully managed.

Working capital management is the efficient administration of cash, receivables, inventories, and payables, which are critical components in the regular operations of a business, and its primary goal is to maintain an ideal balance between these components. It entails careful management in order to reduce liquidity risk while limiting the cost of excessive investments in these assets.

Working capital management is especially important because it has a significant impact on the organization's various objectives such as liquidity, solvency, efficiency, profitability, and firm value. The competing objectives of financial viability and



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consumer welfare pose a challenge to many GOCCs' operations, as they are expected to generate enough revenue to cover their operating expenses while also providing critical goods and services to the public for free or at a significantly reduced price. To achieve a balance between these objectives, it is necessary to implement sound policies, practices, methods, and techniques for the administration of working capital components, as well as to conduct a continuous review of working capital adequacy.

While there have been extensive research studies on working capital management, there have been very few studies and literature on its application in the public sector. Further investigation revealed that there was little empirical research focusing on the efficacy of specific practices used by GOCCs in NCR. As a result, the goal of this research is to bridge the knowledge gap and provide a deeper understanding of the subject.

Theoretical Framework

Working capital management is concerned with financing decisions and short-term investing, which require careful consideration because they can have a direct impact on a company's liquidity, profitability, solvency, and value. Keeping this in mind, it can be deduced that there is a tradeoff between the organization's predetermined objectives. This study's theoretical framework investigates the concept of risk and return tradeoff models. The risk-return tradeoff principle states that the expected return from any financial decision increases as the risk associated with that decision increases. In the context of working capital management, the tradeoff model demonstrates how businesses determine their optimal level of investment in these resources by weighing the associated costs and benefits, as well as the direct impact on their organizational goals.

Cash Management

The costs and benefits of liquidity must be balanced in cash management. Financial managers are frequently torn between meeting cash disbursements and minimizing cash balances.

Higher cash balances ensure proper and timely payment, but they also generate a large amount of idle cash. The potential loss of interest from keeping large cash balances may result in an opportunity cost for the organization. On the one hand, keeping small cash reserve increases the risk of being unable to meet the business's day-to-day needs or other unforeseen contingencies. As a result, careful planning and monitoring of cash flows over time is critical.

Accounts Receivable Management

When granting and extending credit, it is critical to consider both carrying costs and opportunity costs in terms of accounts receivable management. The decision to invest in accounts receivable entails the risk of default, as well as the costs of bad debts and receivable management and collection. Furthermore, granting credit causes funds to be locked up in receivables, limiting liquidity and raising the cost of capital in the event of a liquidity crisis. On the other hand, the decision not to offer credit results in lost sales or income. Implementing a solid and optimal credit and collection policy that reduces credit risks while increasing profit margins is critical for effective accounts receivable management.

Inventory Management

Similarly, when making inventory decisions, management must strike a balance between carrying costs and inventory shortage costs. Keeping an excessive amount of inventory can increase the risk of spoilage and obsolescence, as well as increase storage and handling costs, taxes, and insurance premiums. Keeping low inventories, on the other hand, will result in production shortages and delays as raw materials or supplies run out, lowering sales volume. Frequent reordering also raises the cost of ordering. Adopting appropriate inventory control techniques, automating inventory control systems, and maintaining accurate inventory records all contribute to improved customer service and sales revenue while lowering re-ordering, carrying, and handling costs.



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Accounts Payable Management

Delaying payments is a common technique used by businesses to leverage working capital in accounts payable management. Businesses can stretch payables for as long as possible to maximize free cash flow. Prolonged delays in the buyer's payment process, on the other hand, may result in the imposition of fines or charges for latepayments, as well as the severance of a good relationship with the supplier. Early payment discounts and rebates, on the other hand, will provide significant benefits. Tracking outstanding payables and payment terms on a regular basis, as well as optimizing payment timing to take advantage of discounts, helps to improve liquidity and profit margins.

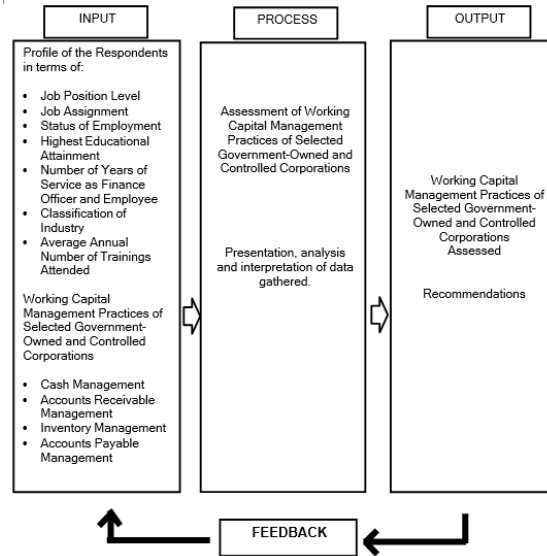
Government-Owned and Controlled Corporations frequently have competing commercial and social objectives. They are expected to be financially viable while also providing products and services to consumers at the best possible price. These entail trade-offs between their organizational objectives; thus, it is critical that they allocate and manage government funds and resources effectively and efficiently to ensure that funds are spent lawfully, prudently, and efficiently in the performance of their mandates. The stated theory is thus relevant to the study because it analyzes working capital in terms of its cost and benefits, which directly affects the organization's objectives.

Conceptual Framework

This framework depicts the overall structure of the study and can be explained using the input-process-output framework (IPO).

Figure 2.

Research Paradigm



The input column contains the respondents' profiles as well as their self-evaluation of the practices used by finance officers and employees to manage their working capital. The process or method for evaluating the effect and relationships of the variables in the input column is described in the second column. Based on their evaluation of these practices, respondents provided assessments and recommendations in the outputcolumn.

Statement of the Problem

The study aimed to assess the level of effectiveness of working capital management practices of selected Government-Owned and Controlled Corporations in the National Capital Region.

Specifically, the study aims to answer the following questions:

1. What is the profile of the respondents in terms of:
 - 1.1 Job Position Level
 - 1.2 Job Assignment
 - 1.3 Status of Employment
 - 1.4 Highest Educational Attainment



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- 1.5 Number of Years of Service as Finance Officer and Employee
- 1.6 Classification of Industry
- 1.7 Number of Trainings Attended related to Working Capital Management
2. How do the respondents assess the level of effectiveness of working capital management practices of selected GOCCs in terms of the following aspects
 - 2.1 Cash Management
 - 2.2 Accounts Receivable Management
 - 2.3 Inventory Management
 - 2.4 Accounts Payable Management
3. Is there a significant difference in the respondents' mean response on their assessment on the level of effectiveness of working capital management practices of selected GOCCs in terms of cash, account receivable, inventory, and accounts payable management when they are grouped according to profile?

Hypothesis

There is no significant difference in the respondents' mean response on their assessment on the level of effectiveness of working capital management practices of selected GOCCs in terms of cash, account receivable, inventory, and accounts payable management when they are grouped according to profile.

Scope and Limitations of the Study

This research, like other studies, has a number of significant constraints that may have an impact on the study's depth.

First, the study focused on determining the effectiveness of selected GOCCs in the National Capital Region's working capital management

practices. The study's target participants for this purpose are finance officers and employees involved in working capital management processes. As a result, the accuracy of the information provided in the questionnaire is limited to their knowledge of the agency's methods for managing working capital. The study's findings will only be applicable to the subjects involved.

Second, the study is hampered by the apathy and reluctance of most GOCCs and target participants to participate in the survey due to the sensitivity and confidentiality of the information. Despite efforts to persuade intended participants that the information gathered would be used solely for educational purposes, many GOCCs declined to participate in the survey. Furthermore, the intended respondents' busy schedules as a result of heavy workloads make participation in the survey difficult. Because of this limitation, only a small number of GOCCs were able to participate; thus, the study's findings may not be generalizable to other GOCCs.

Finally, time constraints exacerbated by the COVID-19 outbreak made it difficult to gather more participants to ensure the proportion of respondents across various GOCC sectors. As a result, the study's findings are more subjective to more dominant sectors.

Significance of the Study

The primary aim of the research is to evaluate the effectiveness of working capital management practices of selected GOCCs in the National Capital Region. In line with this, the study is relevant to the following individuals and organization:

Government-Owned and Controlled Corporations. The study will help various GOCCs establish and improve working capital management policies and procedures, which will significantly improve the organization's financial performance and operational efficiency.

Finance Officers and Employees. The study will give financial officers and employees



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insight into their company's working capital policies and strategies. It will also help them understand the challenges of managing working capital within their respective agencies, which will help them plan, manage, and utilize working capital or public resources more effectively.

Government Regulatory Bodies. This study will serve as a tool for government regulatory bodies in helping them assess the working capital management practices of GOCCs, identify which practices need to be improved, and take appropriate measures to improve the practices currently in use, as well as provide necessary guidelines for new policies.

Students and Future Researchers. The research will be a source of information or reference point for students and future researchers who were inclined to study the same subject.

Definition of Terms

The following are the operational and conceptual definitions of the terminologies used in the study.

- **Accounts Payable.** It refers to the GOCC's legitimate and legal commitments for the purchase of products or services on made on credit in the regular course of business.
- **Accounts Payable Management.** It refers to a collection of practices, policies, and processes used by the GOCC's to manage its obligations.
- **Accounts Receivable.** It refers to the sum payable to the GOCC for goods and services provided on credit arising from regular trade and business transactions.
- **Accounts Receivable Management.** It refers to a collection of practices, policies, and processes used by the GOCC in managing its receivables to ensure its collectability and recoverability.
- **Agency.** It refers to the individual GOCCs and their subsidiaries.
- **Cash.** It refers to the amount of money that is available for spending.
- **Cash Management.** It refers to a collection of practices, policies, and processes used by the GOCC for the collection, disbursement, control and investment of government money.
- **Disbursement.** It refers to cash paid out for the payment of government payables or obligations through currency (cash) and check.
- **Government-Owned and Controlled Corporation.** It pertains to any public corporations or agency, performing either proprietary or governmental functions and is owned or controlled directly and indirectly by the government.
- **Inventory.** It refers to assets held by the GOCC either for sale, distribution and consumption in the regular course of business.
- **Inventory Management.** It pertains to the set of practices, policies and procedures adopted by the GOCC to manage its supplies and inventories to prevent wastage, theft, and loss.
- **Profile.** It refers to the respondents' classification as to job position level, job assignment, status of employment, level of education, years served as finance officer and employee, classification of industry, average annual number of trainings attended.
- **Respondent.** These are the finance officers and employees who respond to the questionnaires distributed.
- **Working Capital.** It refers to



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- government resources utilized by the GOCC in its daily operations.
- **Working Capital Management.** It refers to the efficient and effective administration of government resources to safeguard against loss, wastage, unauthorized use and illegal disposition.

Review Of Related Literature and Studies

This chapter contains all of research materials from international and local studies from various sources that the researcher believed were pertinent to this study. It discusses various resources acquired to verify the analysis and support the study's findings and conclusions.

Government-Owned and Controlled Corporations (GOCCs)

Government-Owned and Controlled Corporations (GOCCs), often referred to as State-Owned Enterprises (SOE) in other jurisdictions, are typically created to either decentralize some crucial public-sector functions or to bring others from the private to the public sphere.

Presidential Decree No. 2029 defines a GOCC as “a stock or a non-stock corporation, whether performing governmental or proprietary functions, which is directly chartered by special law or, if organized under the general corporation law, is owned or controlled by the government directly or indirectly through a parent corporation or subsidiary corporation.

The establishment of GOCCs is founded on the concept of negative externalities resulting to market failures, and the need for government intervention to safeguard the general interest of the public. The Senate Economic Planning Office (SEPO), in its 2006 report on GOCCs, outlined the instances in which GOCCs are needed to function, namely:

Inability or unwillingness of the private sector to supply essential goods and services to society 2) When it becomes necessary to distort free market

operation in favor of disadvantaged groups 3) To encourage the creation of strategic initiatives that have a broad impact in the economy and 4) When the government wants to regulate natural monopolies to protect average consumers.

Through GOCCs, the national government was able to offer the general public crucial goods and services. Among the many contributions of GOCCs included the provision of housing units and housing assistance to informal settlers and those displaced due to calamities; access to clean water, electricity and power at a subsidized rates especially in the far flung areas through the Local Water Utilities and Administration (LWAU), National Electrification Administration (NEA), and National Power Commission (NPC); competitive and sustainable food productions through the National Irrigation Administration (NIA) who is primarily responsible in constructing and developing the irrigations systems in the local provinces for the cultivation of farmlands; and provision of financial assistance to small businesses and farmers at a low interest and flexible terms through the major government banking institutions. In addition, GOCCs are also one of the major sources of revenue for the government through dividend remittances. In 2019, GOCCs falling under the purview of RA No. 7656 paid out dividends amounting to ₱47 billion.

The Governance Commission for GOCCs (GCG) was established by Republic Act No. 10149, also known as the "GOCC Governance Act of 2011," to serve as the centralized advisory, monitoring, and oversight body for GOCCs. Among its other functions, the GCG periodically studies, examines, evaluates, and assesses the performance of the GOCCs to ascertain their relevance and whether they ought to be reorganized, streamlined, merged, privatized, or abolished.

The World Bank (1995), as cited by the Senate Economic Planning Office in their study entitled “Issues and Challenges with the Philippines’ Public Corporate Sector” states that state owned enterprises perform poorly when compared to the private sector because 1) the government’s role as an owner is not clearly defined, 2) they have various or



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competing goals and objectives and 3) access to funds and monetary assistance leads to moral hazard issue. The study further states that the GOCCs' poor financial standing is the result of operational factors as well as inconsistent policy objectives.

The majority of GOCCs frequently have to make trade-offs in order to balance financial viability and consumer welfare. Simply said, GOCCs must generate a profit sufficient to cover the cost of their operations while offering their products and services at the lowest price. In addition, they are expected to consistently improve the quality of their services to fulfil the diverse needs and expectations of the citizens. However, improving service quality without increasing costs proves to be more challenging, thereby compelling regulatory bodies to explore for ways to innovate and improve their services without exceeding their budgets.

Quality Management Systems (QMS) has emerged as one possibility for enhancing the quality-of-service delivery without additional resources or at a reasonable cost. A QMS is one method by which public corporations can use to regulate and direct their activities, in order to fulfil the expectations and demands of the public. In the Philippine setting, the institutionalizing of QMS emanates from the Administrative Order No. 161 dated October 5, 2006. In order to guarantee the continuous provision of effective services to the general public and boost the Philippine economy's ability to compete successfully on a global scale, the EO instructed all Executive branch departments and agencies, and all GOCCs and Government Financial Institutions, to adopt ISO 9001:2000 Quality Management Systems. The Government Quality Management Committee (GQMC) identified sixty-nine (69) GOCCs with valid ISO 9000:2015 certifications as of December 31, 2020, thirty-nine (39) of which are located within NCR as presented in Appendix 1.

Quality management systems demand that government offices strive for continual improvement, define the public's needs and demands and meeting those needs in a manner that is economical, effective and efficient. The application

and effective implementation of QMS not only contributes to the operational efficiency of GOCCs through the streamlining of its processes but also enhances the level of public trust and confidence in public service through the delivery of efficient, reliable, responsive, and vital public services that are in line with the citizens' needs, expectations and interests.

Working Capital Management

Working capital pertains to the short-term assets and liabilities needed to support the daily activities and operations of the organization (Kamau and Ayuo, 2014). Whereas, working capital management is a strategy used by an organization to monitor and optimize its investment in current assets and current liabilities in order for it to function and operate in the most financially efficient manner (Agyei and Yeboah, 2011). It is the capacity to manage these investments in ways that maximizes asset return and minimizes liability payments (Makori, 2013). The proper management of these resources necessitates continual supervision to guarantee that the company's working capital is optimal, not excessive to avoid a poor return on investment, or insufficient to avoid shortages and challenges in sustaining smooth operations (Tesfa and Chawla, 2018).

Working capital management aims to ensure that the company can continue to operate and that it has adequate cash flow to cover its forthcoming operational costs and pay its existing short-term debt (Ayo, 2017). The proper management of working capital could help the company be less dependent on outside financing, help free up cash for more investments, and improve its ability to respond to changing market conditions (Husaria, 2015).

According to Runolfsson, (2019), working capital management practices and strategies provides the best result when they are in line with the operational needs of the business. Due to a variety of factors, like the type of industry, business structure, and nature of operations, different businesses may have different working capital



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needs. Consequently, businesses may use a range of working capital strategies. Sound working capital management practices and strategies are crucial for the success of any business, regardless of its size, industry, form or nature. Each working capital component should not only have written policies, but they should also be aggressively enforced and reviewed as needed to ensure that they keep pace with changing trends.

The management of working capital is a complicated process and determining the appropriate strategies and techniques to facilitate the control of each of its components is therefore crucial when managing working capital. According to Zimon and Zimon (2020), the application and implementation of right processes deduced from quality management systems in particular process or scope is a significant contributor towards the creation of positive net working capital. The organization of key business processes through quality management reduces errors, lowers the cost associated with "poor quality," and supports efficient task completion, allowing for working capital optimization. Similarly, the result of the study undertaken by Chen et. al (2020) on "Working Capital Management and Quality Management Systems: Evidence from an Emerging Economy" showed that SMEs utilizing quality management systems in their operations are more efficient in managing their working capital, particularly, they turn their investments into cash flows from sales, collect receivables, and paid off debts faster.

Components of Working Capital Management

Cash Management

Cash pertains to petty cash funds, money on hand and in bank, checks and short-term securities held by the firm (Attom and Mbroh, 2012). It is used to fund a firm's activities and operations. The firm's needs for cash according to Keynes (1936) can be linked to the following motives: a) transaction motives to conducting its business in the ordinary course; b) precautionary motive to afford safeguard against unforeseen events; and c) speculative motive for investing in profitable prospects as they arise.

Cash management is the process of assuring that the organization has an adequate cash reserve to ensure their continued viability (Muthama, 2016). It involves calculating the ideal amount of cash balance by evaluating the cost of retaining excessive cash against the cost of holding too little cash. It is focused on reducing unproductive cash holdings, investing temporary extra cash profitably, and creating the best feasible arrangements to fulfill the firm's planned and unanticipated cash demands (Jyothi, 2013).

Effective cash management practices can improve operational performance. The important factors in ensuring efficient and effective cash management include the company's choice of short-term financing, the method used to manage collections and disbursements, the investment philosophy toward idle funds and the decision on the amount of money the company decides to hold.

The underlying challenge of cash management is that there is usually a mismatch between cash inflows from revenue and cash outflows from the payment of obligations. Due to the timing gap between cash inflow and outflows, cash management and debt management are two ways governments manage their financial activities. Mike Williams, in his article entitled "Government Cash Management: It's Interaction with Other Financial Policies" stressed that the primary objective of public sector cash management is to ensure that the government can finance its expenses and meet its commitments as they come due, while also minimizing costs, lowering risks, and supporting other financial policies. Meanwhile, according to Lienert (2013), the disparity between the timing of payments and the availability of cash necessitates the automation of cash management.

The automation of cash management is an important part of financial management, and its implementation is regarded as an indispensable element of effective working capital management in the public sector. The automation and digitalization in cash management can improve operations by reducing operational and financial risks. Automation and various digital technologies



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minimize the amount of human error, fraud, and misappropriation while providing more accurate reporting figures. The digitalization in payment provides benefits to businesses by enabling customers to pay for goods and services in a convenient, secure, and expedient manner. It also helps businesses save money and time (Yakean, 2020). The adoption of digital payment methods boosts productivity by streamlining the payment processes and lowering the cost of doing business. Switching from cash and checks to digital payments significantly reduces transaction costs and speeds up payment procedures (World Bank, 2020).

Accounts Receivable Management

Accounts receivable are monies owed for products or services already provided or rendered. It is an important component of working capital as it often represents a significant asset investment and involves a high volume of transactions and decisions (Ksenija, 2013). The goal of accounts receivable management is to shorten the collection period without sacrificing sales as a result of high-pressure collection methods (Gitman, 2012).

According to Senzu and Ndebugri (2017), its main objective is to enhance the value of the firm by achieving a balance between liquidity, profitability and risk. The organization's policy on credit extension and collection has some significant implications on the management of accounts receivable (Munene and Tibbs, 2018). The establishment of a strategic credit and collection policy seeks to achieve a balance between profitability and liquidity to ensure the company's long-term viability and sustainability (Ojeka, 2011). A credit policy is a set of rules or guidelines intended to reduce the costs of credit while maximizing its benefits. A good credit policy should ensure consistency and conformance to sound and standard procedures. Meanwhile, collection policy describes the level of firmness of procedures used to collect past-due accounts (Buabeng et al., 2015). To expedite the collection of receivables, collection procedures and activities may include, among others, sending a demand letter, making follow-up calls, using a collection agency, and taking legal

action, if necessary (Darun, 2011). It is essential that there is a balance between the benefits and costs of different collection strategies. While companies must be resolute in their collection efforts, they must avoid applying undue pressure that might drive away customers.

Accounts receivable add cost to a firm's operation if they remain unpaid. Improper receivables management has a negative impact on profits in two ways: First, write-off of receivables directly reduces the profit. Second, funds tied up to customers reduced the liquidity of the firm, forcing it to borrow externally at a cost. In addition to the costs associated with bad debt and interest, collection costs also include legal and administrative expenses (Senzu and Ndebugri, 2017). It is therefore crucial that firms emphasize the need for a sound credit and collection policy to be put into place through different mechanisms to ensure recoverability of accounts receivables (Karminsky and Polozov, 2016).

In today's changing business landscape and the rapid development in technology, many businesses are adopting the latest best practices and techniques to obtain greater value from their receivables. One method for improving collection productivity is the automation of the accounts receivable processes. In a study conducted by Paystream Advisors entitled "AR Automation: Taking Control of Collections and Recovery", it states that automation removes the manual process such as spreadsheets and provides the essential tools needed to focus on important revenue-generating activities. By following accounts receivable management best practices, it is easier to maintain constant communication, send invoices more quickly, follow up with consumers before due dates, and store vital information in one central place. The study further revealed that businesses utilizing specialized credit and collections software tend to be more efficient in their collections as they spend 62% of their time communicating with their customers as opposed to non-automated businesses who only devote 20% of their time in customer relations.



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According to Wendorf (2011), trade credit is necessary for businesses to operate, however, their profitability is contingent on their efficiency to collect the credit extended. Specialized receivable management systems help improve operational efficiencies by coordinating and translating information across all business functions within an organization. Smaller businesses, however, are not equipped with these technologies owing to their size and the high cost of integrating these systems into the company.

Inventory Management

Inventory comprised of all goods held for customer satisfaction (Rajab, et al 2017) or goods maintained in anticipation of future demand (Nazar, 2018).

Inventory is regarded as a significant financial investment as well as a possible source of waste that must be managed carefully (Rajab, et al 2017). The goal of inventory management is to keep stocks at the lowest cost possible while ensuring continuous supplies for on-going operations. Effective inventory management requires a compromise between the holding costs of inventory and the cost resulting from insufficient stocks (Kaudunde, 2013). An excessive amount of inventory consumes physical space, imposes a financial strain on the company's finances, and raises the risk of wastage, damage, and loss. Conversely, insufficient stock leads to disruptions in business operations and increases the risk of poor customer service (Lwiki et al., 2013). Hence, maintaining an appropriate inventory level reduces the cost of potential business interruptions, prevents loss brought by insufficient materials or stocks, lowers supply costs, and safeguards against price fluctuations (Wambugu, 2011).

Inventory are investments that needs to be safeguarded due to its susceptibility to theft, wastage, and misuse (Kaudunde, 2013). Walters (2019) maintained that physical safeguards around storage facilities is the most basic inventory control a company can have. In addition to physical safeguards, an identification checkpoint must be installed to prevent unauthorized personnel from having access to storage facilities. This could be in

the form of a badge-scanning system or a security officer who physically verifies credentials before unlocking doors. Leaving inventory storage facilities unprotected, could result to substantial inventory shrinkage losses. Furthermore, limiting resource access minimizes the risk of loss or misappropriation and aids in achieving organizational objectives. However, the level of restriction is determined by the resource's vulnerability and the anticipated risk of loss or incorrect use, and it should be evaluated on a regular basis. (INTOSAI).

Maintaining accurate and detailed records of inventory is another key aspect of effective inventory management. Having an accurate inventory record benefits the business by reducing its operational costs. An effective way of improving accuracy is through physical counts of inventories as it provides the company with an accurate idea of the quantities and value of the products held in inventory as against the balance shown in their records. It highlights variances and helps identify issues with inventory management and control. Keeping accurate records decrease the likelihood of theft and pilferages and keep inventories at optimal level without distracting operations (Mbula, et al., 2015).

Accounts Payable Management

Accounts payable pertains to an organization's obligation to settle trade credit or short-term unsecured borrowing (Gitman, 2012). Accounts payable is considered a spontaneous source of financing as a result of day-to-day business activities (Brigham, 2011). In the public sector, accounts payable are valid and legal obligations of the government for which goods, services, projects have been delivered, rendered, completed and accepted.

Account payable management pertains to a company's practices, policies, and procedures for managing purchases made on credit. The effective management of accounts payable is vital to ensure benefits are derived from trade credit purchases. It ensures that adequate safeguards are in place to prevent issues which could impair a firm's reputation and viability including duplicate



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payments, vendor fraud, inefficient operations, and late payment, amongst others (Rico, 2014).

A critical tool that helps businesses manage their accounts payable is the preparation of accounts payable aging report. The aging report contains critical information such as supplier names, bill and invoice due dates, and the amount payable for goods or services purchased by the entity (Hood, 2018). It functions as a monitoring tool and helps enhance cash flow management as they serve as reference when prioritizing payments. Therefore, it is important that aging reports are supported with accurate and complete data (DelVecchio, 2019).

Likewise, COA-DBM Joint Circular 2019-1 dated January 1, 2019 prescribed the submission of aging of unpaid obligation within 30 days after end of the year for purposes of monitoring and evaluating the agency's performance. The report reflects the source of funds, name of creditors, amount and aging of Due and Demandable Obligation (Accounts Payable) and Not yet Due and Demandable Obligations, status of obligation request, and reasons for having Due and Demandable Obligations (Accounts Payable) outstanding above 90 days.

In the Philippine public sector, accounts payable management is a process governed by a stringent set of controls, laws, rules, and regulations that that must be adhered to assure the validity and legality of all claims and disbursements. A list of general and specific requirements for each type of disbursements including the payment of payables was provided to guide government agencies in the processing of claims and other common transactions within the agency.

The general requirement for the disbursement of funds for GOCCs includes: a) Certification of the availability of funds from the Head of the Accounting Unit prior to entering into any agreement involving the use of public funds; b) Certification from the Head of the Accounting Unit on the availability of cash and completeness of supporting documents attached in the disbursement vouchers; c) The requesting and approving officials must ensure that public funds are disbursed legally

and in accordance with rules and regulations; d) all payments of claims and obligations of the government must be covered by Disbursement Vouchers (DV) along with the original copies of all supporting documents in order to determine the authenticity and authority of the claim; e) The DVs/Payrolls must be signed and approved by the agency head or his authorized representatives.

In summary, working capital management is the administration of cash, receivables, inventories and payables which are necessary in the daily operations of the agency. The working capital management of GOCCs is guided by Section 2 of Presidential Decree 1445 which provides that "it is the declared policy of the State that all resources of the government shall be managed, expended or utilized in accordance with law and regulations, and safeguarded against loss or wastage through illegal or improper disposition, with a view to ensuring efficiency, economy and effectiveness in the operations of government."

Synthesis of the Reviewed Literature and Studies

The literature gathered sheds light on working capital management concepts and practices that are correlated and important to the researcher's present study. It also provides a proper context on the nature and operations of GOCCs.

GOCCs are recognized by the state as valuable instruments for economic development and growth. Their use as corporate vehicle has also been recognized as an efficient way to manage government assets. The study entitled "Issues and Challenges with the Philippines' Public Corporate Sector" cited that the contradictory policy goals and operational challenges are the primary causes for the poor financial state of GOCCs. Moreover, their ability to access finances from the national government gave GOCCs less incentive to perform efficiently as they would not face threat of bankruptcy or insolvency. This leads to poor collection efficiency and expenditure management. This is connected to the current study as it identifies and assess the working capital management practices adopted by GOCCs.



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A large number of studies cited the importance of effective and efficient management of working capital. Working capital pertains to short-term resources needed by any organization to support their daily operations. The efficient management of working capital is of particular importance and relevance due to its substantial impact on the various objectives of the organization including its liquidity, solvency, efficiency, profitability and firm value.

Studies on cash management cited the importance of holding optimal amount of cash by factoring the related cost of retaining excessive cash against the cost of holding too little. It deals with reducing excessive cash balances and investing temporary cash strategically. Several studies also discussed the advantages of automating cash management and the implementation of cashless or digital payment. Accordingly, automation and digitalization can help improve operations by reducing operational and financial risks, providing customers with safer and faster services, significantly lowering the costs of payment and accelerating the payment process.

In terms of accounts receivable management, the related studies stressed the need of establishing a credit and collection policy to minimize bad debts and enhance liquidity and profitability. The added costs to the business if receivable remained uncollected included bad debts expense, finance costs of borrowing in case of liquidity problems and legal expenses associated with debt collection. It is also suggested in the studies that businesses should automate their accounts receivable management process in order to improve their collection productivity.

Relative to inventory management, studies emphasized the significance of keeping inventories at an optimal level. Accordingly, in determining the level of inventory, it is important to consider costs in relation to inventories including carrying costs, ordering costs and stock out costs. It also recognized the need of safeguarding inventories, keeping accurate inventory records and physically counting of inventories as part of effective inventory management. This practices according to the studies

protect inventories against possible hazards, including theft, wastage, and misappropriation.

Lastly, with regard to accounts payable management, the study cited the laws, rules, and regulations that governed the management of accounts payable in the Philippine public sector. It presents and emphasized the general and specific requirements that GOCCs must comply prior to any disbursement of government funds. It also discussed the relevance of the aging payable report in the management of payables.

The reviewed literature and studies provided the researcher broader knowledge on the different concept of working capital management, which served as her guide in understanding how GOCCs manage their working capital. It includes different theories, strategies and procedures on the effective management of working capital.

Research Methodology

This chapter is concerned on how the data for the study was gathered. It discusses the research methodology used, the population of the study, the sample size and sampling techniques used, the respondent description, data collection procedures, data collection instruments, and data statistical analysis.

Method of Research

The aim of the study is to assess the efficacy of working capital management practices implemented by selected GOCCs in the NCR. The researcher used the descriptive research method for this purpose. The descriptive method is used to elaborate on the research problem by defining the variables. It is used to collect, evaluate, identify, and summarize data about current conditions, procedures, and developments, followed by an adequate and effective interpretation of such data using or without statistical methods (Baac, 2015). The descriptive research design was chosen because the study relies on a survey questionnaire to collect quantifiable data to answer the problem and validate the hypothesis.



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In gathering and treating its variables, the researcher used the respondents' profile such as job position level, job assignment, employment status, highest educational attainment, number of years of service as finance officer and employee, classification of industry, and average annual number of trainings attended related to working capital management.

Population, Sample Size and Sampling Technique

The population of the study consists of finance officers and employees from selected GOCCs in the NCR. The population was calculated by utilizing the most recent manpower complement of selected agencies, which included an estimate of the number of finance officers and employees.

In the study, the researcher used the Simple Random Sampling Technique to select participants from GOCCs to respond to the survey. Respondents in this study are those who are involved with the company's working capital management practices.

Table 1

Distribution of Population and Sample of Finance Officers and Employees

Government-Owned and Controlled Corporations	Population	Percentage	Sample Size
GOCC 1	21	0.10	16
GOCC 2	12	0.06	9
GOCC 3	28	0.14	21
GOCC 4	23	0.11	17
GOCC 5	25	0.12	19
GOCC 6	11	0.05	8
GOCC 7	24	0.12	18
GOCC 8	15	0.07	11
GOCC 9	13	0.06	10
GOCC 10	18	0.09	14
GOCC 11	12	0.06	9
TOTAL	202	1.00	152

The sample size was calculated using the Cochran Formula and computed as follows:

$$n = \frac{Z^2 \times p(1-p)}{e^2} \div \left[1 + \frac{Z^2 \times p(1-p)}{e^2(N)} \right]$$

Where:

n = sample size

N = population size

Z = z-score at 1.96 for 95% confidence level size
 p = proportion of the population which has the attribute in question at 0.5e = margin of error at .04

Computation:

$$\text{Sample Size} = \frac{\frac{1.96^2 \times .05(1-.05)}{0.04^2}}{1 + \frac{1.96^2 \times .05(1-.05)}{.04^2(202)}}$$

$$\text{Sample Size} = \frac{600.25}{3.975}$$

$$\text{Sample Size} = 152$$

Description of Respondents

The researcher gathered information from finance officers and employees of various GOCCs in the NCR. This study's participants will be financing officers and employees of various job position levels, job assignment, employment status, level of education, number of years served as finance officer and employee, industry classification, and number of trainings and seminars attended related to working capital management.

Research Instrument

The primary data collection tool in the study is a survey-questionnaire, which is used by the researcher. The self-created survey questionnaire was based on working capital management practices stated in various memoranda, resolutions, and circulars issued by the Commission on Audit, Department of Finance, and Government Procurement Policy Board, as well as data gathered from interviews with respondents on their working capital management practices of selected GOCCs.

The questionnaire was divided into two sections. The first section includes a profile of the officers and employees, including their job position level, job assignment, employment status, level of education, number of years of service as a finance officer and employee, industry classification, and average annual number of working capital management trainings attended. The second section will assess the effectiveness of GOCCs' working capital management practices by officers and employees.



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Prior to data collection, a pilot test of the survey-questionnaire was conducted with 15 respondents to assess the relevance, comprehension, meaning, and clarity of the questions. Cronbach's alpha coefficient was used in this study to assess the scale's internal consistency and reliability. The scores range from 0 to 1, with higher scores indicating a higher level of dependability. The pilot test resulted in an alpha coefficient of 0.976, indicating that the survey-questionnaire used was reliable.

The assessment on level of effectiveness of the working capital management of government-owned and controlled corporations was facilitated using the scale and description on the next page:

Numerical Value	Mean Rating	Qualitative Description
5	4.51 - 5.00	Very Effective (EF)
4	3.51 - 4.50	Effective (E)
3	2.51 - 3.50	Somehow Effective (SE)
2	1.51 - 2.50	Less Effective (LE)
1	1.00 - 1.50	Not Effective (NE)

Data Gathering Procedure

The researcher personally collected and performed the data collection procedures. The researcher requested permission to obtain responses from participants in relation to the conduct of a survey and interviews with respondents. The researcher went to the respondents' offices after obtaining permission to personally distribute the questionnaires. The researcher left the questionnaires for a week to give all target respondents an opportunity to respond due to the skeletal work force arrangement implemented in their offices. After all respondents had completed the survey, the questionnaire was collected. The actual survey yielded 94 responses; however, two (2) of them were rejected by the researcher as being insufficient for analysis.

Furthermore, in order to collect information from respondents who preferred to complete the survey online, the researcher collaborated with the head of their respective department or an authorized representative. The link was sent to their respective email addresses or messenger accounts to facilitate the survey, where it was then forwarded and

shared with the intended respondents. Furthermore, the researcher collected data through social media platforms by posting the questionnaire on relevant Facebook pages. The researcher gave specific instructions to ensure that only qualified respondents responded to the questionnaire. From the online survey, a total of 65 responses were obtained.

The actual and online surveys yielded a total of 157 fully completed questionnaires. The collected data was tabulated, evaluated, analyzed, and interpreted using frequency and average point value. Following data tabulation, the results were evaluated using a variety of statistical techniques.

Statistical Treatment of Data

The researcher consolidated, sorted, collated, tallied, and tabulated the surveyquestionnaire data. The collected data was then analyzed and interpreted using the statistical methods listed below:

1. **Frequency Distribution** is a tool for organizing and presenting data in groups. It is created to simplify the task and save time when calculating various statistics.
2. **Percentage** presents a number as a fraction of 100. The percentage computed is as follows:

$$P = \frac{f}{n} \times 100$$

Where:

- P = percentage of distribution
- f = frequency of responses
- n = total number of respondents
- 100 = is given as constant

3. **Weighted Mean** is the summation of the observed values multiplied by the allocated weight, divided by the sum of the observed values. The formula for weighted mean is presented below:



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$$X_w = \frac{\sum fw}{n}$$

Where:

X_w = weighted mean

Σfw = summation of the product of the frequency

n = total number of respondents

n = Total number of values

4. **Analysis of Variance (ANOVA)** is a statistical tool used to determine whether the means of two or more groups differ significantly. ANOVA examines the effect of one or more variables by comparing different sample means.
5. **Ranking** is the ordering of data points from lowest to highest or vice versa and assigning an ordinal number to each data point.

Results and Discussion

This chapter presented the researcher's analysis and interpretation of the statistically treated data collected from the survey conducted regarding the working capital management practices of GOCCs in NCR.

Profile of the Respondents According to Job Position, Job Assignment, Status of Employment, Highest Educational Attainment, Number of Years of Service as Finance Officer and Employee, Classification of Industry and Number of Trainings Attended Related to Working Capital Management.

Table 2

Frequency and Percent Distribution of Respondents by Job Position Level

Job Position	Frequency	Percent
Rank and File	145	92.4
Middle Management	12	7.6
Total	157	100

The frequency and percentage distribution of respondents by job position level was shown in Table

2. 145 or 92.4% of the 157 respondents were rank and file employees, while 12 or 7.6% were middle-level management employees. This indicates that rank and file employees make up the majority of the workforce, as opposed to positions of leadership or management.

Table 3

Frequency and Percent Distribution of Respondents by Job Assignment

Job Assignment	Frequency	Percent
Accounting	75	47.8
Treasury	32	20.4
Budget	23	14.6
Internal Audit	27	17.2
Total	157	100

The frequency and percentage distribution of respondents by job assignment is shown in Table 3. Table 3 shows that 75.8% of responses come from the accounting department, 32.4% from the treasury department, 27.2% from the internal audit department, and 14.6% from the budget department. According to the findings, the majority of finance employees were assigned to the accounting department. The accounting department is in charge of many functions within the agency that are critical to its day-to-day operations. As a result, they typically consume the majority of the agency's time, labor, and resources.

Table 4

Frequency and Percent Distribution of Respondents by Status of Employment

Status of Employment	Frequency	Percent
Job-Order	2	1.3
Contractual	15	9.6
Permanent	140	89.2
Total	157	100

Table 4 shows the frequency and percentage distribution of respondents by employment status. According to the findings, 140 or 89.2% of respondents have permanent appointments, 15 or 9.6% have contractual appointments, and 2 or 1.3% have job orders. According to the findings, the majority of workers employed in government-owned and controlled corporations hold plantilla or regular



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positions.

Table 5

Frequency and Percent Distribution of Respondents by Highest Educational Attainment

Highest Educational Attainment	Frequency	Percent
Bachelor's Degree	140	89.2
Master's Degree	17	10.8
Total	157	100

The frequency and percentage distribution of respondents by highest educational attainment is shown in Table 5. According to the table, 140 or 89.2% of respondents had a bachelor's degree and 17 or 10.8% had a master's degree. This demonstrates that the majority of respondents were not interested in continuing their education after receiving their bachelor's degree. In an unstructured interview, some respondents cited high tuition fees and other expenses, busy work schedules, and heavy workloads as reasons for not pursuing postgraduate education.

Table 6

Frequency and Percent Distribution of Respondents by Number of Years of Service as Finance Officer and Employee

Number of Years of Service as Finance Officer and Employee	Frequency	Percent
1 - 5 years	48	30.6
6 - 10 years	57	36.3
11 - 15 years	30	19.1
More than 15 years	22	14.0
Total	157	100.0

Table 6 shows the frequency and percentage distribution of respondents by years of service as a finance officer and employee. According to Table 6, 57.3% of respondents had worked as a finance officer and employee for 6 - 10 years, 48.6% had worked for 1 - 5 years, 30.1% had worked for 11 - 15 years, and 22.0% had worked for more than 15 years. As a result of improved benefits and competitive pay rates, the government sector appears to be becoming more appealing to applicants and young professionals.

Table 7

Frequency and Percent Distribution of Respondents by Classification of Industry

Classification of Industry	Frequency	Percent
Government Financial Institutions	34	21.7
Trade, Area Development and Tourism	47	29.9
Educational and Cultural	18	11.5
Gaming	26	16.6
Energy and Materials Sector	8	5.1
Utilities and Communication	11	7.0
Healthcare	13	8.3
Total	157	100

Table 7 shows the frequency and percentage distribution of respondents by industry classification. The results show that the majority of respondents (47 or 29.9%) came from the Trade, Area Development, and Tourism sector, followed by 34 or 21.7% from Government Financial Institutions, 26 or 16.6% from Gaming Sector, 18 or 11.5% from Educational and Cultural Sector, 13 or 8.3% from Healthcare Sector, 11 or 7% from Utilities and Communication, and 8 or 5.1% from Energy and Materials Sector. Government-Owned and Controlled Corporations operate in a wide range of industries and are classified based on the nature of their operations.

Table 8

Frequency and Percent Distribution of Respondents by Number of Trainings Attended related to

Working Capital Management

Number of Trainings Attended related to Working Capital Management	Frequency	Percent
1 - 3 trainings	37	23.6
4 - 6 trainings	52	33.1
7 - 9 trainings	40	25.5
10 trainings or more	28	17.8
Total	157	100

Table 8 shows the frequency and percentage distribution of respondents based on the number of working capital management trainings attended. According to the findings, 52 respondents or 33.1% attended 4-6 trainings, 40 or 25.5% attended 7-9 trainings, 37 or 23.6% attended 1-3 trainings, and 28 or 17.8% attended 10 or more trainings. While GOCC employees are permitted and encouraged to



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attend seminars, conferences, and trainings, such attendance is subject to budget constraints. As a result, employees could only attend a limited number of trainings each year. An unstructured interview with some respondents revealed that they occasionally choose to shoulder training expenses that are not within the agency's budget, while others took advantage of free trainings offered internally by the agency.

Respondents' Assessment of the Level of Effectiveness of Working Capital Management Practices of Government-Owned and Controlled Corporations in terms of Cash Management, Accounts Receivable Management, Inventory Management, and Accounts Payable Management

Table 9

Respondent's Assessment on the Level of Effectiveness of Working Capital Management Practices in Terms of Cash Management

Cash Management Practices	Weighted Mean	Rank	Verbal Interpretation
Investment of idle cash on short-term money markets	4.00	8	Effective
Collections are deposited intact within the day or no later than the following banking day	4.22	2	Effective
All payments are made through checks except for petty cash disbursements and payroll	3.98	10	Effective
Cash advances are given for legally specific purpose	4.21	3	Effective
Cash advances are utilized solely for the legal purpose for which they were granted.	4.16	4	Effective
Cash advances are liquidated within a reasonable period after their intended purposes have been met	4.10	5	Effective
Previous cash advances are liquidated before granting a new cash advance.	4.06	6	Effective
Daily reconciliation of book balance with the cash on hand	4.02	7	Effective
Government funds or property should only be disbursed or disposed of with the approval of the appropriate officials.	4.23	1	Effective
No advance payment for services not yet rendered or for undelivered supplies and materials.	3.99	9	Effective
Grand Mean	4.10		Effective

Table 9 shows how respondents rated the effectiveness of working capital management practices in terms of cash management. The statement "Government funds or property should only be disbursed or disposed of with the approval of the appropriate officials" was the most effective among the practices, with a weighted mean of 4.0, while the statement "All payments are made through checks except for petty cash disbursements and payroll" was the least effective, with a weighted mean of 3.98. The overall rating for this aspect was 4.10, which was verbally interpreted as "Effective."

A fundamental rule governing all government operations and transactions under PD 1445 is that the disbursement or disposition of government funds must be approved by appropriate officials to ensure that any disbursements made are lawful. This practice also promotes accountability and ensures that public officials in positions of authority act in the best interests of the people.

Checks have long been the most common mode of payment for government financial transactions as part of cash-handling control procedures. However, as the COVID-19 pandemic spreads, government officials are being forced to impose social distancing policies, strict quarantine measures, and encourage contactless and cashless payments in order to limit physical contact as the COVID-19 pandemic spreads.

The current situation has prompted a shift toward cashless payments, which are thought to reduce transmission risks associated with the physical handling of money and similar monetary instruments. It has also been observed that an increasing number of government agencies are using online and e-payment systems for collections and disbursements in order to avoid disrupting operations while also allowing for more efficient delivery of government services.

Furthermore, with reduced mobility and social distancing affecting people's ability to get to banks or payment centers, some respondents, particularly those directly involved in collections, payment processing, and cash deposit, expressed a preference for online and digital modes of payment for reasons including security, safety, efficiency, and convenience. The advancement of digital technology and innovation, as well as the circumstances brought about by the pandemic, provide an opportunity for policymakers to reassess the current policy payment via checks and consider alternative and more efficient methods of payment to meet the current demands of both the agency and its customers. The World Bank (2020) stated in their Philippine Digital Economy Report titled "A Better Normal Under Covid-19: Digitalizing the Philippine Economy Now" that digitalization of



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payment methods boosts productivity by streamlining payment processes and lowering the cost of doing business. Switching from cash and checks to digital payments lowers transaction costs and expedites payment procedures.

Table 10

Respondent’s Assessment on the Level of Effectiveness of Working Capital Management Practices in Terms of Accounts Receivable Management

Accounts Receivable Management Practices	Weighted Mean	Rank	Verbal Interpretation
Maintenance of credit collection policy indicating the credit terms such as the credit limit, credit period, interest charges for late payments	4.30	1	Effective
Maintenance of an updated customer data like list of names of creditors, business address, contact information	4.20	2	Effective
Periodic monitoring, verification, and validation of the existence of receivables, unliquidated cash advances and fund transfers	4.07	3	Effective
Preparation of aging of receivables, unliquidated cash advances and fund transfers	4.04	4	Effective
Reconciliation of unliquidated fund transfers between the source and implementing government agencies	4.02	5	Effective
Engaging in frequent and consistent collection efforts	3.76	7	Effective
Sending of demand letters and notification of penalty and charges to debtors with past due accounts	3.81	6	Effective
Grand Mean	4.03		Effective

Table 10 exhibits the assessments of the respondents on the level of effectiveness of working capital management practices in terms of accounts receivable management. With a weighted mean of 4.30, the statement "Maintenance of credit and collection policy indicating credit terms such as credit limit, credit period, interest charges for late payments" tops the list, while the statement "Engaging in frequent and consistent collection efforts" has the lowest weighted mean of 3.76. The overall evaluation revealed a grand mean of 4.03, which was verbally interpreted as "Effective."

Accounts receivable account for a significant portion of many GOCCs' total assets, necessitating proper handling and monitoring to ensure collectability and protect the government from material losses. Setting up a solid credit and collection policy can help protect the agency from nonpayment by outlining the terms of credit extension and debt collection procedures to be followed in the event of a default. The implementation of a strategic credit and

collection policy aims to strike a balance between profitability and liquidity in order to ensure the company's long-term viability and sustainability (Ojeka, 2011). The systematic, frequent, and consistent collection of receivables is one way to optimize accounts receivable. It should be noted, however, that the frequency and amount of effort expended in collecting receivables is heavily influenced by the GOCC's cashflow and availability of resources. Larger corporations with more capital used specialized and automated credit and collections management software, allowing them to have a more relaxed collection policy.

It enables them to quickly review customer account information and automate the issuance of billing invoices and the sending of email notifications for past due accounts, saving them time in the time-consuming receivable collection process. Furthermore, the implementation of quality management systems such as ISO 9001:2015 in larger GOCCs improves collection efficiency by streamlining and systematizing collection processes.

Meanwhile, receivable collections remain a challenge for smaller agencies that lack the financial or human resources to employ more sophisticated collection methods, forcing them to rely on manual tracking, collections, follow-ups, and personal visits. Furthermore, receivable collection receives little time and attention, as evidenced by their low collection efficiency and significant number of bad debts as reported in their financial statements.

According to some respondents, because they frequently perform multiple roles, they spend less time and effort sending emails and notifications to debtors. They also claim that most of their receivables were long overdue and dormant, making collection difficult due to a lack of or insufficient documents to support claims as a result of improper turnover when employees leave or resign. As a result, the agency will incur additional costs while the recoverability of receivables is uncertain.

While having well-defined collection procedures helps with timely collection of receivables, the effectiveness of these procedures is influenced by



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each agency's type, size, cash flow situation, available resources, and economic conditions. Specialized receivable management systems help organizations improve operational efficiencies by coordinating and translating information across all business functions. Smaller businesses, on the other hand, lack these technologies due to their size and the high cost of integrating these systems into the business (Wendorf, 2011).

Similarly, according to a Paystream Advisors study titled AR Automation: Taking Control of Collections and Recovery, businesses that use specialized credit and collections software are more efficient in their collections because they spend 62% of their time communicating with their customers, compared to non-automated businesses that spend only 20% of their time on customer relations.

Table 11

Respondent's Assessment on the Level of Effectiveness of Working Capital Management Practices in Terms of Inventory Management

Inventory Management Practices	Weighted Mean	Rank	Verbal Interpretation
Maintenance of supplies ledgers and stock cards for inventories.	4.11	5	Effective
Conduct regular physical count of inventories and supplies	4.13	3	Effective
Maintenance of accurate inventory records	4.18	1	Effective
Regular preparation, update and reconciliation of inventory reports with the accounting records	4.12	4	Effective
Purchase, delivery and withdrawal of inventories are covered with purchase orders, delivery receipt, withdrawal report and other necessary and required documents.	4.16	2	Effective
Proper maintenance, handling and storage of inventories	4.00	6	Effective
Physical safeguard of inventories	3.99	7	Effective
Grand Mean	4.10		Effective

Table 11 shows how respondents rated the effectiveness of working capital management practices in terms of inventory management. The statement "Maintenance of accurate inventory records" received the highest weighted mean rating of 4.18, while the statement "Physical safeguard of inventories" received the lowest weighted mean rating of 3.99. The overall evaluation had a grand mean of 4.10 and was interpreted verbally as "Effective."

Inventory records must accurately reflect the quantity of items available as well as their

associated costs in order for inventory to be used effectively. Accurate inventory records are essential for major decision-making activities such as effective planning, budgeting, forecasting, procurement, and replenishment inventory. Maintaining accurate records reduces the likelihood of theft and pilferage while keeping inventories at optimal levels without interfering with operations (Mbula, et al., 2015).

According to data gathered from the agencies' financial statements, the majority of the respondent agencies are classified as non-inventory-intensive industries, with their inventories consisting primarily of items held for consumption and supplies used in their day-to-day operations. Because these inventories are constantly depleted and replaced, they are rarely subject to access controls. Supplies were immediately distributed to the requesting department or employees upon delivery for agencies with limited space, allowing them to retrieve supplies as needed.

Employees are thus entrusted with the responsibility of storing and safeguarding these supplies. Supplies or materials are under the custody of a property officer or storekeeper in agencies with centralized storage, and their issuance is supported by an approved requisition slip or equivalent documents. While this practice prevents unauthorized access and use and is useful for tracking inventories, some respondents complained that the approval process is inconvenient at times, especially when supplies are urgently needed.

Internal control policies require agencies to implement internal controls to protect assets from unauthorized acquisition, use, or disposition. Limiting resource access reduces the risk of loss or misappropriation while also assisting in the achievement of organizational goals. The level of restriction, however, is determined by the vulnerability of the resource and the anticipated risk of loss or incorrect use, and it should be evaluated on a regular basis (INTOSAD).



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Table 12

Respondent's Assessment on the Level of Effectiveness of Working Capital Management Practices in Terms of Accounts Payable Management

Accounts Payable Management Practices	Weighted Mean	Rank	Verbal Interpretation
Any claims against government funds must be supported with valid and complete documents.	4.37	1	Effective
Payments of obligations must bear the specific approval of the head of the agency or of his authorized representative	4.36	2	Effective
Payments are supported with duly certified and approved Disbursement Vouchers/ Petty Cash Vouchers/Payroll	4.31	3	Effective
Disbursement Vouchers indicate the details of payment and signature of the payee to acknowledge receipt of payment.	4.25	4	Effective
Maintenance of accurate accounts payable records	4.21	5	Effective
Periodic monitoring, review and analysis of accounts payable	4.15	6	Effective
Preparation of aging of accounts payable	4.06	7	Effective
Grand Mean	4.24		Effective

Table 12 shows how respondents rate the effectiveness of their working capital management practices in terms of accounts payable management. "Any claims against government funds must be supported with valid and complete documents," with a weighted mean of 4.37, is the most effective practice, while "Preparation of aging of accounts payable," with a weighted mean of 4.06, is the least effective. With a grand mean of 4.24, the respondents' overall rating was "Effective."

According to the Commission on Audit (COA), the disbursement of government funds for the payment of claims must be accompanied by valid and complete documentation in order to ensure the authenticity, propriety, and legality of transactions. Similarly, COA Circular No. 2012-001, dated June 14, 2012, specifies the specific documentary requirements for each type of disbursement to assist government agencies in processing their transactions. This practice is strictly adhered to by government-owned and controlled corporations.

An accounts payable aging report is a useful tool for monitoring, reviewing, and analyzing outstanding obligations owed to suppliers, as well as prioritizing payments. Some respondents, however, claimed that its preparation takes time because it requires constant updating, is tedious, and is prone to errors, especially when data is entered manually and

transactions are numerous. Furthermore, it is especially difficult to update the aging report as soon as possible because there are times when the exact date of payment for payables cannot be determined immediately. This is true when purchases are governed by a contract between the agency and the supplier, which specifies the contract price and payment terms and conditions.

Payment of payables is not contingent on the supplier's credit terms in such cases, but rather on the submission of all stipulated documentary requirements for payment. In other words, payables payments are made only if and when the supplier follows the terms of the contract. As a result, monitoring and analyzing accounts payable becomes more difficult. While aging reports can be a valuable tool for tracking outstanding payables, their effectiveness and utility are dependent on the accuracy and completeness of the data entered into the report (DelVecchio, 2019).

Significant Difference in the Respondents' Assessments on the Effectiveness of the Working Capital Management Practices by Profile

Table 13

Significant Difference in the Respondents' Assessments on the Effectiveness of the Working Capital Management Practices by Job Position Level

Aspects	Job Position Level	Weighted Mean	F-Test	p-value	Decision	Remarks
Cash Management	Rank and File	4.09	.689	.408	Accept Ho	Not Significant
	Middle Management	4.18				
Accounts Receivable Management	Rank and File	4.03	.005	.944	Accept Ho	Not Significant
	Middle Management	4.03				
Inventory Management	Rank and File	4.11	.734	.393	Accept Ho	Not Significant
	Middle Management	3.98				
Accounts Payable Management	Rank and File	4.23	3.610	.059	Accept Ho	Not Significant
	Middle Management	4.43				

Table 13 shows whether there is a significant difference in respondents' perceptions of the effectiveness of working capital management practices when they are grouped by job position. According to the table above, the p-values for cash, accounts receivable, inventory, and accounts payable management were 0.408, 0.944, 0.398, and 0.059, respectively, all of which are greater than the



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0.05 threshold used for statistical significance. This means that when respondents are grouped according to job position, their assessment of the effectiveness of working capital management practices is statistically the same, and thus the null hypothesis is accepted.

Table 14

Significant Difference in the Respondents' Assessments on the Effectiveness of the Working Capital Management Practices by Job Assignment

Aspects	Job Assignment	Weighted Mean	F-Test	p-value	Decision	Remarks
Cash Management	Accounting	4.15	1.836	.143	Accept Ho	Not Significant
	Treasury	4.08				
	Budget	3.96				
	Internal Audit	4.10				
Accounts Receivable Management	Accounting	4.04	2.121	.100	Accept Ho	Not Significant
	Treasury	3.95				
	Budget	3.96				
	Internal Audit	4.15				
Inventory Management	Accounting	4.13	2.973	.034	Reject Ho	Significant
	Treasury	4.00				
	Budget	3.91				
	Internal Audit	4.30				
Accounts Payable Management	Accounting	4.29	2.271	.083	Accept Ho	Not Significant
	Treasury	4.17				
	Budget	4.12				
	Internal Audit	4.32				

Table 14 shows whether there is a significant difference in respondents' assessments of the effectiveness of working capital management practices when they are grouped by job assignment. Table 14 shows that the p-values for cash, accounts receivable, and accounts payable management are 0.143, 0.100, and 0.083, respectively. Because these are greater than the 0.05 threshold for statistical significance, the respondents' assessment of the level of effectiveness of working capital management practices in these areas is statistically equivalent, assuming the null hypothesis. Meanwhile, the p-value for inventory management is 0.034, indicating that the respondents' assessments in this area are not statistically equivalent, rejecting the null hypothesis.

Table 14 shows that the budget department rates these practices the lowest, with a mean of 3.91. Each department within an organization was responsible for a specific function or set of tasks. The majority of inventory management activities, such as acquisition, inspection, inventory taking, monitoring, control, and inventory safeguarding, are delegated or fall under the purview of the stock

controller or procurement division. The finance department's role in inventory management, on the other hand, included ensuring that inventory costs are accurate and properly reconciled, purchases are made within the agency's budget, and internal control policies and procedures are in place and followed by employees.

The budget department is primarily in charge of allocating funds efficiently among the agency's various activities, including inventory procurement. During budget planning and preparation, they may collaborate with inventory personnel or the procurement department to obtain information on their projected inventory expenditures for the year based on the agency's forecasted production and operational needs, but they are rarely involved in activities involving inventory management and operational control. As a result, employees in the budget department may be unfamiliar with and may not fully comprehend the complexities of the agency's inventory management processes and procedures. According to Montana, as cited by Nordmeyer (2015), functional departmentalization causes problems within organizations because employees tend to focus on their individual tasks rather than the overall business process. As a result, employee development may be limited to the activities of a single functional department, resulting in a narrow range of experience and practical knowledge.

Table 15

Significant Difference in the Respondents' Assessments on the Effectiveness of the Working Capital Management Practices by Status of Employment

Aspects	Status of Employment	Weighted Mean	F-Test	p-value	Decision	Remarks
Cash Management	Job Order	4.00	1.391	.252	Accept Ho	Not Significant
	Contractual	3.96				
	Permanent	4.11				
Accounts Receivable Management	Job Order	4.07	.251	.779	Accept Ho	Not Significant
	Contractual	4.08				
	Permanent	4.02				
Inventory Management	Job Order	4.36	.721	.488	Accept Ho	Not Significant
	Contractual	4.22				
	Permanent	4.08				
Accounts Payable Management	Job Order	4.86	3.890	.022	Reject Ho	Significant
	Contractual	4.13				
	Permanent	4.25				



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Table 15 shows whether there is a significant difference in respondents' assessments of the effectiveness of working capital management practices based on their employment status. Table 15 shows that the p-values for cash, accounts receivable, and inventory management were all greater than the 0.05 threshold used for statistical significance. This demonstrates that respondents' perceptions of the level of effectiveness of working capital management practices in these aspects are statistically identical, implying that the null hypothesis is accepted. Meanwhile, accounts payable management had a p-value of 0.022, which was lower than the 0.05 threshold used for statistical significance, indicating that the respondents' assessments differ statistically in this regard, rejecting the null hypothesis.

Interview with most of the respondents disclosed that the responsibility of validating and processing of disbursement vouchers, the preparation, maintenance and reconciliation of accounts payable reports and records, and the certification and approval on the disbursement of funds were assigned and performed by permanent employees.

Table 15 showed that respondents who are contract of service workers have the least appreciation of these practices acquiring the lowest mean of 4.13. Under Section 7.2 of CSC-COA-DBM Joint Circular No. 1, s. 2017 dated June 15, 2017, it provides that under no circumstances should contract of service and job order workers be required to carry out tasks included in the actual job descriptions of current and permanent employees of the agency.

While the Circular was issued to address concerns such as workers' lack of social protection, benefit inequality, and the ambiguity of JO and COS accountability, the restriction also limits COS and JO workers' opportunities to gain and develop relevant work experience, job-related knowledge, and skills. Furthermore, because they do not actively participate in the performance of these functions, they may be less informed and place less emphasis on understanding the principles, policies, and procedures associated with the tasks.

According to Wandera (2011), many temporary workers want long-term jobs but see short-term work as a necessary step toward obtaining permanent jobs and advancing their careers and skills. However, the longer temporary workers remain as short-term employees, the less chance they have of learning new skills and gaining experience with a variety of tasks. Furthermore, temporary workers' skills are not being fully utilized due to their limited involvement in the performance of specific tasks due to their short working hours.

Accounts payable management in the Philippine public sector is a critical task that requires extreme caution and strict adherence to laws, rules, and regulations. It is therefore critical that personnel assigned with such tasks have the necessary experience and skills, and that they are always informed and aware of new rulings and policies, as well as any changes made to them, in order to remain in compliance with specific government regulations imposed on the industry.

Table 16

Significant Difference in the Respondents' Assessments on the Effectiveness of the Working Capital Management Practices by Highest Educational Attainment

Aspects	Highest Educational Attainment	Weighted Mean	F-Test	p-value	Decision	Remarks
Cash Management	Bachelor's Degree	4.10	.028	.868	Accept Ho	Not Significant
	Master's Degree	4.08				
Accounts Receivable Management	Bachelor's Degree	4.04	1.554	.214	Accept Ho	Not Significant
	Master's Degree	3.93				
Inventory Management	Bachelor's Degree	4.09	.630	.429	Accept Ho	Not Significant
	Master's Degree	4.19				
Accounts Payable Management	Bachelor's Degree	4.24	.011	.916	Accept Ho	Not Significant
	Master's Degree	4.24				

Table 16 shows whether there is a significant difference in respondents' assessments of the level of effectiveness of working capital management practices based on highest educational attainment. Table 16 revealed that the p-values for cash, accounts receivable, inventory, and accounts payable management were 0.868, 0.214, 0.429, and 0.916, respectively. The findings revealed that all p-values were greater than the 0.05 threshold used for



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statistical significance, implying that the respondents' perception is statistically the same, accepting the null hypothesis.

Table 17

Significant Difference in the Respondents' Assessments on the Effectiveness of the Working Capital Management Practices by Number of Years in Service as Finance Officer and Employee

Aspects	Number of years in service	Weighted Mean	F-Test	p-value	Decision	Remarks
Cash Management	1 - 5 years	4.12	1.431	.236	Accept Ho	Not Significant
	6 - 10 years	4.05				
	11 - 15 years	4.19				
	More than 15 years	4.04				
Accounts Receivable Management	1 - 5 years	4.04	.311	.818	Accept Ho	Not Significant
	6 - 10 years	4.04				
	11 - 15 years	3.98				
	More than 15 years	4.05				
Inventory Management	1 - 5 years	4.07	.090	.966	Accept Ho	Not Significant
	6 - 10 years	4.10				
	11 - 15 years	4.13				
	More than 15 years	4.10				
Accounts Payable Management	1 - 5 years	4.29	.839	.474	Accept Ho	Not Significant
	6 - 10 years	4.19				
	11 - 15 years	4.28				
	More than 15 years	4.26				

Table 17 shows whether there is a significant difference in respondents' assessments of the level of effectiveness of working capital management practices based on the number of years in service as a finance officer and employee. According to Table 17, the p-values for cash, accounts receivable, inventory, and accounts payable management were 0.236, 0.819, 0.966, and 0.474, respectively. Because these are greater than the 0.05 threshold for statistical significance, this indicates that the responses do not differ statistically, and thus the null hypothesis is accepted.

Table 18

Significant Difference in the Respondents' Assessments on the Effectiveness of the Working Capital Management Practices by Classification of Industry

Aspects	Classification of Industry	Weighted Mean	F-Test	p-value	Decision	Remarks
Cash Management	Government Financial Institutions	4.11	2.314	.036	Reject Ho	Significant
	Trade, Area Development and Tourism	4.12				
	Educational and Cultural	4.17				
	Gaming	4.19				
	Energy and Materials	3.85				
	Utilities and Communication	3.85				
Accounts Receivable Management	Government Financial Institutions	4.03	.919	.483	Accept Ho	Not Significant
	Trade, Area Development and Tourism	3.99				
	Educational and Cultural	3.99				
	Gaming	4.16				
	Energy and Materials	4.07				
	Utilities and Communication	4.01				
Inventory Management	Government Financial Institutions	3.81	3.494	.003	Reject Ho	Significant
	Trade, Area Development and Tourism	4.08				
	Educational and Cultural	4.14				
	Gaming	4.19				
	Energy and Materials	4.36				
	Utilities and Communication	4.32				
Accounts Payable Management	Government Financial Institutions	4.16	1.310	.256	Accept Ho	Not Significant
	Trade, Area Development and Tourism	4.27				
	Educational and Cultural	4.31				
	Gaming	4.38				
	Energy and Materials	4.18				
	Utilities and Communication	4.09				
	Healthcare	4.21				

Table 18 shows whether there are statistically significant differences in respondents' perceptions of the efficacy of working capital management practices when they are classified by industry. According to the above table, the p-values for cash and inventory management are 0.036 and 0.003, respectively, which are less than the 0.05 threshold for statistical significance. This shows that there is a significant difference in respondents' perceptions of these aspects, rejecting the null hypothesis. Account receivable management and accounts payable management, on the other hand, received p-values greater than 0.05 with p-values of 0.483 and 0.256, respectively. Accepting the null hypothesis, this means that respondents' perceptions do not differ statistically when grouped by classification industry.

Table 18 shows that the Energy and Materials sector, as well as the Utilities and Communication sector, ranked cash management practices lower



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than the other industries, with both sectors obtaining the lowest mean of 3.85. Respondents in both sectors, in particular, ranked the practice of investing idle cash in short-term money markets significantly lower than respondents in other sectors.

Section 2 of Administrative Order No. 173 requires all GOCCs to invest excess and unutilized funds in government-backed securities. It should be noted that the majority of GOCCs classified as Energy and Materials and Utilities and Communication are non-commercial business enterprises, or those that engage in non-commercial activities, operate in non-commercially viable markets, and rely on ongoing government funding to remain operational.

Their responsibilities included carrying out specific government projects and programs with the goal of providing the community with non-commercial and essential goods and services. Though they are permitted to charge an administration fee against the program fund for the implementation of these projects, it is only for a small fraction or percentage of the fund, as the majority of program funds must be spent on achieving the program's objectives and benefiting as many of the targeted beneficiaries as possible. They do not earn enough profits from their own operations to cover all of their operating expenses and current obligations because they are non-commercial GOCCs.

Having said that, it can be deduced that the primary purpose for which these GOCCs were established, the nature of their business, and their functions limit their capacity to generate significant revenue to self-finance their own operations and produce surplus for investment. The respondents' lower assessment of the practice of investing idle cash in short-term money markets, in particular, can be attributed to the practice's current non-applicability to their respective agency due to the aforementioned limitations.

In terms of inventory management, Government Financial Institutions scored lower than the other industries, with a mean score of 3.81. Depending on the industry, nature of operations, and types of

inventories held, GOCCs employ a variety of inventory management strategies. Government Financial Institutions are service-based industries that do not rely heavily on physical inventories to provide their services.

Data gathered from their financial statements revealed that some of the GOCCs in this category only kept inventories used in the agency's normal operations, such as office supplies, accountable forms, and medicines for consumption. This type of inventory does not normally necessitate strict management and control. Furthermore, other agencies' balance sheets do not include any inventory because the purchase of these supplies is treated as part of their overhead expenses upon distribution, so it is not subject to other inventory management procedures like annual physical counts and inventory to accounting records reconciliation. As a result of these factors, respondents from Government Financial Institutions place less emphasis on inventory management.

When it comes to working capital management, there is no single and consistent method. What is considered best practice for one agency may not be effective and cost-effective for another. Working capital management practices and strategies, according to Runolfsson (2019), produce the best results when they are aligned with the operational needs of the business. Different businesses may have different working capital requirements due to a variety of factors such as industry, business structure, and nature of operations.



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Table 19

Significant Difference in the Respondents' Assessments on the Effectiveness of the Working Capital Management Practices by Number of Trainings Attended related to Working Capital Management

Aspects	Number of trainings	Weighted Mean	F-Test	p-value	Decision	Remarks
Cash Management	1 - 3 trainings	4.08	.376	.771	Accept Ho	Not Significant
	4 - 6 trainings	4.12				
	7 - 9 trainings	4.06				
	10 trainings or more	4.13				
Accounts Receivable Management	1 - 3 trainings	4.03	.091	.965	Accept Ho	Not Significant
	4 - 6 trainings	4.04				
	7 - 9 trainings	4.03				
	10 trainings or more	4.00				
Inventory Management	1 - 3 trainings	4.04	.709	.548	Accept Ho	Not Significant
	4 - 6 trainings	4.05				
	7 - 9 trainings	4.16				
	10 trainings or more	4.17				
Accounts Payable Management	1 - 3 trainings	4.24	.067	.978	Accept Ho	Not Significant
	4 - 6 trainings	4.24				
	7 - 9 trainings	4.24				
	10 trainings or more	4.27				

Table 19 shows whether there is a statistically significant difference in respondents' perceptions of the effectiveness of working capital management practices when grouped by the number of working capital management trainings attended. The p-values for cash, accounts receivable, inventory, and accounts payable management are 0.771, 0.965, 0.548, and 0.978, respectively. All aspects have p-values greater than the 0.05 threshold used for statistical significance, indicating that there is no significant difference in respondents' assessments of the level of working capital management effectiveness, and thus the null hypothesis is accepted.

Summary Of Findings, Conclusions and Recommendations

This chapter provides a research summary. It includes the researcher's findings from data analysis and interpretation, conclusions drawn from these findings, and recommendations.

The descriptive design method was used by the researcher to collect data through survey questionnaires. The collected data was analyzed and interpreted using frequency, percent distribution, weighted mean, one-way analysis of variance, and ranking, and was tested using the 0.05 statistical significance threshold.

Summary of Findings

The findings of the study were derived from the data collected, as well as their analysis and interpretation. 145 or 92.4% of the 157 respondents were rank and file employees, while 12 or 7.6% were middle-level management employees.

The majority of respondents (75 or 47.8%) work in the accounting department, 32 or 20.4% in the treasury department, 27 or 17.2% in the internal audit department, and 23 or 14.6% in the budget department.

In terms of employment status, 140 or 89.2% of respondents are permanent appointments, 15 or 9.6% are contractual, and 2 or 1.3% are job-orders.

As for the highest educational attainment, that 140 or 89.2% of the respondents had their bachelor's degree and 17 or 10.8% are master's degree holder, while none of the respondents were high school graduate, technical/vocational graduate and doctorate degree holder.

With regards to number of years of service as finance officer and employee, 57 or 36.3% of the respondents had work as finance officer and employee for a period of 6 – 10 years, 48 or 30.6% had worked for 1 – 5 years, 30 or 19.1% had worked for 11 – 15 years and 22 or 14.0% had length of service of more than 15 years.

In relation to classification of industry, majority of the respondents came from Trade, Area Development, and Tourism sector with 47 respondents or 29.9%, 34 or 21.7% came from Government Financial Institutions, 26 or 16.6% came from Gaming Sector, 18 or 11.5% came from Educational and Cultural Sector, 13 or 8.3% came from Healthcare Sector, 11 or 7% came from Utilities and Communication and 8 or 5.1% came from Energy and Materials Sector.

Lastly, for the number of trainings attended related to working capital management 52 respondents or 33.1% of the respondents attended 4-6 trainings, 40 or 25.5% attended 7-9 trainings, 37 or 23.6%



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attended 1-3 trainings while 28 or 17.8% attended 10 trainings or more.

Assessment on the Effectiveness of Working Capital Management Practices

In terms of Cash Management, among the practices, the statement “Government funds or property should only be disbursed or disposed of with the approval of the appropriate officials” was the most effective with a weighted mean of 4.0 while the statement “All payments are made through checks except for petty cash disbursements and payroll” was the least effective with a weighted mean of 3.98. The overall assessment for this aspect showed a grand mean of 4.10 and was verbally interpreted as “Effective”.

In relation to Accounts Receivable Management, topping the list is “Maintenance of credit and collection policy indicating the credit terms such as the credit limit, credit period, interest charges for late payments” with weighted mean of 4.30, while the statement “Engaging in frequent and consistent collection efforts” got the lowest weighted mean of 3.76. The overall assessment disclosed a grand mean of 4.03 and was verbally interpreted as “Effective”.

With regards to Inventory Management, the statement “Maintenance of accurate inventory records” was rank highest with a weighted mean of 4.18 while “Physical safeguard of inventories” were rank the lowest with weighted mean of 3.99. The overall assessment for this aspect showed a grand mean of 4.10 and was verbally interpreted as “Effective”.

Lastly, in terms of Accounts Payable Management, the most effective among the practices is “Any claims against government funds must be supported with valid and complete documents” with a weighted mean of 4.37 while the least effective is “Preparation of aging of accounts payable” with weighted means 4.06. Overall, the respondents’ assessment for this aspect was determined as “Effective” with a grand mean on 4.24.

Significant difference in the Respondent’s Assessment on the Effectiveness of Working Capital Management Practices by Profile

The aspects cash, accounts receivable, inventory and accounts payable management obtained p-values of 0.408, 0.944, 0.398 and 0.059, respectively, which are higher than 0.05 threshold used for statistical significance. This means that the respondent’s assessment on the effectiveness of working capital management practices when group according to job position is statistically the same, hence, the null hypothesis is accepted.

When group according to job assignment, the aspects cash, accounts receivable, and accounts payable management display p-values of 0.143, 0.100 and 0.083, respectively. Since these are above the 0.05 threshold used for statistical significance, the respondents’ assessment on the level of effectiveness of working capital management practices in terms of these aspects is statistically the same, accepting the null hypothesis. Meanwhile, in relation to inventory management, it displays a p-value of 0.034, which signifies that the assessment of the respondents in this aspect is not statistically the same, rejecting the null hypothesis

Similarly, when grouped according to status of employment, the aspects cash, accounts receivable, and inventory management got p-values of 0.252, 0.779, and 0.488, respectively, greater than 0.05 threshold used for statistical significance. This reveals that the respondents’ perception on the level of effectiveness of working capital management practices in these aspects is statistically the same, thus, the null hypothesis is accepted. Meanwhile, accounts payable management displayed a p-value of 0.022, lower than the 0.05 threshold used for statistical significance, which suggest that the assessment of the respondents differ statistically in terms of this aspect, rejecting the null hypothesis.

When group according to highest educational attainment, the aspects cash, accounts receivable, inventory and accounts payable management received p-values of 0.868, 0.214, 0.429 and 0.916, respectively. The results revealed that all p-values



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were found to be greater than the 0.05 threshold used for statistical significance, which means that the perception of the respondents is statistically the same, accepting the null hypothesis.

Likewise, when grouped according to number of years as finance officer and employee, the aspects cash, accounts receivable, inventory and accounts payable management got p-values of 0.236, 0.819, 0.966 and 0.474, respectively. Since these are above the 0.05 threshold used for statistical significance, this indicates that the respondents' assessment do not differ statistically, therefore, the null hypothesis is accepted.

On the contrary, when group according to classification of industry, the aspects cash and inventory management have p-values of 0.036 and 0.003, respectively, which is lower than the 0.05 threshold used for statistical significance. This depicts that there is significant difference in perception of the respondents in terms of these aspects, rejecting the null hypothesis. On the other hand, the aspects account receivable management and accounts payable management got p-values of 0.483 and 0.256, respectively, higher than 0.05. This means that the perceptions of the respondents do not differ statistically when group according to classification industry, accepting the null hypothesis.

Lastly, when group according to number of trainings attended related to working capital management, the aspects cash, accounts receivable, inventory and accounts payable management presents a p-value of 0.771, 0.965, 0.548 and 0.978, respectively. All aspects have p-value greater than the 0.05 threshold used for statistical significance, which indicates that there is no significant difference on the assessment of respondents on the level of effectiveness of working capital management, therefore, the null hypothesis is accepted.

Conclusions

Based on the abovementioned findings, the researcher made the following conclusions:

1. Results reveal that majority of the respondents are rank and file employees, assigned in the accounting department, have permanent positions, bachelor's degree holders, had been in service for 4 – 6 years, working in Trade, Area Development and Tourism Sector, and have attended 4 – 6 trainings related to working capital management.
2. The working capital management practices of government-owned and controlled corporations in relation to cash, accounts receivable, inventory and accounts payable management were assessed as “Effective”.
3. There was no significant difference in the respondent's assessment on the effectiveness of working capital management practices when grouped according to job position, highest educational attainment, number of years in service as finance officer and employees and number of trainings attended related to working capital management. Therefore, the null hypothesis was accepted. On the other hand, when grouped according to job assignment, the assessment of the respondents on the effectiveness of working capital management in terms of inventory management was statistically significant. Similarly, when the respondents were grouped according to status of employment, their perception on the effectiveness of working capital management practices in terms of accounts payable management is statistically significant. Lastly, when grouped according to classification of industry, there is a significant difference in the assessment of the respondents on the level of effectiveness of working capital



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management practices in terms of cash and inventory management. Hence, the null hypothesis in these aspects was rejected.

Recommendations

The researcher suggested the following recommendations based on the aforementioned findings and conclusions of the study:

1. Policy makers should re-assess the current practice of paying through checks and consider alternative and more efficient ways of making payments to modernize the payment process and catch up with the quickening pace of technology and changing trends. Lay out centralized guidelines for the use of electronic and digital mode of payments for a safe, transparent, efficient and cost-effective processing of transactions.
2. For GOOCs with manual processes, make collection a top priority by implementing more proactive collection strategies like appointing part-time or full-time collection officers to assist with collection. Consider automating the receivable management system to boost collection efficiency, if allowed within the budget and financial resources of the agency. Consider applying for ISO certification for the agency's major business processes, including the collection process, to identify flaws in current policies and streamline processes for a more efficient collection process.
3. Implement an appropriate inventory safeguard for each type of inventory maintained to protect against unauthorized access, use, loss, and wastage. When storage rooms or spaces are limited, effectively forecast demand and plan the procurement of materials and supplies, and only purchase supplies that meet the agency's needs for a specific period of time. Create written policies, if none exists, defining the role and responsibility of every employee in securing and safeguarding supplies, materials and inventories and enforce those policies by imposing appropriate sanctions for non-compliance.
4. Carefully and regularly review aging report to identify data entry errors and inconsistencies. Monitor status of purchases and submission of documentary requirements by suppliers and update aging report as necessary and strengthen quality control procedures such as counter-checking of records to keep it as current as possible. Consider investing in accounting software with accounts payable management tools, if none exists, to efficiently manage payables.
5. The agency may conduct inventory management training and seminars for budget officers and employees or encourage them to attend such trainings to help them acquire a better understanding of the activities related to inventory management and the relevant costs associated in each activity. Having a basic understanding of the costs associated with inventory management will aid in effective budget planning and efficient fund allocation that matches the agency's operating needs.
6. Set up budget and prioritize the appointment of existing and qualified temporary workers to the agency's available *plantilla* positions if they meet the qualifications needed for the job and standards set by the Civil Service Commission. Provide



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additional trainings to keep them inform and compliant on the existing rules and regulations that affects the performance of their functions.

7. Continuously evaluate the applicability of the current policy of investing idle cash to short-term money markets on the agency. Review cash accounts for any inactive and unrestricted accounts and invest them in short-term securities taking into account the immediate needs for cash of the agency.

Supplies inventories constitute significant government expenditure that need careful management to ensure public funds are put into goods use. For agencies whose inventories mainly includes supplies use in their daily operations, control measures may include appointing personnel within each department to track and monitor whether supplies are being used efficiently, secured and stored properly. Since the employees are the primary users of these supplies, it is important to regularly remind them of their responsibility for the optimal use these resources to prevent wastage and contribute to the cost-effectiveness of their operations.

8. The study only covers the working capital management practices of GOCCs in general. It is therefore suggested that additional research be conducted focusing on the individual agency or industry specific working capital practices to determine the optimal and best practices within the same agency or industry.
9. Study can be further improved and validated through longer duration of data gathering to increase the number of respondents and consider other

variables that could affect their perception of effective working capital management practices.

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Optimizing Portfolio Performance in the Philippine Financial Markets using Smart-Beta

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Abstract

This study aimed to determine the impact of smart-beta strategies in portfolio optimization. In view thereof, five (5) zero-weighted and five (5) 100%-weighted smart-beta portfolios were constructed using: (a) fundamental indexation; (b) market capitalization weighting; and minimum-variance optimization applying quadratic programming and cardinality-constraint. In conducting data analysis and review of the performance of the constructed smart-beta portfolios, Wilcoxon Sign Rank test, Chow's test, Sharpe's ratio, Treynor's measure and Jensen's index were conducted using the software R (version 4.1.1). Results show that while majority of the constructed smart-beta portfolios failed to reject the null hypothesis of obtaining annual returns with no significant difference against the market, three (3) out of 10 portfolios significantly outperform the market in terms of cumulative returns, Sharpe's ratio and Jensen's index. With reference to the derived betas and Treynor's measure, the 10 smart-beta portfolios show inverse relationship with the market implying that these portfolios also serve as good alternatives in times of adverse market conditions.

Purpose – To bridge the gap in current literature by applying smart-beta strategies in portfolio optimization in order to provide a better investment alternative for Filipino investors.

Design/methodology/approach – Historical data on fundamental measures of company size, returns and market capitalization of companies listed in the Philippine Stock Exchange (PSE) were obtained from Thomson Reuters Eikon Refinitiv. Methodologies employed were fundamental indexation and portfolio optimization using quadratic programming and cardinality constraint.

Findings – The smart-beta strategies used when applied to PSE-listed companies produced negative beta and Treynor's measure with inverse relationship to the market. As such these smart beta strategies serve as good investment alternative in case of bearish financial conditions. Meaning, in case the market prices are low or when the economic condition is generally unfavorable, Filipino investors may opt for these smart-beta portfolios.

Research limitations/implications – This study imposes limitations on portfolio rebalancing and reconstitution of assets in the constructed portfolios. Hence, this study was unable to compare the impact of Philippine Stock Exchange Index's (PSEi) reconstitution of assets to its generated returns against the possible effect of the reconstitution of the constructed portfolios to its generated returns. Likewise, as the methodology employed involves short-selling, the study was unable to quantify which portion of the returns of the portfolios involving short-selling were attributed to smart-beta or the limitation to short-sell PSEi securities.



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Practical and Social Implications – The results of the study will encourage financial institutions, fund managers, and investors to explore other investment techniques other than market capitalization (i.e., smart-beta strategies) to reduce risks and ultimately maximize desired returns.

Originality/Value – This study is novel in applying smart-beta strategies to PSE listed equities.

Keywords: Portfolio Optimization, Smart-Beta Strategy, Fundamental Indexation, Minimum-Variance Optimization, Cardinality-Constrained Minimum-Variance Optimization

Relevant SDGs: SDG 8 Decent Work and Economic Growth

Introduction

For at least five decades, investors and the financial industry have been adhering to the Efficient Market Hypothesis (EMH) and the Capital Asset Pricing Model (CAPM) as prevailing financial theories in investing. Both theorems suggest that the market portfolio, which is market capitalization weighted, is mean-variance efficient; and investors holding the market portfolio incur optimal risk-adjusted returns.

Adhering to these theorems, market capitalization weighting has been the common and most widely used methodology for security allocation in an index. Its basic premise is to let the market decide on the importance of each security based on how much investors value each company (Ferri, 2008). In fact, there are numerous market capitalization weighted indices globally. In the Philippine settings, the PSEi itself also adheres to EMH and CAPM as it adopts the market capitalization weighting methodology and serves as the benchmark in evaluating performances of specific portfolios. Particularly, there are existing funds [i.e., index funds, mutual funds, unit investment trust funds (UITFs), exchange-traded funds (ETFs)] that replicate the performance of the PSEi [e.g., First Metro Philippine Equity ETF (FMETF), iShares MSCI Philippines ETF (EPHE)].

However, many note that in assessing the performance of an equity index that is market capitalization weighted, large companies tend to

have greater influence over smaller companies such that in the case of Russell 3000, which is composed of 3,000 equities, the largest 100 stocks have the greatest influence on the index return (Ferri, 2008).

Based on the smart-beta strategy coined by Arnott et al. (2005) and Arnott and West (2006) suggesting that the use of an indexing method based on attributes other than market capitalization provides a good alternative benchmark of optimal portfolio choice, this paper assessed the effective application of smart-beta strategy in the Philippine financial market.

This study aimed to: (a) develop portfolios using smart-beta techniques focusing on employing fundamental indexation to companies listed in the PSE, wherein fundamental attributes of company size (i.e., book value, cash flows, dividend yield and sale) were used as basis for weight allocation; and (b) compare its performance with the benchmark PSE index (PSEi) for the period 2010 to 2019. Further, with the end in view of enhancing portfolio selection, this study also applied cardinality-constrained minimum-variance optimization to other portfolios, such that, there are constructed portfolios limited to 10, 20 and 30 stocks only.

Against this backdrop, this study addressed the research question: Can a smart-beta portfolio serve as a better alternative for Filipino investors and will it outperform the market?

The scope of this study included the use of data on performance and fundamental attributes of



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companies listed in the PSE. However, there was limitation on portfolio rebalancing. Consistent to the methodology suggested by Arnott et al. (2005), the fundamental indexation and smart-beta portfolios were only rebalanced annually. This considered the rationale that fundamental measures of company size do not vary frequently as compared to share prices and number of shares outstanding as used by market capitalization. Relatedly, there was likewise limitation on the reconstitution of assets in the constructed portfolios. Hence, this study was unable to compare the impact of PSEi's reconstitution of assets to its generated returns against the possible effect of the reconstitution of the constructed portfolios to its generated returns. Furthermore, due to constraint in the application of short-selling in the PSE, this study also imposed limitation as to quantifying which portion of the returns involving short-selling were attributed to smart-beta methodology or the limitation to short-sell PSEi securities during the given period.

In general, the result of this study seeks to give significant alternative investment strategy to the government, financial institutions/fund managers, corporate and individual investors to boost and enable stimulus in the Philippine Financial Market and ultimately help in the growth of the Philippine economy.

Literature Review

Smart-beta Strategy based on Fundamental Indexation

Fundamental indexation was first coined by Arnott et al. (2005) and Arnott and West (2006) in their attempt to challenge CAPM's principle that investors cannot outperform the market portfolio. Their study tested whether indices based on a set of capitalization indifferent measures of company size are more mean-variance effective as compared to market capitalization indices. Arnott et al. (2005) used book value, cash flow, revenue, sales, dividend, and employment and dollar payroll as fundamental measures of company size to construct an index. On the other hand, Arnott and West (2006) used book value, sales, dividends, and operating cash flows as

fundamental measures in indexation. Results showed that capital weighting systematically overweight overvalued stocks and underweight undervalued stocks in a portfolio.

Treynor (2005) also strengthened the results of the study that market-valuation-indifferent portfolios provide higher returns than the capitalization weighted portfolios showing that weight allocations are not affected by errors in market prices. He also illustrated how fundamental indexing strategy can resolve the overweighting of overvalued equities and underweighting of undervalued equities caused by market capitalization weighted indexation.

Likewise, Hsu (2006) showed that capitalization weighting may produce sub-optimal results due to price noise and market inefficiency, mathematically illustrating that the cost of sub-optimal capitalization weighting equates the square of the noise in the stock prices.

Siegel (2007) also stated that fundamental indexation may provide solution to the shortcomings of capitalization weighted indices.

It is noteworthy, however, that Perold (2007) disagreed with the fundamental indexation's argument that if equity pricing error is uncorrelated with its fair value, it must be correlated with its market value, hence resulting to performance bias of capitalization weighing. He argued that if pricing error is uncorrelated with fair value, it must also be uncorrelated with the market value, as such, the lack of correlation between pricing error and conditional market value makes the returns on capitalization weighting not a priori biased.

This notwithstanding, Kaplan (2008) in response to Perold (2007) substantiated that if the correlation between the fundamental values and fair values exceeds the correlation between the market values and the fair values, indexing based on fundamentals is the a priori superior approach. Otherwise, the capitalization weighting is superior. Further, as fair values are unobservable in equities, investors can only determine better strategy based on historical performance. Kaplan also suggested that combining



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market value and fundamental weights to form portfolio would be better.

Finally, to augment existing works, Arnott et al. (2010) also discussed that passive investors face benchmark regret considering that market capitalization may not be the only legitimate benchmark of optimal portfolio choice.

Empirical Evidence on Smart-beta Portfolio Performance

The fundamental-based portfolios of Arnott et al. (2005) showed that during a 43-year review period, these fundamentals-based portfolios have beaten the S&P 500 by an average of 197 basis points per year. The performance of these portfolio also shows robustness across time, business cycle and market conditions. Supplemental to this, the fundamental indexation of Arnott and West (2006) confirmed that such provides excess returns in small-company portfolios, global contexts and within economic sectors.

Estrada (2008) assessed the extent of attaining optimal international diversification by applying fundamental indexation. He constructed an index portfolio based on 16 country benchmarks for the period 1974-2005. The global fundamental strategy based on dividend per share obtained better results as compared to the global capitalization-weighted strategy by 1.9% a year.

On the other hand, Mar et al. (2009) assessed the results of fundamental indexation in Australian financial market from 1995 to 2006. Results of their study showed that the strategy provides a good alternative investment to capitalization weighted indices as it outsmarts the capitalization weighted index for majority of the period review while having similar volatility. Although they noted its underperformance during times of extreme market irrationality during the financial bubble in 1997 and 1998.

Walkshausl and Lobe (2010) investigated the performance of global and country-specific fundamentally weighted portfolios against the

capitalization-weighted portfolios. Results of their study showed that the performance of domestic portfolios is reduced when a bootstrap procedure for robust performance testing was applied. However, when controlling for data snooping biases and value premium, global fundamental indices are outperforming but do not show similar evidence for country-specific indices.

Basu and Forbes (2014) validated that fundamental indexation in the Australian Market from April 1985 to March 2010 is better than the benchmark by over 350 basis points with lower volatility. Robustness checks also established that the fundamental indexation produces optimal returns across varying market conditions. While they noted that excess returns were not sustained in strong bull markets, the strategy is more appealing to investors with long-term horizons.

AlMahdi (2015) further strengthened the theory that smart-beta strategy provides better results as compared to capitalization weighted methodology. The four portfolios he constructed with different strategies involving combined use of market capitalization, construction of smart-beta index and minimum-variance for the equities listed in the S&P 100 showed that the constructed hedge funds (zero-weighted portfolios constructed from combined minimum-variance, market capitalization and smart-beta indexation) can be used by risk averse investors while the general portfolios (100% weighted portfolios constructed from combined minimum-variance, market capitalization and smart-beta indexation) produced higher returns. Moreover, all portfolios showed that the beta is dynamic as it adapts to market movements.

Maguire et al. (2018) also showed optimal results of smart-beta strategy. They constructed two smart-beta portfolios: (a) long-short beta-neutral strategy based on momentum indicators; and (b) minimized volatility portfolio which exploits the observation that low-volatility stocks tend to yield higher risk-adjusted returns than high-volatility stocks. Sharpe's ratios of these portfolios were then compared against a market benchmark. Results showed that the portfolios produced a Sharpe's ratio



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of 0.61. and 0.90, respectively, while the market benchmark had a 0.42 Sharpe's ratio. The study further showed that the combined portfolios obtained a 1.35 ratio within six months of live trading. Maguire et al. verified that applying smart-beta approach to investment is efficient and merging several smart-beta strategies delivers better results.

Adopting smart-beta strategies also show positive results to Shariah-compliant equity portfolios. Raza and Ashraf (2019) constructed a portfolio consisting of securities from Persian Gulf Arab states, Malaysia, Indonesia, Japan, Australia, Canada, USA and the global market. Empirical results show that the constructed smart-beta Shariah-compliant equity portfolios outperform the conventional market capitalization weighted portfolios including other market capitalization weighted Shariah-compliant equity portfolios.

Research Gap

Referring to the above-cited empirical evidence on the positive performance of smart-beta portfolios over the benchmark market capitalization portfolios, particularly in established financial markets; and the lack of published research on the tested optimization of portfolios applying smart-beta strategies to PSE listed equities, this study sought to examine if smart-beta strategies applied to a portfolio consisting of firms listed in the PSE provides optimal results. This study also aimed to supplement existing literature on the application of the aforesaid strategy to emerging markets.

Research Philosophy, Framework, Design, and Methodology *Theoretical Framework*

The EMH, as postulated by Eugene Fama (1970), provides the concept that equities reflect all publicly available information and equities always trade at their fair value on stock exchanges. Hence, investors cannot obtain abnormal profits from the market and that one has no opportunity to outsmart the market. This theorem is the pillar of passive investment, particularly that of indexing strategies which influences various fund managers and investors to

believe that holding portfolios that replicate the market performance (e.g., index funds, mutual funds, UITFs and ETFs) are considered optimal investment strategy.

The minimum-variance optimization, commonly known as Modern Portfolio Theory (MPT) was first coined by Harry Markowitz (1952). The theory provides that investors should evaluate portfolio based on means (returns) and variances (risk). It explains that expected returns are maximized for a given level of risks. Rationally, if the investors want higher returns, they must incur higher risk; otherwise, if the investors settle for lower risk, they must expect lower returns. The MPT, thus, provides that it is significant for the investors to allocate assets in the portfolio to ensure their desired outcome, that is whether achieving higher returns with high risks or obtaining lower returns with low risks. This gave birth to the concept of diversification, wherein variances can be reduced in a given portfolio by putting additional different imperfectly correlated assets.

Built upon Markowitz's mean-variance framework, Sharpe (1964), Lintner (1965) and Mossin (1966) postulated CAPM, a market equilibrium model, which estimates the correlation of the market's expected returns and capital risks. While the MPT presented that risk reduction can be made through the concept of diversification, the CAPM acknowledges the presence of systematic risks or market risks (e.g., inflation, recession) that cannot be diversified. It provides that only unsystematic risks or risks that are specific to the assets may be diversified.

These above cited theorems strengthened the impression that market portfolios are good benchmark for evaluating portfolio performance.

The theory of Fundamental Indexation, on the other hand, challenged the notion that market portfolios are mean-variance effective and the view that one holding it cannot beat the market. As presented by Arnott et al. (2005) and Arnott and West (2006), CAPM considers firm weightings proportional to their equity prices. Thus, shows that overpriced



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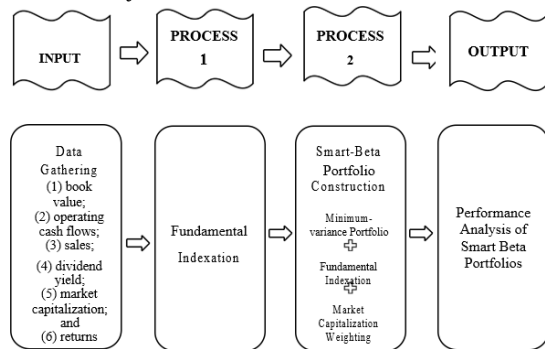
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equities are overweighted and undervalued equities are underweighted, hence, market capitalization weighting methodology is not market efficient and not mean-variance optimal. In order to break the link between equity prices and weightings in the portfolio, a group of fundamentally weighted, non-capitalization-based indices were constructed wherein portfolios based on these indices provide consistent optimal returns over the traditional market capitalization equity market indices.

Operational Framework

The figure below shows the operational framework of this study.



Methodology

This study developed smart-beta portfolios designed to provide better performance than the market. The initial stage involves implementing fundamental indexation strategies to firms listed in the PSE for the period 2010 to 2019. Unlike the capitalization-weighted index, fundamental attributes of company size (i.e., book value, operating cash flows, dividend yield, and sales) were used as basis for weight allocation.

The succeeding stage of the research involves creation of smart-beta portfolios following the assumption of AlMahdi (2015) and Arnott et al. (2010) that smart-beta strategy is best determined if weights from minimum-variance optimization, market capitalization and fundamental indexation are combined. Thus, smart-beta portfolios were constructed combining weights from: (a) the minimum-variance portfolios; (b) market

capitalization; and (c) fundamental indexation. Further, with the end in view of enhancing the portfolio selection, this study also employed cardinality-constrained minimum-variance optimization to other portfolios. The last stage then involves analysis of the portfolio performance against the market.

Fundamental indexation

In applying fundamental indexation to firms listed in the PSE for the period, methodology was based on the fundamental indexation of Mar et al. (2009) and Basu and Forbes (2014), wherein three-year historical data on fundamental attributes of company size were used to compute for the weight allocation. Relatedly, data on the fundamental measures of company size for the period 2007 to 2019 were obtained.

The criteria used for selecting eligible equities for fundamental indexation is shown in Appendix A.1. Table 1 below shows the number of eligible stocks determined for each year from 2010 to 2019.

Table 1.

No. of Eligible Stocks for Fundamental Indexation

Year	No. of Eligible Stocks
2019	234
2018	232
2017	226
2016	218
2015	213
2014	208
2013	203
2012	200
2011	200
2010	191

From these eligible equities, referring to AlMahdi (2015), the weight allocation for each equity were calculated as average of percentage of book value



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(*PB*), percentage of operating cash flows (*PC*), percentage of dividend yield (*PDY*) and percentage of sales (*PS*):

$$X_i = \frac{PB_i + PC_i + PDY_i + PS_i}{4}, \text{ subject to: } \sum_{i=1}^n x_i = 1.$$

Smart-Beta Portfolio Construction

Based on AlMahdi (2015), two-minimum variance portfolios were constructed (i.e., 100% weighted and zero-weighted) to select the eligible securities for the smart-beta portfolio. The minimum-variance portfolios in this study were constructed using R's quadratic programming.

It was observed, however, that there are huge number of assets in the composition for these minimum-variance portfolios (i.e., the zero-weighted minimum-variance portfolio consists of assets ranging from 53 to 66 while the 100% weighted minimum-variance portfolio consists of assets ranging from 44 to 72).

Bearing in mind the existing literatures on suggested ideal number of asset composition in a given portfolio, this study tried to limit the portfolio sizes to 10, 20 and 30 stocks only. This was done through the application of cardinality-constraints to 100% weighted minimum-variance portfolios only, considering that cardinality-constraints cannot be applied to zero-weighted portfolios mathematically.

Resulting weights from these minimum-variance portfolios were thereafter combined with weights based on fundamental indexation and data gathered on each equity' market capitalization with respect to the equations and illustrative examples as shown in Appendix A.2.

As shown in Appendix A.2, a total of 10 smart-beta portfolios were constructed (i.e., five (5) zero-weighted and five (5) 100%-weighted).

Performance Analysis

Quantitative research was used to derive and obtain the overall performance of the portfolios. Test of Risk-Adjusted Returns such as Sharpe's (1964) ratio, Treynor's (1965) measure, Jensen's (1968) index was employed. Further, in addition to Wilcoxon Sign Rank test of significance, test on impact on Structural Change was also conducted to verify whether the data used do not contain structural break, pre and post the 2008 Global Financial Crisis.

Given the linear regression using the portfolio and market returns, a Chow's (1960) test was used to observe presence of structural break overlapping with the GFC. Referring to Gujarati (2003), F-test was employed to conduct the Chow's Test. The equation below was used to test the structural break pre- and post-GFC.

$$F = \frac{(RSS_p - (RSS_1 + RSS_2))/k}{(RSS_1 + RSS_2)/(N_1 + N_2 - 2k)}$$

where:

- RSSp = complete regression line
- RSS1 = regression line before GFC
- RSS2 = regression line after FFC
- k = number of parameters estimated
- RSS2 = number of observations.

Data Results and Analysis

Following the detailed parameters and formula laid down in Appendix A, smart-beta portfolios were constructed. Comparative analysis of mean returns shows that of the 10 portfolios, six (6) incurred losses (portfolio nos. 3 to 7, and 9) one (1) earned profit below the market returns (portfolio no. 8), while three (3) [portfolio nos. 1, 2 and 10] earned profits above the market returns. Nonetheless, test of significance showed that only portfolio no. 1 incurred returns that are significantly higher than the PSE*i*. The tables below show the descriptive statistics of the annual and cumulative returns of the 10 portfolios. The plots are shown are shown in Appendix B.



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Table 2.

Descriptive Statistics of Annual Portfolio Returns

Portfolio Type	Mean	Std. Dev.	Max	Min	P Value
1	0.338	0.257	0.716	0.079	0.043
2	0.197	0.166	0.571	-0.003	0.353
3	-0.106	0.217	0.176	-0.577	0.023
4	-0.055	0.172	0.242	-0.258	0.019
5	-0.087	0.213	0.154	-0.395	0.075
6	-0.021	0.175	0.261	-0.273	0.089
7	-0.010	0.387	0.498	-0.983	0.579
8	0.056	0.254	0.586	-0.244	0.436
9	-0.147	0.498	0.226	-1.515	0.089
10	0.154	0.265	0.621	-0.197	0.912
PSEi	0.110	0.172	0.376	-0.128	
Bond	0.028	0.015	0.052	0.007	

Table 3.

Cumulative Portfolio Returns

Portfolio Type	Cumulative	P Value	Mean
1	3.385	0.000	2.172
2	1.975	0.043	0.869
3	-1.065	0.000	-0.639
4	-0.549	0.001	-0.123
5	-0.871	0.000	-0.478
6	-0.214	0.353	0.197
7	-0.097	0.000	-0.426
8	0.560	0.853	0.309
9	-1.472	0.000	-1.482
10	1.539	0.000	1.240
PSEi	1.103		0.280
Bond	0.283		0.122

As to the Test of Risk-Adjusted Returns (as shown in Table 4), it was determined that Sharpe ratios for portfolio nos. 1, 2 and 10 are in positive values. (0.833, 0.391 and 0.331, respectively). This goes to show that these portfolios get good excess returns per unit of over-all risk (systematic and unsystematic). With respect to the Jensen's index, portfolio nos. 1 and 2 provide statistically significant positive alpha coefficients. Hence, these two (2) portfolios outperform the market in terms of risk-adjusted returns. Notable, however, that portfolio no. 1 remains superior against the market and the rest of the smart-beta portfolios.

Table 4.

Results of Risk-Adjusted Returns

Portfolio Type	Sharpe	β	Treynor	Jensen α	P Value
1	0.833	-0.352	-0.786	0.352	0.000
2	0.391	-0.656	-0.174	0.205	0.008
3	-0.530	-1.083	0.174	-0.071	0.242
4	-0.414	-0.772	0.162	-0.026	0.613
5	-0.562	-0.569	0.312	-0.09	0.283
6	-0.376	-0.190	0.510	-0.03	0.675
7	-0.179	-0.096	0.827	-0.024	0.885
8	-0.022	-0.171	0.040	0.055	0.606
9	-0.425	-0.303	0.788	-0.173	0.421
10	0.331	-0.053	-1.913	0.162	0.146

It was also noted that as to portfolio risks, all portfolio types obtained higher standard deviations compared to that of the market portfolio, indicating that all portfolios are riskier than the market. On the other hand, betas obtained are all in negative values implying that the portfolios have an inverse relationship to the market. Relatedly, the Treynor's measures prove the inverse relationship between the portfolios and the PSEi. The Treynor's measure for portfolio nos. 1, 2 and 10 which outperform the market are in negative values, while the rest of the portfolios which underperform the market are in positive values.

Moreover, as the results of the β and Treynor's index show inverse relationship with the market, it may be construed that while portfolio nos. 3 to 9 fail to perform better than the market, they serve as alternative investments when the market prices are low, in case of bear market or when the condition of the economy is generally unfavorable.

Lastly, taking into account the use of historical financial data pre-, mid-, and post-GFC (2007 to 2009) as basis for fundamental indexation for the first three-year period (2010 to 2012), the Chow's test (results shown in table 5) was conducted to assess the presence of structural break. Results show that only portfolio no. 6 rejects the null hypothesis of no structural break in data sets of the portfolio regressed against market returns. As there is no strong evidence of a structural break for the other nine (9) smart-beta portfolios, it is confirmed that the datasets were not affected by the financial turmoil.



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Table 5.

Results of Chow's Test

Portfolio Type	F Value	P Value
1	3.909	0.082
2	1.458	0.305
3	3.213	0.113
4	0.380	0.699
5	0.458	0.653
6	6.246	0.034
7	0.490	0.635
8	0.297	0.753
9	1.019	0.416
10	2.709	0.145

Discussion, Conclusions, Recommendations

Generally, only three (3) out of ten portfolios (nos. 1, 2 and 10) significantly outperform the PSE*i* in terms of cumulative returns. These portfolios also show positive Sharpe's ratios suggesting good excess returns per unit of over-all risk. Hence, these three portfolios are best suitable for investors seeking long-term investments.

Likewise, portfolio nos. 1 and 2 show outperformance against the market in terms of risk-adjusted returns as a result of its statistically significant positive alpha coefficients. Significantly, it also bears noting that based on all tests, portfolio no. 1 remains superior against the market and the rest of the smart-beta portfolios.

With regards to risk, while the standard deviation obtained showed all portfolio types are riskier than the market, beta obtained are in negative values. It should be considered that the standard deviation pertains to both the diversifiable and non-diversifiable risks in the portfolio while beta measures volatility in terms of systematic risk (non-diversifiable risk) only. As such, while all portfolios are riskier than the market in terms of standard deviation, part of these risks may still be mitigated through diversification.

The Treynor's measures also presents that all portfolio types have inverse relationship with market. Therefore, while portfolio nos. 3 to 9 fail to outperform the market, they serve as good alternative investments when the market condition

is unfavorable. Foregoing considered; this study would benefit funds managers to explore applying the strategies of the constructed smart-beta portfolios for hedging depending on the market conditions. Holding portfolio nos. 1, 2 and 10 in normal or bear market conditions would provide investors long-term profits that are higher than the market. Conversely, portfolio managers may take advantage of portfolio nos. 3 to 9 in poor or bull market conditions. Consequently, despite possible underperformance in normal conditions, portfolio nos. 3 to 9 would be a good alternate investment during this pandemic or even post-pandemic when the economy is still recovering from the shock brought about by the COVID-19 financial depression.

Nonetheless, given that this study has restriction on rebalancing, future studies may look into the possibility of implementing more frequent rebalancing for the fundamental index and smart-beta portfolios to test its impact on the expected returns. The researcher views that the limitation on the frequency of rebalancing may have caused the low performance of other portfolios. It bears noting that a more frequent rebalanced portfolio enables investors to fully diversify and mitigate unsystematic risks (e.g., due to sudden economic shocks). Likewise, future studies may also take into account the impact of PSE*i*'s reconstitution of assets to its generated returns vis-à-vis the effect of the reconstitution of the smart-beta portfolios to its generated returns.

Further, considering that six (6) smart-beta portfolios (nos. 1, 2, 3, 5, 7 and 9) employ short-selling strategies, future studies involving the period 2010 to 2019 may consider disaggregating the data to identify the percentage of returns that are specifically attributed to the smart-beta strategy [i.e., quantify which portion of the portfolio performance are attributed to the: (a) alpha; (b) smart-beta methodology; and (c) limitation on short-selling].

Moreover, while we note that portfolio nos. 1 and 2 significantly outperform the market in terms of cumulative returns, Sharpe's ratio and Jensen's



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alpha, said portfolios involve bulk volume of securities, which may be impractical for fund managers to monitor. Holding these portfolios may only be practical in the Philippine financial market if there are enough technology and resources to perform sophisticated level of trading similar to those employed in high-frequency trading (HFT) and algorithmic trading.

Algorithmic trading is the computerized execution of financial instruments behind a pre-identified set of trading rules and commands (Kissel, 2021). HFT, on the other hand, is a type of algorithmic trading which allows traders to place bulk orders and generate large number of trades, on a daily basis (U.S. Securities and Exchange Commission n.d.). As both trading techniques use artificial intelligence, monitoring of portfolios with large number of equities can be feasible. While entities will entail costs and capital investments for implementation, such initiatives may lead to breakthrough achievements in the Philippine market.

Furthermore, as this study focused on adopting the methodology to all shares listed in the PSE, future studies may examine its applicability to sector industries (e.g., financial, property, services, energy, mining and oil). This would provide further validations of the influence of fundamental indexation or smart-beta strategies to sector indices and results of such may be used as additional methodology for creating sector index funds in the Philippine market.

Lastly, future studies may also explore combining smart-beta methodologies with other breakthrough investing strategies. For instance, future studies may merge smart-beta strategy with the Environmental, Social, and Governance (ESG) investing. Indices which measure the performance of PSE-listed companies demonstrating strong ESG practices and at the same time weighed using the fundamental factors (i.e., book value, operating cash flows, sales, dividends) of company size may be designed as an alternative financial product. Existing products in the United States [e.g., ESG smart beta indices (FTSE4Good RAFI Index and FTSE RAFI ex Fossil Fuels Index) by FTSE Russell

in partnership with Research Affiliates] may be used as benchmark for the study.

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Does Business Education Affect Financial Literacy? Evidence from the UP Visayas College of Management Students

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Abstract

For several years already, the Organization for Economic Cooperation and Development (OECD) has actively campaigned for the enhancement in the financial literacy levels of individuals across countries. In the Philippine context, the Bangko Sentral ng Pilipinas (BSP) has continuously sought to improve financial inclusivity among Filipinos to ensure the unimpeded economic development of the country. One of its strategies is to strengthen financial education through formal education. Hence, to contribute to such initiative, this paper seeks to determine the level of financial literacy of the University of the Philippines Visayas College of Management (UPV-CM) students, understand whether their socio-demographic and socio-economic characteristics affect their financial literacy, and provide evidence-based inputs on prospective programs improving financial literacy. To answer these objectives, an online survey using the OECD International Network on Financial Education (INFE) financial literacy questionnaire was conducted among 184 duly enrolled students at the said college for the academic year 2021-2022. The data gathered were analyzed using descriptive statistics and the Kruskal-Wallis Test for the individual components of financial knowledge, financial attitude, and financial behavior and Ordinary Least Squares (OLS) for financial literacy which is the sum of the said components. The results showed that the respondents' overall average financial literacy score ($\bar{x}=15.34$) exceeded the OECD financial literacy average score of 12.7 and the average financial literacy scores of other groups based on existing literature. Moreover, it was found that only the social income class and financial attitude have a significant relationship, and all other socio-demographic characteristics resulted in no significant differences in the financial literacy of the students. Finally, the study uncovered lapses in finance education that need to be urgently addressed. Thus, this study emphasizes the need to recalibrate teaching strategies and target specific groups for financial knowledge and skills training.

Purpose – To provide insights on the level of financial literacy of business students of the UPV-CM for the academic year 2021-2022

Design/methodology/approach – The data were obtained through a survey using the modified OECD INFE 2020 toolkit, and analyzed using descriptive statistics, Kruskal Wallis test, and Multiple Linear Regression.

Findings – The study revealed that among all relationships between the elements of financial literacy and the demographic and economic factors, only monthly family income and financial attitude have a statistically significant relationship. Moreover, major differences were noted in the overall financial literacy level based on their year level and degree programs.



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Research limitations/implications – This study utilized data obtained from a single business school and with a limited number of responses. Future research can expand the scope to other business schools within the region or to other non-business courses.

Practical and social implications – This paper can provide inputs to educational institutions in designing effective curricula to effectively teach financial education to basic education and college students. Moreover, this study can help policymakers in developing potential financial awareness campaigns and programs outside the classroom by targeting underprivileged sectors.

Originality/value – There has not been much of a discourse on financial literacy involving business students in the Philippines. This paper contributes to the said discussion by providing a profile of the financial literacy level of business students from UPV-CM, and an assessment of factors affecting financial literacy to design effective financial education programs.

Keywords: financial literacy, financial knowledge, financial behavior, financial attitude, college students, business students

Relevant SDG: SDG 4 Quality Education

Introduction

The OECD continually monitors the financial literacy levels among countries to ensure that appropriate steps are taken to improve the current levels of financial literacy and promote financial awareness. Although financial interventions were widely available through formal or informal education, Filipinos still scored, on average, three out of seven financial literacy questions, which resulted in the lowest financial literacy percentage among their Southeast Asian counterparts (Hani, 2021). As part of the interventions, the BSP launched the Economic and Financial Learning Program to provide “information services, programs, and materials to present the work of the BSP and its role in the Philippine economy, as well as to promote greater understanding of essential economic concepts and issues” (BSP, n.d.). However, despite the efforts of the BSP and other agencies in promoting financial education, Llanto (2015) discussed that there is still a need to expand its reach through formal education. Currently, there are few opportunities to acquire or develop financial knowledge through formal education. Finance

education is not yet integrated into basic education, except for the Accountancy and Business Management strand in senior high school (Department of Education, n.d.). Similarly, in tertiary education, finance courses are considered cognate courses to business curricula and sometimes considered elective courses to other disciplines.

Business degree programs generally require students to take basic to advanced math; thus, they may be expected to have high levels of numeracy skills. Numeracy was defined by the OECD (2012, p. 34) as the “ability to access, use, interpret and communicate mathematical information and ideas.” Numerous researches have reported a positive correlation between numeracy and financial literacy and the latter’s effect on financial attitudes and behavior (Bhushan & Medury, 2014; Jayaraman et al., 2018; Skagerlund et al., 2018). According to a study conducted by Kuntze et al. (2019), students in business courses who were able to watch an online video on financial literacy or who were previously enrolled in a personal finance course scored higher in a financial literacy test. Thus, obtaining business education positively affects the students’ financial literacy levels.



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However, Kuntze et al. (2019) also recognized that existing literature is still underdeveloped concerning the determination of financial literacy of business students. Likewise, a comprehensive search of local studies in the Philippines revealed that no similar studies investigating the financial literacy of business students had been initiated yet. Determining the level of financial literacy of business students is essential to assess what factors affecting financial literacy are being addressed effectively by educational institutions and what factors they are falling short of. Moreover, performing similar studies in the local setting can make the result of the study more relevant and make the recommendations more applicable. Thus, this study looks into the financial literacy of UPV-CM students duly enrolled for the academic year 2021-2022. Specifically, this study aims to answer the following questions:

- What is the level of financial literacy among the research subjects?
- Do the socio-demographic and socio-economic characteristics of the research subjects affect their financial literacy level in terms of financial knowledge, financial behavior, and financial attitude?

Review of Related Literature

Definition of Financial Literacy and Measurement

The key elements in the financial literacy definition of Noctor et al. (1992), as cited in Ouachani et al. (2021), are the ability of individuals to understand financial information and apply them in making financial decisions. Subsequent definitions of financial literacy revolve around these two central ideas. However, more recently, Atkinson and Messy (2011) developed a definition for financial literacy, which became widely used in recent studies. They defined financial literacy as “a combination of awareness, knowledge, skills, attitude, and behaviors [sic] necessary to make sound financial decisions and ultimately achieve individual financial wellbeing.” This definition was used by the

OECD-INFE in developing an assessment tool focused on three aspects of financial literacy: financial knowledge, financial attitude, and financial behavior (Atkinson and Messy, 2012). The 2020 toolkit is composed of 21 questions: seven from financial knowledge, nine from financial behavior, and five from financial attitude. The said toolkit was used in a 2020 survey of OECD among 125,787 adults from 26 OECD member countries. The average score across the entire sample is 12.7 out of 21 (61% of the total score), with Hong Kong obtaining the highest score at 14.8, and Italy scored the lowest at 11.1. Other countries reported scores between 12 to 14 (OECD, 2020).

Factors affecting Financial Literacy

Gender

Males have been observed to have higher financial literacy than females (Chen & Volpe, 1998). Volpe et al. (1996) have found that females have shown poor personal investing skills due to lower scores on financial knowledge questions. More recent studies also showed that men play a more active role in making financial decisions than women (Fonseca et al., 2012), or due to traditional societal roles (Lotto, 2020), thus widening the gender inequality in terms of financial literacy. However, Skreblin Kirbis et al. (2017) noted that women, despite being less financially knowledgeable, have demonstrated better financial management skills such as self-management and expense monitoring than men. Men, on the other hand, exhibit strong financial knowledge especially in the areas of investment and using overdrafts. On the contrary, Jorgensen and Savla (2010) reported no significant differences in financial literacy between men and women. Therefore, the following hypotheses were developed:

Ho1: There is no significant difference between the financial knowledge level of the research subjects based on their gender.

Ho2: There is no significant difference



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between the financial behavior level of the research subjects based on their gender.

Ho3: There is no significant difference between the financial attitude level of the research subjects based on their gender.

Education

Obtaining financial education contributes to an individual's overall high financial literacy levels (Chen & Volpe, 1998; Ergün, 2018; Nano & Cani, 2013; Volpe et al., 1996; Wagner, 2019). In addition, studies have shown that as a student progresses in terms of year level, their average financial literacy level also increases (Fosnacht & Dugan, 2018; Sarigül, 2014). Finally, business students or students who have at least taken college business or finance courses have shown higher financial literacy levels than those who did not (Chinen & Endo, 2012; Ergün, 2018; Mandell, 2008; Sarigül, 2014).

Böhm et al. (2021) further explained that financial literacy is also affected by the competency of the teachers, the content of the subject, and the effectiveness of the teaching process. Thus, it is imperative that the teachers are well-equipped and capable of teaching finance education in order for the financial literacy programs to result in significant gains (Böhm et al., 2021; Cameron et al., 2014; Walstad, et al., 2010). Therefore, the following hypotheses were developed:

Ho4: There is no significant difference between the financial knowledge level of the research subjects based on their year level.

Ho5: There is no significant difference between the financial behavior level of the research subjects based on their year level.

Ho6: There is no significant difference between the financial attitude level of the research subjects based on their year level.

Ho7: There is no significant difference between the financial knowledge level of the research subjects based on their degree program.

Ho8: There is no significant difference between the financial behavior level of the research subjects based on their degree program.

Ho9: There is no significant difference between the financial attitude level of the research subjects based on their degree program.

Family Income

A direct relationship has been found to exist between an individual's income level and financial literacy level (Atkinson & Messy, 2012; Lotto, 2020). Agarwalla et al. (2015) explains that in young working population in urban India, individuals with high income allowed them to have access to opportunities to invest and save. Conversely, Zhan et al. (2006) showed that low-income individuals generally exhibit low financial knowledge levels due to less exposure to savings and investments. Mitchell and Lusardi (2015) supported this finding as they discussed that low-income individuals cannot translate financial literacy interventions to an improvement in their financial behavior due to their low-income status and limited funds. Furthermore, some individuals find it not cost-beneficial to invest in financial knowledge.

However, the study of Nano et al. (2015) showed otherwise. Albanian university students with the lowest family income showed the highest financial attitude levels, while lower-middle-income and richest families performed worst in financial attitude. They explained that family income affects financial attitude, especially that higher family income makes students become less aware of their money management practices while those with low family income are more adept with money management techniques after having encountered



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financial difficulties early in their lives. Therefore, the following hypotheses were developed:

Ho10: There is no significant difference between the financial knowledge level of the research subjects based on their monthly family income.

Ho11: There is no significant difference between the financial behavior level of the research subjects based on their monthly family income.

Ho12: There is no significant difference between the financial attitude level of the research subjects based on their monthly family income.

Financial involvement in financing education

Nano et al. (2015) explained that students whose education is financed by their family are more likely not to track their expenses or prepare budgets. Therefore, the following hypotheses were developed:

Ho13: There is no significant difference between the financial knowledge level of the research subjects based on who pays for their college education.

Ho14: There is no significant difference between the financial behavior level of the research subjects based on who pays for their college education.

Ho15: There is no significant difference between the financial attitude level of the research subjects based on who pays for their college education.

Local studies in the Philippines

There has not been much literature in academic journals regarding the financial literacy of

students in the Philippines. A comprehensive search of local studies yielded only several results. For example, Dulin (2016) revealed that the financial literacy of college students increases as the student progress to a higher academic level, the interest in increasing financial literacy is more evident among females than males; older students showed higher financial literacy than younger ones; family income is positively associated with the amount of savings of students; and the tendency to be thrifty increases as the number of family members increases. Abichuela (2020) reported that business students are more knowledgeable in financial matters than non-business majors. Obsioma (2018) also reported that there is a lack of knowledge on the concepts of inflation and compound interest among senior high school students.

Other studies showed varied results on the overall financial literacy of different groups using other metrics aside from the OECD-INFE toolkit. For example, Ferrer (2018) used the 2012 Financial Industry Regulatory Authority survey to determine the level of financial literacy of public school teachers in Region IV-A and National Capital Region in the Philippines. A five-item quiz was given to the respondents, and the results showed their low financial literacy level, having an overall mean score of 1.7 out of 5 (34%). The World Bank (2015) used a 7-item financial literacy quiz, which involved questions on simple mathematical computations and fundamental financial concepts such as inflation, interest, discount, insurance, and diversification. Their survey showed that Filipino adults, on average, scored 3.2 out of 7 (approximately 46%). And, Guliman (2015) showed that micro and small enterprise owners in Iligan City scored, on average, 47.52% in terms of combined financial knowledge and skills.

Framework of the Study

This study is based on the cognitive reflection hypothesis, which is measured using the cognitive reflection test developed by Frederick (2005). The cognitive reflection hypothesis discusses that



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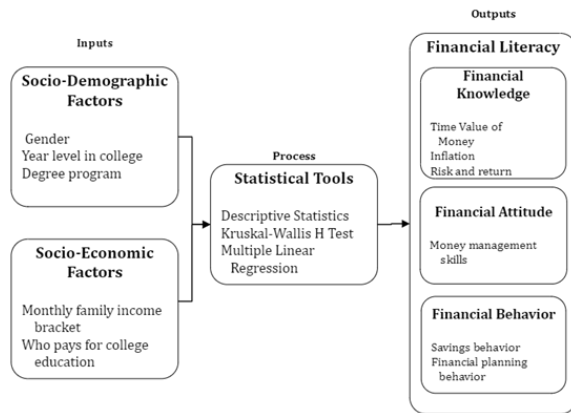
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individuals with greater numeric proficiency showed fewer decision biases and achieved better financial outcomes. The conceptual framework for the study is as follows:

Figure 1

Conceptual Framework for the Study



Methodology

Sampling

The target population for this study are the duly enrolled students of UPV-CM for the second semester of AY 2021-2022, taking up Bachelor of Science in Accountancy (BSA), Bachelor of Science in Business Administration (Marketing) (BSBA), and Bachelor of Science in Management (BSM). The sampling frame is 708 enrolled students based on the information obtained from the Office of the College Secretary. At a 95% confidence level and 5% margin of error, a total of 249 respondents were targeted to be surveyed using the OECD-INFE 2020 toolkit. The Neyman allocation method was used to determine the sample size and the responses were obtained using the purposive sampling method. Only 86% or 215 responses were obtained due to non-responses of some students.

Data Collection and Analysis

The survey was conducted online using Google

Forms. The OECD-INFE 2020 survey toolkit was modified to contextualize based on the needs of the study and the profile of the respondents. The researchers used Jamovi, SPSS, and Microsoft Excel software to statistically analyze the data collected. The first 30 responses were used for Cronbach's alpha test of Likert-scale questions of financial behavior ($\alpha = .88$) and financial attitude ($\alpha = .72$). During the data clean-up procedures, one outlier response was removed. Hence, the remaining 184 responses were analyzed using statistical tools.

Results and Discussion

Socio-demographic and socio-economic profile

Table 1 shows the profile of the respondents. Current year level categories with zero frequencies were omitted from the data presented. Information from the Philippine Institute of Development Studies (Albert, 2020) was used to determine the monthly family income brackets.

Table 1

Socio-demographic and socio-economic profile of the respondents

Characteristic	n	%
Gender		
Male	40	21.7
Female	144	78.3
Current year level		
Year 1	28	15.2
Year 2	69	37.5
Year 3	54	29.4
Year 4	33	17.9
Degree program		
BS in Accountancy	61	33.2
BS in Business Administration (Marketing)	83	45.1
BS in Management	40	21.7
Monthly family income bracket		
Below P10,957	31	16.8
P10,957 to P21,914	40	21.7
P21,914 to P43,828	48	26.1
P43,828 to P76,669	30	16.3
P76,669 to P131,484	22	12.0
P131,484 to P219,140	9	4.9
P219,140 and above	4	2.2



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Financial involvement in financing college education	7	3.8
College education is self-financed	144	78.3
College education is financed by parents	33	17.9
College education is both self-financed and parent-financed		

Note. N = 184

Note that in the context of UPV-CM, basic corporate finance courses are taught towards the end of the second semester of their second academic year (for BSM students) and beginning the third academic year (for BSBA and BSA students).

Financial Knowledge

A financially literate person possesses basic knowledge of the basic financial concepts and has adequate quantitative skills to aid financial decision-making (Atkinson and Messy, 2012). Each correct answer was assigned a score of 1 and 0 if otherwise.

Table 2

Summary of correct answers to financial knowledge questions

Question	No. of Correct Responses	%
Concept of interest	181	98.4
Understanding of the relationship between risk and return	179	97.3
Definition of inflation	179	97.3
Calculation of simple interest	170	92.4
Effect of diversification on risk	145	78.8
Time value of money	101	54.9
Calculation of compound interest	87	47.3

Note. N = 184

Business students are generally expected to have good financial knowledge scores in all aspects because of their curriculum requirements. The present study found that the respondents widely understood financial knowledge concepts, except the time value of money and its effect on the compounding of interest. This is consistent with the findings of Obsioma (2018) with respect to lack of

knowledge on compound interest. The researchers note that this observation may be attributable to students' inherent quantitative incompetence, and/or the teaching strategies of finance instructors. The inherent quantitative incompetence of students is inconsistent with existing research since business majors tend to have better financial knowledge than non-business majors (Abichuela, 2020; Chinen & Endo, 2012; Ergün, 2018; Mandell, 2008). The teaching strategies of finance instructors also affect the financial knowledge of students. Although this is not extensively covered by the current study, this was identified as another reason since students would generally rely on how their instructors teach certain concepts in class. Previous research has already suggested that to improve students' financial literacy levels, finance instructors should have high technical proficiency and capability (Böhm et al., 2021; Cameron et al., 2014; Walstad, et al., 2010).

Financial Behavior

For financial behavior, the respondents were asked whether they practice financially savvy behavior, to which a score of 1 will be given; and 0, if otherwise.

Table 3

Summary of ideal responses to financial behavior questions

Question	No. of Ideal Responses	%
Using financial products	184	100.0
Active saving	164	89.1
Carefully considering purchases	155	84.2
Choosing financial products	148	80.4
Paying bills on time	137	74.5
Keeping a close watch on financial affairs	136	73.9
Avoiding borrowing	96	52.2
Setting long-term financial goals	94	51.1
Budgeting and decision making	70	38.0

Note. N = 184

Overall, the respondents exhibit good financial behavior, except for non-borrowing of funds, setting long-term financial goals, and preparing or getting involved in preparing budgets. As business students having exposure to financial management topics in college, it is generally expected from them to have



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good financial behavior. However, this study showed otherwise since students live on daily or weekly allowances and have no income on their own. Hence, if they exceed their budget, they tend to withdraw their savings and use the money for their needs, or to borrow from family or friends. Also, planning for long-term savings or investment is difficult since the allowances can only support them for a short period of time only. Furthermore, this study supports the findings of Nano et al. (2015) with regard to non-budgeting since the students are more likely to be dependent on their parents in managing the household finances.

Financial Attitude

As used in the OECD framework, financial attitude is measured based on the disagreement of the respondents in three unsound money management practices. Hence, a high average score in the Likert-scale questions means that the respondent exhibits good financial attitude.

Table 4

Summary of ideal responses to financial attitude questions

Question	No. of Ideal Responses	%
Spend money now than save	94	51.1
I live for today	92	50.0
Money is there to be spent	42	22.8

Note. N = 184

It was observed that the respondents do not show sound money management practices. This is as expected since students do not have income on their own and their funds come from allowances from their parents or scholarships. Hence, this current study confirms previous research regarding financial attitude (Nano et al., 2015).

Overall Financial Literacy

Table 5

Overall financial literacy Scores and corresponding descriptors

Descriptor	Financial Knowledge	Financial Behavior	Financial Attitude	Overall Financial Literacy
Mean score	5.66	6.43	3.24	15.33
Median score	6	7	3.33	15.33
Mode	6	7	3	16.67
Minimum value	3	2	1	9.33
Maximum value	7	9	5	20
Standard deviation	0.98	1.72	0.81	2.32

An individual can be considered as financially knowledgeable if the financial knowledge score is at least 5. Sound financial behavior is exhibited by individuals having a score of at least 6, and having a positive financial attitude if they score at least 3 (OECD, 2020). Based on the scores shown in Table 5, the respondents obtained a mean score exceeding the minimum scores per element, thus, indicating a high level of financial literacy. Notably, the financial behavior scores are the most dispersed relative to the mean score while financial attitude scores showed the least dispersion. Since financial literacy is measured by adding up the scores of the three elements, the mean financial literacy score of the respondents is 15.3 (approximately 73% of the highest possible score of 21), which is higher than the average of the OECD survey participating countries of 12.7 (OECD, 2020). Moreover, this overall financial literacy mean score of the respondents is higher than the 34% average score reported by Ferrer (2018) among public school teachers, 46% average score reported by The World Bank (2015) among all Filipino adults, and 48% average score reported by Guliman (2015) among micro and small enterprise owners in Iligan City.

Assumption Checks

In order to determine the appropriate statistical tool to use, assumption checks were conducted on financial literacy and its components namely, financial knowledge, attitude, and behavior using Jamovi. The individual financial literacy



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components failed the normality tests, as shown in Table 6. On the other hand, the overall financial literacy passed all the assumption checks for the use of OLS regression namely, Shapiro-Wilk normality, Breusch-Pagan homoscedasticity, Durbin-Watson test for correlation ($p = 0.052$) and collinearity (variance inflation factor values for the dependent variables ranged from 1.02-2.34). In this regard, Kruskal Wallis was used in the analysis of the financial literacy components of financial knowledge, attitude, and behavior while Multiple Linear Regression was used for the overall financial literacy.

Table 6

Assumption checks for linear regression analysis

Descriptor	Financial Knowledge	Financial Behavior	Financial Attitude	Overall Financial Literacy
Shapiro-Wilk (normality)	< .001	< .001	< .001	0.073
Breusch-Pagan (homoscedasticity)	0.083	0.357	0.573	0.331

Data Preparation

For the categorical independent variables, dummy values were used to describe the profile of the respondents. For gender, “1” was assigned to the male gender while “0” was assigned to the female gender. For the current year level, the values for the variable correspond to the year level (i.e., “1” for Year 1, “2” for Year 2, and so on). For the degree program, “1” was assigned to BSA, “2” for BSBA, and “3” for BSM. For the monthly family income bracket, the values for the variable correspond to the increasing level of income (i.e., “1” for families with monthly income of below P10,957, “2” for families with monthly income of P10,957 to P21,914, and so on). And finally, as to who pays for the student’s college education, “1” was assigned to self-financed, “2” was assigned to parent-financed education, and “3” was assigned to both self- and parent-financed education.

Gender and elements of financial literacy

Table 7

The Kruskal Wallis Test results for the elements of financial literacy and gender

Category	Financial Knowledge		Financial Behavior		Financial Attitude	
	n	Mean rank	n	Mean rank	n	Mean rank
Male	40	99.7	40	83.9	40	89.6
Female	144	90.5	144	94.9	144	93.3
Kruskal Wallis value	1.023		1.375		0.158	
df	1		1		1	
p-value	.312		.241		.691	

Note. N = 184

After doing a comparison of means, males have a higher mean rank for financial knowledge but the females ranked higher for behavior and attitude. Conducting a Kruskal Wallis test shows that there is no correlation between gender and financial knowledge ($p = 0.312$), gender and behavior ($p = 0.241$), as well as gender and attitude ($p = 0.691$). Testing the effect of gender on overall financial literacy using OLS results in the same finding ($p = 0.538$).

This is consistent with the findings of Jorgensen and Savla (2010), but inconsistent with the findings of Volpe et al. (1996), Chen and Volpe (1998), and Hasler and Lusardi (2017) where there are significant differences in the financial literacy levels between male and female students. This is because in general, instructional methods employed in business schools are not gender-biased. Nonetheless, there might still be a need for a targeted approach, especially in the areas where financial literacy differences were exhibited later in life (Fonseca et al., 2012; Skreblin Kirbis et al., 2017).



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Year level and elements of financial literacy

Table 8

The Kruskal Wallis Test results for the elements of financial literacy and year level

Category	Financial Knowledge		Financial Behavior		Financial Attitude	
	n	Mean rank	n	Mean rank	n	Mean rank
Year 1	28	80	28	84.9	28	82.6
Year 2	69	91.2	69	102.8	69	97.2
Year 3	54	97.9	54	85.5	54	85.1
Year 4	33	97.1	33	88.9	33	103.2
Kruskal Wallis value	2.593		4.388		3.948	
df	3		3		3	
p-value	0.459		0.223		0.267	

Note. N = 184

In terms of year level, results are varied among the elements of financial literacy. Third-year students performed best in financial knowledge, second-year students showed the highest financial behavior, and fourth-year students exhibited the most ideal financial attitude. Notwithstanding such differences in ranks, the relationship between the year levels and the elements of financial literacy is not statistically significant based on the results of the Kruskal Wallis test. The OLS testing revealed the same results with respect to overall financial literacy ($p = 0.647$).

This is inconsistent with the findings of Sarigül (2014) and Fosnacht and Dugan (2018). Since formal finance education is given to students who are already towards their third year of college education in UPV-CM, it is striking to discover this non-significance as it implies that the level of education given to the students did not translate to an improvement in their personal finance skills. However, it should also be noted that the finance education in UPV-CM focused primarily on corporate finance topics and little emphasis or connections were given with respect to personal financial management. Furthermore, it is also possible that lower-year students have retained knowledge on financial numeracy since such knowledge was recently learned. Contrarily, more

senior students may already have weakened knowledge on the basics of financial numeracy as they have grasped more complex topics.

Nonetheless, the overall level of financial literacy of students across year levels exceeds the OECD average and that of other groups of Filipinos according to previously-mentioned research. A higher overall financial literacy score was obtained by students who are currently in higher class ranks (i.e., Year 2, = 15.70; Mdn = 16; Year 3, = 15.12; Mdn = 15.33; and Year 4, = 15.47; Mdn = 15.67) relative to the new college students (i.e., Year 1, = 14.74; Mdn = 15). This study supports the findings of existing literature with respect to the effect of formal education on financial literacy (Chen & Volpe, 1998; Ergün, 2018; Khusaini & Ramdani, 2021; Volpe et al., 1996).

Degree program and elements of financial literacy

Table 9

The Kruskal Wallis Test results for the elements of financial literacy and degree programs

Category	Financial Knowledge		Financial Behavior		Financial Attitude	
	n	Mean rank	n	Mean rank	n	Mean rank
BSA	61	101.5	61	95.0	61	94.3
BSBA (Marketing)	83	83.7	83	91.3	83	95.6
BSM	40	97.0	40	91.2	40	83.4
Kruskal Wallis value	4.658		0.204		1.547	
df	2		2		2	
p-value	.097		.903		.461	

Note. N = 184

BSA students showed high financial knowledge and behavior, while BSBA students exhibited the highest financial attitude. However, the Kruskal Wallis test revealed no significant differences among their scores. The OLS test revealed similar results ($p = 0.283$).

Despite teaching finance as an “appreciation course” for non-BSA students, the results are surprising because BSBA students were able to translate their classroom learning to money management techniques. On the other hand, it is expected from BSA students to have high financial knowledge since corporate finance topics are included in the licensure



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examination for Certified Public Accountants.

Nonetheless, the overall level of financial literacy of students across degree programs (i.e., BSA: = 15.65; Mdn = 16; BSBA: = 15.18; Mdn = 15; BSM: = 15.2; Mdn = 15.67) exceed the OECD average and that of other groups of Filipinos according to previously mentioned researches. Hence, this supports existing literature with respect to the high financial literacy of business students (Chinen & Endo, 2012; Ergün, 2018; Mandell, 2008).

Family income and elements of financial literacy

Table 10

The Kruskal Wallis Test results for the elements of financial literacy and income

Category	Financial Knowledge		Financial Behavior		Financial Attitude	
	n	Mean rank	n	Mean rank	n	Mean rank
Below P10,957	31	79.7	31	82.1	31	99.3
P10,957 to P21,914	40	89.4	40	97.3	40	99.4
P21,914 to P43,828	48	91.7	48	97	48	104
P43,828 to P76,669	30	95	30	83.7	30	80.8
P76,669 to P131,484	22	111.8	22	106	22	82.9
P131,484 to P219,140	9	104.6	9	89.6	9	79.1
P219,140 and above	4	80.1	4	68.1	4	7.3
Kruskal Wallis value	6.051		5.157		16.517	
df	6		6		6	
p-value	0.417		0.524		.011*	

Note. N = 184

* Statistically significant at 0.05 level

The mean ranks for financial knowledge and behavior are the highest for students from upper middle income families, while those from lower middle income families showed the highest mean

rank for financial attitude. Notably, a relatively low mean rank was obtained by rich students in financial attitude. The Kruskal Wallis test revealed that relationships between income and financial knowledge ($p = 0.417$) and behavior ($p = 0.524$) are not significant. However, a statistically significant relationship was observed between income and financial attitude ($p = 0.011$). However, the OLS test showed that income does not affect overall financial literacy ($p = 0.970$).

This contradicts the direct relationship observed by Atkinson and Messy (2012) between the individual's income and financial literacy. One possible reason is that the acquisition of financial knowledge is readily available to everyone via the Internet, regardless of the family income class. Aside from that, the accessibility of financial products allows everyone to practice financially savvy behavior. On the contrary, the test results on financial attitude and income level confirms the findings of Nano et al. (2015), with respect to students from rich families who tend to manage their money less as they have extra funds to be spent, and students coming from lower income groups have better money management skills.

Financing college education and elements of financial literacy

Table 11

The Kruskal Wallis Test results for the elements of financial literacy and financing college education

Category	Financial Knowledge		Financial Behavior		Financial Attitude	
	n	Mean rank	n	Mean rank	n	Mean rank
Self-financed	7	80.5	7	68.4	7	85.6
Parent-financed	144	91.5	144	96.3	144	93.1
Both self- and parent-financed	33	99.6	33	81	33	91.6
Kruskal-Wallis H value	1.082		3.86		0.144	
df	2		2		2	
p-value	0.582		0.145		0.931	

Note. N = 184



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Students, whose college education is financed by their parents, ranked the highest in financial behavior and financial attitude. However, students who self-support and receive parental support at the same time ranked the highest in financial knowledge. However, there is no correlation between who pays for the college education and the elements of financial literacy, and the overall financial literacy ($p = 0.930$). The results contradict the findings of Nano et al. (2015) with respect to the financial attitude of students whose education are parent-financed. This explains that the financial literacy of the students is irrespective of who pays for their college education.

Multiple linear regression

These findings regarding which variables are significant are corroborated by running a multiple linear regression in Jamovi. However, beyond just looking at the p-values, one can see the significant differences between each item of the pertinent independent variable and this is where major insights could be taken by the researchers in making recommendations.

Table 12

Multiple linear regression test results for all independent variables

Predictor	Estimate	Standard Error	95% Confidence Interval		t	p-value
			Lower	Upper		
Intercept	13.121	1.077	10.9947	15.2475	12.182	<.001*
Gender (1=0)	-0.177	0.434	-0.5459	1.716	1.021	0.309
Year Level						
2-1	1.342	0.572	0.213	2.4702	2.347	.020*
3-1	0.186	0.757	-1.3088	1.6803	0.245	0.806
4-1	0.631	0.839	-1.0264	2.288	0.751	0.453
Degree Program						
2-1	-0.878	0.424	-1.714	-0.0411	-2.071	.040*
3-1	-0.61	0.491	-1.5793	0.3595	-1.242	0.216
Monthly family income						
2-1	0.53	0.56	-0.5752	1.6356	0.947	0.345
3-1	0.336	0.542	-0.7334	1.4061	0.621	0.536
4-1	-0.271	0.603	-1.4606	0.9193	-0.449	0.654
5-1	0.78	0.647	-0.4972	2.0571	1.206	0.23
6-1	0.464	0.883	-1.2783	2.2065	0.526	0.6
7-1	-2.648	1.261	-5.1373	-0.1586	-2.1	.037*
Who pays for college education						
2-1						
3-1	1.698	0.907	-0.0918	3.4884	1.873	0.063
	1.287	0.974	-0.6355	3.2099	1.322	0.188

Note. $R^2 = 0.119$; Adjusted $R^2 = 0.0407$

* Statistically significant at 0.05 level

In Table 12, statistically significant factors to the overall financial literacy are found in year level and degree program of students. Thus, a second run of the multiple linear regression test is necessary considering that most of the variables are non-significant. Table 13 shows the multiple linear regression test results for the year level and degree program.

Table 13

Multiple linear regression test results for year level and degree program

Predictor	Estimate	Standard Error	95% Confidence Interval		t	p-value
			Lower	Upper		
Intercept	15.032	0.467	14.112	15.9532	32.22	<.001
Year Level						
2-1	1.274	0.541	0.206	2.3422	2.35	.020*
3-1	0.543	0.542	-0.527	1.6138	1	0.318
4-1	0.913	0.606	-0.284	2.1092	1.51	0.134
Degree Program						
2-1	-0.795	0.409	-1.602	0.0123	-1.94	0.054
3-1	-0.61	0.48	-1.556	0.3366	-1.27	0.205

Note. $R^2 = 0.0433$; Adjusted $R^2 = 0.0164$

* Statistically significant at 0.05 level

It should be noted that throughout the multiple linear regression models, R^2 is significantly low. This may mean that the predictor variables cannot reasonably predict the overall level of financial literacy. However, this might be used to obtain relevant insights on what determines financial literacy, to be able to target them through financial education intervention measures (Silgoner et al., 2015). Further insights could be taken from the visual comparison of degree and year level towards financial literacy in Figure 2.



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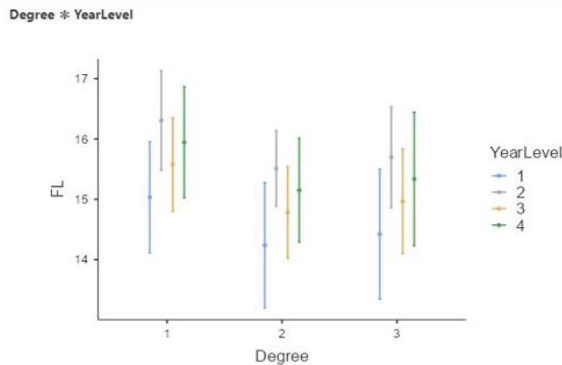
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Figure 2

Relationship between overall financial literacy, degree programs, and year levels



It is evident that BSA students in all year levels exhibit better financial literacy compared to non-BSA students. Furthermore, financial literacy significantly increases from first year to second year, decreases towards their third year, and bounces back towards their fourth year. From these, it can be inferred that financial education obtained by BSA students necessarily translates to a better financial literacy and non-BSA students should be given more attention in terms of financial education. In addition, financial education programs can be instituted to ensure the steady level of financial literacy among business students.

Thus, the resulting empirical framework for this multiple linear regression is:

$$Y = \beta_0 + \beta_1 \text{Year Level} + \beta_2 \text{Degree Program}$$

In this equation, the factors of gender, monthly family income, and who pays for the students' college education were removed as they do not impute into the equation significance as far as policies that the college or the university could implement in order to increase financial literacy among the students.

Conclusion and Recommendations

The study found that the relationship between family income and financial attitude of UPV-CM

students was significant. Poorer students are able to demonstrate their money management practices more than their richer counterparts because of their past experiences, consistent with existing literature in Nano et al. (2015). And as families become increasingly richer, they tend to let go of this practice as their wealth could be enough to sustain their daily needs. Furthermore, there were no significant relationships between the other independent variables used in this study and the elements of financial literacy. Notwithstanding the lack of significant relationships, it was also noted that the UPV-CM students have better financial literacy than other groups of Filipinos as explained by previous research (Ferrer, 2018; Guliman, 2015; The World Bank, 2015). It should also be noted that as business students, their choice of field has contributed to their financial literacy level as shown by their proficiency in certain fundamental financial concepts and by their financial behavior. Thus, this answers the question affirmatively whether their business education has contributed to their financial literacy.

The financial markets have become more increasingly complex as new and emerging technologies require individuals to have sufficient knowledge to take advantage of new financial products. Moreover, due to endless possibilities of the occurrences of black swan events, the financial resiliency of individuals is more likely to be tested again in the future. In spite of the efforts of the BSP to make the financial sector more inclusive especially for the marginalized, it is still imperative that individuals are to be equipped with adequate financial knowledge and skills and continuously seek to improve their financial literacy as it would prepare them for future unfavorable circumstances. This paper has investigated what possible future directions can be taken to improve financial literacy among business students, who will eventually inherit the world we currently live in.

Finally, this study contributes to the body of knowledge about financial literacy of business students. This study would allow educational



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institutions to recalibrate their teaching strategies and incorporate experiential learning into their curriculum. In addition, financial policymakers and financial advisory groups can make use of this study to design mass and inclusive financial advocacy programs. Future similar research can be conducted by broadening the population coverage or include other socio-demographic factors aside from the ones used in this study, as this could potentially result in a more representative view of the overall financial literacy of Filipinos.

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Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila

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Abstract

This study aimed to find out the effectiveness of Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila. Specifically, it sought to identify the profile of the respondents, assess the level of effectiveness on the aspects of financial reporting and analysis, investing, financing, working capital management, and accounting information system, and determine the significant difference in the respondents' assessment of the effectiveness on the aspects of the Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila when respondents were grouped by profile.

The researcher used descriptive design wherein a researcher-made questionnaire was used. Frequency and Percentage Distribution, Weighted Mean, ANOVA, Rank Order Correlation, and SPSS were utilized as statistical tools.

The respondents' assessment on the effectiveness of Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila in terms of financial reporting and analysis, investing, working capital management, and accounting information are effective while based on financing it is somewhat effective. Based on the respondents' assessment, when grouped according to type of business ownership, the number of years in business, the number of employees, start-up capital, and number of food carts, all the financial management practices are not significant because all of the p-value are greater than the assumed level of significance (0.05), which made the null hypothesis accepted.

The respondents are food stall owners, operators or managers. The researcher chose several malls in Metro Manila which are Ayala Fairview Terraces, SM North Edsa, Trinoma, Vertis North, Ever Gotesco Commonwealth, Farmers Plaza, SM Megamall, Shangri-La Plaza Mall and more. The aspects of financial management practices that will be covered are financial reporting & analysis, investing, financing, working capital management, and accounting information system.

This study will help food stall entrepreneurs to practice effective and efficient financial management in order to improve their food stall business in the long-run. It can serve as a guide for setting-up a new business. SMEs can learn to guide their respective businesses on their financing and investing decisions. They can assess their current financial management practices and improve them.



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DTI can give ideas on how to successfully establish new businesses through recommending effective financial management practices. As a finance major, this study will be beneficial for gaining new knowledge, practices and personal development. This will be her contribution in the development of financial management practices of entrepreneurs. This can be a reference material on future researches for finance and business majors. This also can help future entrepreneurs to explore new ideas to improve any form of industry or business.

Key Words: Financial management, Food stall entrepreneurs, Investing, Financing

Relevant SDGs: SDG 1 No Poverty, SDG 8 Decent Work & Economic Growth, SDG 17 Partnership for the Goals

Introduction

Even though several years have passed, the food stall industry in the Philippines is still going strong. Especially for entrepreneurs who would set up a business for the first time, food stall business is one of the easiest industries to enter. A food stall is a small open counter or partially enclosed structure where food are displayed for sale. It can be in a form of cart, kiosk or a space. Food stalls are commonly found in big cities throughout the world and can be found selling varieties of food. The requirements for setting up a food stall is not complicated unlike other businesses. Any street, train station, and malls has food stalls anywhere. The several reasons why newbies enter a food stall business are lower capital requirement, food is a common commodity for consumers, easier to manage than any other business and it can be a training ground for a new entrepreneur can earn basic management skills and accumulate experience. (Humarang, 2014) In order to maintain a successful business in the long run, an entrepreneur should practice a good financial management.

According to Solomon (1964), "Financial management deals with the economical use of capital funds that is one in all the foremost necessary resource in social science. As given by S.C. Kuchal (1988), is that "financial management is acquiring fund and using it in the enterprise

effectively." According to Howard and Upton (1953), it is applying of common executive principles to financial deciding. For Weston and Brigham (1972), financial management "is a room of financial decision-making, coordinating specific objectives and business goals". For Joshep and Massie (1971), "financial management is the business activity which deals in getting and efficiently using the resources needed for effective operations. (Paramasivan & Subramanian, 2009)

This study aimed to find out the effectiveness of Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila. Specifically, it sought to identify the profile of the respondents, assess the level of effectiveness on the aspects of financial reporting and analysis, investing, financing, working capital management, and accounting information system, and determine the significant difference in the respondents' assessment of the effectiveness on the aspects of the Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila when respondents were grouped by profile.

The researcher conducted a study which focused on assessing the effectiveness of financial management practices of food stall entrepreneurs in selected malls in Metro Manila. The respondents are food stall owners, operators or managers. A food stall is a small open counter or partially enclosed structure where food is



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displayed for sale. It can be in a form of cart, kiosk or a space. The categorization of type of business ownership were sole partnership, and corporation. The number of years in the business were the number of years the business was operating. The categorization of number of employees came from the MSME classification of DTI. The start-up capital was the initial capital in starting the business. The number of food stalls were the total number of food stalls owned by the owner.

The researcher chose several malls in Metro Manila which are Ayala Fairview Terraces, SM North Edsa, Trinoma, Vertis North, Ever Gotesco Commonwealth, Farmers Plaza, SM Megamall, Shangri-La Plaza Mall and more. The aspects of financial management practices that will be covered are financial reporting & analysis, investing, financing, working capital management, and accounting information system.

This study will help food stall entrepreneurs to practice effective and efficient financial management in order to improve their food stall business in the long-run. This study can serve as a guide for setting-up a new business. Small-Medium Enterprise (SMEs) can learn to guide their respective businesses on their financing and investing decisions. They can assess their current financial management practices and improve them. The Department of Trade & Industry (DTI) can give ideas on how to successfully establish new businesses through recommending effective financial management practices. As the researcher is a finance major, this study will be beneficial for gaining new knowledge, practices and personal development. This will be her contribution in the development of financial management practices of entrepreneurs. As financial management is a wide topic, this study can be a reference material for future researches for finance and business majors. This also can help future entrepreneurs to explore new ideas to improve any form of industry or business.

Literature Review

Financial Management

According to Solomon (1964), "Financial management deals with the economical use of capital funds that is one in all the foremost necessary resource in social science. As given by S.C. Kuchal (1988), is that "financial management is acquiring fund and using it in the enterprise effectively." According to Howard and Upton (1953), it is applying of common executive principles to financial deciding. For Weston and Brigham (1972), financial management "is a room of financial decision-making, coordinating specific objectives and business goals". For Joshep and Massie (1971), "it is the business activity which deals in getting and efficiently using the resources needed for effective operations. (Paramasivan & Subramanian, 2009)

Food Stall Industry in the Philippines

Food stall business in the Philippines is booming because setting up is easy with a fair chance of success by applying tested methods not to mention small capitalization. Young, aspiring entrepreneurs find the stall business most attractive as market trends reveal today. The past few years mark an unprecedented growth of food stalls all over the city — from train stations to malls, church and schools, markets and sidewalks, and even frontage of houses. Today, there are about 800 different food stall types available like pizza, rice in a box, fishball, rice toppings, waffle and baked goodies, siomai, hotdog and more. (Foodcartlink.com, 2014).

Franchising of food cart is one of the flourishing micro businesses in our country today, and according to reports there are no signs of slowing down this 2013. Industry estimates that different kind of food stalls earn more than a billion sales yearly, proving that it is indeed a worthy source of income for aspiring entrepreneurs. Industry estimates that more than P1 billion in sales can



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becredited to the food stall businesses. With this amount, no doubt that food stall is the rising star in the food industry. (ffemagazine.com, 2013)

According to the article of Yanuaria (2016) in the Philippines, many businesses started small from one person. For these businesses, sole proprietorship is the most common option of business ownership. A sole proprietor is a person engaged in business of selling goods or offering services for profit. The sole proprietor is the only owner of the business. Many businesses start as a sole proprietor where they enjoy their profit, the flexibility of working alone in a simpler, common sense type decision making. They can be set-upped and managed with less regulation.

Sole proprietorship in United States is the simplest form of business. Many small businesses operating in the United States are sole proprietorships. A sole proprietor owns and manages the business and is responsible for all business transactions. The owner is also solely responsible for all debts and liabilities incurred by the business. A sole proprietor can own the business for sometime and sell it when he or she sees fit. He or she can even pass a business down to his or her heirs. (Allbusiness.com, 2007)

According to The Manila Times (2013), different food stall franchisers, a Waffle Store stall in SM City North Edsa started last April 2, 2013, Mary Grace kiosks in MOA was established last 2006, Buko Maxx's owners Conrado Ong and John Paul Salcedo opened their first in 2011, Jay Ong opened his own Buko Maxx franchise last October 2012 in SM North Edsa Food Court. Based on the previous publication of the Senate of the Philippines (2012), the micro businesses consist 91.6 percent (709,899) of the total number of MSMEs while small and medium businesses are for 8 percent (61,979) and 0.4 percent (2,786), respectively. A micro business composes of one to nine employees, and has an asset size of up to three million pesos regardless of ownership. The average food truck in the United States employs around three to four

people including the owner. (Steve, 2012).

An article in The Pinay Investor (2015) stated that in franchising a popular food stall brand, you need to have PHP 200,000 to PHP 300,000 as an investment capital. (July 2017) According to Mark Cezar Sugang, a Mister Donut food stall franchise can get started with just PHP 180,000. A Waffle Time food stall would cost at least PHP 350,000, while a Zagu food stall would amount to PHP 370,000 to PHP 450,000. According to Potato Corner's official website, a standard cart franchise would amount to PHP 385,000, while a school cart franchise would be PHP 280,000. (2017) According to an article in negosyante.com a Siomai House franchise can start with PHP 250,000, a Hong Kong Style Noodles food stall would amount to PHP 120,000, and a Bibingkitan food stall would start as low as PHP 200,000. (April 2016).

Based on Fitz' article, a food stall business isn't a restaurant that can offer a variety of meals. All successful food stalls focus on only one product and then innovate this product. (2019)

Five Constructs of Financial Management

According to Dr. Abanis, et. al's study, they used financial reporting & analysis, investment financing, working capital management, and accounting information system as composition of the constructs of financial management. (2013). Based from Richard Myrick's article, there are five financial red flags for food trucks to avoid. (1) The lack of a well-organized accounting system, (2) inaccurate and improper costing of menu items, (3) uncollected or reviewed daily & weekly financial operating data, (4) inaccurate posting of financial information to your accounting system (5) and inability to read and interpret financial statements. These are developed to implement an effective method and provide corrective plan to point out solutions to future problems of food truck business. (Myrick, 2018). Similarly, these red flags shared by Myrick mostly points out the five



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constructs of financial managements used by Dr. Abanis. Having effective financial management practices in these five areas can give a food stall entrepreneur a higher chance s to survive and succeed in the long run. (Abanis, 2013)

Financial Reporting and Analysis

The financial statement analysis is important in understanding the financial positions within certain period. According to Myres, "Studying the relationship among different financial factors as shown by a single set of statements can provide an insight to financial position of that period. But among series of financial statements recorded over several periods can provide valuable input to the business' financial trend as well." (Paramasivan & Subramanian, 2009) Financial reporting provides the business its financial position, results of its operation and its cash flow. Financial reports are also analyzed in order to make wise financial targets for the business. According to an article of Whalen (2015) the recording of daily income through every day sales is a technique to look a view of income in a snap. This data is not fully accurate, but randomly, you can estimate your current revenue flow in connection to your goals. (Whalen, 2015)

According to an article of Roberge (2015), there is a power on daily bookkeeping or daily sales recording. You can catch any mistakes that need to be corrected, you can have an ultimate control on you cash flow, you can use that data to get a complete view into the future of your finances by developing a financial forecast, and daily bookkeeping sets the core by giving you the most updated, accurate financial reports. Based from the previous article of Erickson (2017), regular financial statements allow the company to understand its financial health and make decisions to improve the firm. (Erickson, 2017) According to an article of Gregory, Alyssa (2018), if you don't have any accounting experiences it is better to hire an accountant to help and guide you. Accountants can also help in the start-up process,

and regular business operations. (Gregory, Alyssa, 2018)

Investing

Capital is the overall investment of the company in terms of money and assets. It is investing large amount of money for the business. The capital requirements can be classified into fixed and working capital. Brigham (1995) implied that capital budgeting can be viewed more importantly to a smaller business than the larger ones because of the lack of access for funding to the public markets. McMahon et al. (1993) claimed the original study of capital budgeting of SMEs was reported by Soldofsky (1964). During 1961, Soldofsky interviewed 126 owners of small manufacturing businesses in Iowa and the results were published in 1964. (Abanis et. al., 2013) Based on previous article of Myricks' (2018), the key to your food truck's success is having a working concept. It can be the same with a food stall business. He said that you can develop a strong concept by not thinking too far out of the box, don't overprice your menu, make sure it's a profitable concept, it should fit your area and making sure you love and is totally sold out to your concept. (Myricks, 2018)

According to previous study of Sible, M.J., Abante, E. A., Coronel, D M D., Medrano, D. E. T. and Pasumbal, C. J. M. (2015) they concluded that when the respondents were grouped according to location there is no significant difference in the effectiveness of food cart franchising in Batangas City. They can earn enough sales anywhere they were located.

Financing

Finance is essential for business, because it has direct connection with all activities performed by the business itself. It can be classified into long-term and short-term. According to the research Western Uganda, the following conclusions were drawn: The Theory of Pecking Order (Myers 1984) which says that management prefers to choose



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internal financing before external financing, was proven in this study in the aspects of SMEs using internally generated funds compared to borrowed funds. The study brought up new ideas on how SMEs apply financial management practices and the weak areas found in their current operations which hinders efficiency in accordance to profitability and business growth. (Abanis et. al., 2013)

Based on a previous article of Agcaoili (2018) in philstar.com, a World Bank report states that 81.2 percent of Philippine business rely mostly on internal funds to support their investments, while only 10.1 percent of businesses use bank financing. Based on the article of Habito of Inquirer, credit financing for our micro, small and medium enterprises (MSMEs) fall way short than that of our comparable neighbors. Improved access to finance is one of five strategic goals on which the new MSME Development Plan is anchored. The aim is to have public and private financial institutions work together to provide fair and equitable financing to all MSMEs at reasonable cost, with simplified documentary and collateral requirements. To view of this, the strategies are to streamline and simplify loan processes, provide a healthy environment for financial institutions to serve MSMEs better, and pave the way for the MSMEs' to access formal financial channels. (Agcaoili, 2018)

According to the previous study of Dankwa, I. O. & Adoley, A. N. (2014) determined that majority of the SMEs decided that loans from money lending institutions is a great help in the overall development of their performance, and have had a positive effect. Small and medium scale enterprises are in high demand for finance to be withstand competition with larger entities. The study concluded that loans by SMEs resulted in a positive impact. (Dankwa, I. O. & Adoley, A. N., 2014)

Based from the previous study of Kondo (2003), the Philippines has a large informal sector comprised of

micro-businesses. Many of these are small vendors with inadequate resources operating in public markets, whose survival in business depends strongly on accessibility of financing. This normally occurs from the informal sector through informal financiers called "five-six." Filipinos and Indians are the two kinds of five-six financier that are mostly found in public markets in the Philippines. (Kondo, 2003)

Working Capital Management

Working capital management is an act to plan, to organize and to control the components of working capital. (C. Paramasivan & T. Subramanian, 2009). Burns and Walker (1991) studied working capital management in a larger perspective. In their research study of working capital policy among small manufacturing businesses in the USA, working capital were considered with these aspects: working capital policy, handling working capital components, which includes cash, receivable, payable and inventory management, together with connections between working capital management practices and profitability without visibly affecting other sides of efficient business. (Abanis et. al., 2013)

According to the past article of Campbell (2018), that if you're offering a product that has an expiration date, it is necessary to sell it at once before it spoils. Solid inventory management helps you control unnecessary spoilage. Good inventory management also improves cash flow in other ways. It's the same with your supplies in food cart business. Since most food cart supplies are perishable, inventories should be managed properly and bought only when needed. (Campbell, 2018) Based on the previous study of Reginaldo (2018) which stated that making use of cash deposits thru banks to keep the sales for the day and to keep what is needed on the next day operation got the lowest rate but is also an effective working capital management practice in terms of cash management. (Reginaldo, 2018)



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The previous statement of Paramasvian (2009) benefited not only the cash management but also the inventory management. Majority parts of the working capital requirements mostly rely on the availability of raw materials. Raw materials are the necessary requirements in the production process. Unavailability of raw materials lead to production stoppage. So, the business should maintain enough raw material so they have to spare a budget on working capital. (Paramasvian, 2009)

Accounting Information System

Accounting information system is collecting, storing, and processing financial and accounting data and producing informational reports that a firm can use to make business decisions wisely. According to the research of Thembehle Allah et al., despite the development and advancement in information technology, it is clear that small businesses still avoid adapting to latest technology as many MSMEs still maintain manual accounting information systems. AIS are seen as critical in establishing firm ground in the business world. But these businesses lag behind in the implementation of these systems compared to huge companies. It is largely due to economic factors as the capability of small businesses to realize their goals are dependent on how good they are in acquiring, interpreting, synthesizing, evaluating and understanding accounting information at their disposal, in order to cope or control these economic factors. (Thembehle Allah et al., 2013)

Financial Management Practices in Micro, Small and Medium Enterprises

According to the research conducted by Prof. Gawali and Dr. Gadekar, the economic and social development across the globe is greatly affected by the MSMEs. The MSMEs play a main role in economic development with their effectiveness, efficiency, flexibility and innovative entrepreneurial spirit. To maintain the momentum of growth toward full development, it is imperative that the MSME sector be empowered

in encountering challenges that can hamper their survival and growth. Based on studies, it cited managerial inefficiency as a main cause and poor financial management as a major reason for MSMEs failure. Hence study concludes MSMEs owner or manager needs to improve their financial knowledge and skills so that with the use of latest scientific financial tools and techniques better financial management decisions can be made which are important to the survival, growth and profitability in business. (Gawali & Gadekar, 2017)

Republic Act No. 9501 "Magna Carta for Micro, Small and Medium Enterprises"

The Magna Carta was approved last 1991 as RA 6977. It was amended by Republic Act 8289 in 1997, and further revised by RA 9501 in 2008. MSMEs have the potential for economic growth and more employment generation, so it can help in giving an independent industrialized foundation for the Philippines. It has declared the policy of the State in promoting, supporting, strengthening and encouraging the development and growth of MSMEs in all productive areas of the economy especially rural or agricultural based businesses. In conclusion, the State must address particular needs of the MSMEs and shall endeavor promoting entrepreneurship, supporting entrepreneurs, encouraging the establishments of MSMEs and ensuring their sustained viability and growth; thereby attain rural industrialization with marginal set of rules and simplified procedures and requirements. This will encourage participation of private sector in the implementation of SME policies and programs in coordination with the government.

The three key provisions confined in the law. They are (1) the formation of the small & medium enterprise development council, (2) formation of the small business corporation & (3) the compulsory sharing by lending institutions of a part of their loan collection to small and medium entities.



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The other relevant requirements of this law are the creation by the BSP of an incentive program to encourage lending to MSMEs aside the required credit allocation to said enterprises. Second, the SMED Council will monitor all loan requests by MSMEs to verify for the absorptive capability of each business. Third, the quarterly reporting of lending institutions to the SMED Council regarding the position of their compliance with the required allocation provision. And finally, imposing of administrative penalties and other sanctions which includes a fine of not less than PHP 500,000.00 by the BSP on those institutions that are not complying.

The law has urged the sector of private banking to offer more loans to small businesses. Government financing institutions, like the Small Business Corporation, Development Bank of the Philippines and Land Bank of the Philippines have started wholesale credit programs using private commercial, rural and thrift banks as channels or retailers.

Go Negosyo Act

According to Tibaldo of Sunstar (2016), Republic Act No. 10644 or the Go Negosyo Act which was passed and signed into law by President Benigno Aquino III to solidify micro, small and medium enterprises to generate more employment chances in the Philippines. Under this Act, its primary policy is to nurture national growth, promoting inclusive development, and reducing poverty by inspiring the creation of MSMEs that enable openings of local jobs, production and trading in our country. There are launched Negosyo Centers in all of the Cordillera provinces and the Baguio City. Ideas are being arranged for more centers to be built in the other municipalities as well. (Tibaldo, 2016)

Through the Negosyo Centers establishments throughout the country's cities, municipalities, and provinces, helps to reach out and guide MSMEs in doing their businesses. The accessibility in these areas is a great help. Several assistances in

production assistance, marketing training, management aide, transfer of technology for MSMEs is included in this act. In this act, Philippine Business Registry Databank under the Department of Trade and Industry is built for a database of all business entities nationwide. (Tibaldo, 2016)

The MSMED Council must boost partnerships between public and the private sectors in the founding and managing of Negosyo Centers. Local Government Units, other agencies and organizations must coordinate and collaborate with each other to avoid duplication of labors and to nurture unified action. A Negosyo Center's responsibility is promoting of doing business easily and enabling access to services for MSMEs, processing the duly accomplished forms submitted by the MSMEs, implementing the unified business registration process, enabling access to grants and other financial assistance. This is to include shared service facilities and equipment, guarantee management guidance, assisting in the improvement of the working conditions of MSMEs. These centers also assist in organizing with the local agencies of commerce, other business groups and government organizations for a mentoring program for the new and recent entrepreneurs and investors. (Tibaldo, 2016)

BMBEs Act of 2002

Republic Act No. 9178 is called Barangay Micro Business Enterprises (BMBEs) Act of 2002. This Act covers any business entity or enterprise involved in the producing, processing or manufacturing of products or merchandises. This includes agro-processing, trading and services, whose total assets are those coming from loans but exclusive of the land on which the specific business entity's assets are located. Its capital shall not exceed more than PHP 3,000,000.00. (LawPhil.net, 2002)

The Act provides that these entities are tax-exempted & are covered of the minimum wage law.



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Still, all employees included in this act should still have covered the same benefits which are given to a regular employee like social security and healthcare benefits. LBP, DBP, the Small Business Guarantee and Finance Corporation (SBGFC), and the People's Credit and Finance Corporation (PCFC) must have an exclusive credit window for assisting the financial needs of these BMBEs. A BMBE development fund shall be set up with a grant from the Philippine Amusement and Gaming Corporation (PAGCOR) and shall be administered by the SMED Council for technology transfer, production and management training, and marketing assistance. (Card.ph,2017)

The DTI, in collaboration with the private organizations and non-government organizations (NGOs), must research on the chances of connecting BMBEs with small, medium and large businesses, and build an incentive program. The information collected from the registration of the businesses must be available and should be used by the private sector and NGOs for the aim of matching businesses, and endorsing trades and investments. Whenever necessary, BMBEs should be ordered lesser acceptable requirements and practical fees and charges. (Card.ph, 2017)

7 Successful Food Businesses That Started as Simple Stalls

Based on Shasha Lim Uy (2017), it's tempting to dive into what seems to be the thriving restaurant industry. Borrow a few million, find a space, and perfect a recipe. The result is instant but expensive success that don't guarantee multiplying the capital. But with a little ingenuity, there's really a way to start small, dream big, and make it. These seven establishments prove it. (Uy, 2017)

Ineng's Special Barbecue which has the profound honor of being one of Metro Manila's top Pinoy-style barbecue destinations, but that recognition had some humble beginnings. At their wedding in the late '90s, Richard and Michelle Santiago were

scammed by a guest who claimed to be a part of a prominent family. According to a Philippine Daily Inquirer feature, the man asked them to guarantee a loan worth millions and disappeared when it had to be settled. (Uy, 2017) With debt over their heads, only P2,000 in capital, a helper, and a secret barbecue sauce recipe, the Santiagos got down to work. In 1999, they opened a stall at the Sidcor Weekend Market, with the couple themselves manning the preps and grill. Word quickly got around about their generously sized pork skewers and tasty marinade. Soon, they opened in other markets, their first restaurant in 2001 (Quezon City) and their first mall branch in 2004 (Market! Market!). On their 10th year, they opened the brand up for franchising and they now have over 10 outlets all over the country. (Uy, 2017)

Manang's Chicken, a saucy chicken which may have been introduced to the public in 2011, but it was with the family behind it for around 20 years. The Gerodias' beloved cook has been whipping up with sweet-and-savory chicken for the family table for years until they all realized that its goodness was meant to be shared. Manang's began in December 2010 at Mercato Centrale with just P10,000 in capital. Six months later, they Gerodias sisters opened a full-fledged restaurant, investing P1.5 million in the endeavor. (Uy, 2017) In an interview with Entrepreneur Philippines, Jill Gerodias-Borja said that they wanted to capitalize on the momentum. Currently, they have around seven branches. According to Gerodias-Borja, "not all concepts will successfully translate well as a restaurant, and entrepreneurs need to offer more than what was in the food cart." Her Cordon Bleu Paris-trained sister, Jen Gerodias-Slagle, came up with more Filipino comfort-food dishes to round off their menu. (Uy, 2017)

In Café Mary Grace, the cheese rolls and ensaymada may overshadow the fruitcake on the menu, but the humble Christmas cake is where everything began. After her children were born, Mary Grace Dimacali was feeling peckish for something to do. She started making fruitcake for



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Christmas, then eventually expanding her repertoire to include cinnamon buns and her pièce de résistance, ensaymada. Dimacali would sell her baked goods around her neighborhood. (Uy, 2017) By 1994, she progressed to bazaars and in 2001, she opened her first kiosk in Glorietta. According to an interview with Entrepreneur Philippines, her eldest son Gabriel found her a spot in Serendra in 2006, and that paved way for her first café. (Uy, 2017) Dimacali's personal approach to selling her goods proved to be her best marketing asset: "Little did I know [the bazaar regulars] were my evangelizers. While we were developing a loyal clientele, I was also building an emotional connection with people, so that when the first café opened, bang! They knew that MaryGrace was not just a name—they knew that person. They know her voice. They know her commitment to deliver with quality and bring it to your doorstep. So, the café became a success." Apart from numerous kiosks and cafes around the Philippines, the Mary Grace branch has also expanded to include a specialty cake studio. (Uy, 2017)

Since its inception, Carmen's Best Ice Cream has always been a market favorite, even winning the Ultimate Taste Test (a competition hosted by Our Awesome Planet) in 2011. In 2007, Ramon Magsaysay, Jr. bought 27-hectare milk farm which produced at least 2,640 liters of milk. Because of milk's shelf life, the former senator approached his son, Paco, to see if he could do anything with the excess product. The younger Magsaysay told Entrepreneur Philippines that he experimented with different dairy products before settling on ice cream. By 2011, he had a solid business peddling premium frozen desserts. (Uy, 2017) Magsaysay has yet to open his own ice cream parlor, but business has grown from selling in stalls and restaurants to supplying Philippine Airlines and distributing to other Southeast Asian countries. Pope Francis was even able to try Carmen's Best during his 2015 visit. (Uy, 2017) Magsaysay credits his success to timing. Though he already had a solid product, he still took a course in ice cream-making from the

Pennsylvania State University. When Haagen-Dazs shut its doors in the Philippines, he seized the opportunity to fill in the void it left. For Magsaysay, the key is to stick to quality. "Our quality is higher than Häagen-Dazs and Ben & Jerry's. If we were equal to or even a little bit lower than them, there's no way that the people will patronize our product." (Uy, 2017)

Every self-respecting Filipino knows Potato Corner, a movie and party favorite where freshly cooked French fries are topped with popcorn flavoring. Potato Corner first opened in 1992 and it boasted steady business even when owner and CEO Jose Magsaysay left in 1997 to pursue other interests. When the Asian Financial Crisis hit, however, the 120 outlets suddenly shrank to 40. He returned in 2001 with a new business model that emphasized franchising and marketed to kids. (Uy, 2017) In an interview with The Boss in 2016, Magsaysay announced that they were planning to roll out a "no cash-out" model, where they will provide capital for the franchise and you will share the monthly profit. Now on their 25th year, Potato Corner has 550 kiosks around the world, including Canada and the U.S.A. (Uy, 2017) Though most of their branches are still stalls, some Potato Corner outlets also offer seating. They've also partnered with the Kris Aquino-approved Nacho Bimby. Magsaysay's advice for an enduring business? "Sometimes you have to change a strategic plan and you have to be very flexible in that." (Uy, 2017)

A few years ago, when popcorn became a huge food trend around the world, the Philippines was unmoved. We already had Chef Tony's Popcorn. The country's homegrown gourmet popcorn company started on November 1, 2005. Tony Elepaño sold caramel popcorn for P25 and earned as much as P100,000. The Singapore-trained chef perfected his recipe and came out with a variety of flavors made with natural ingredients. (Uy, 2017) His repertoire grew: not just in terms of flavors (they have everything from cheese and caramel to green tea and red velvet) but also in their



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product line. Chef Tony's is also responsible for other healthier snack alternatives Holy Kettle! and Popcorners. His brand is currently being exported to Hong Kong, Thailand, Singapore, Vietnam, China, Japan, Costa Rica, Australia, and Saudi Arabia. (Uy, 2017)

Through his journey, Elepaño learned the importance of knowing the target market and thinking about the future. "Had I known my target market earlier, then our marketing efforts had been more focused and we could've started to wow them earlier," he told Entrepreneur. "As we grew, we concentrated so much on moving forward that our basic infrastructure was left behind." (Uy, 2017)

For a time, Merry Moos' Kelvin Ngo was shuttling between Manila and Singapore to visit his then-girlfriend (now wife, in case you're curious). During his trips, he became enamored with artisan ice cream and decided to try his hand at it. He bought a small ice cream maker and experimented with combinations. Two years later, he began joining bazaars, starting with Mercato Centrale then expanding to Salcedo Saturday Market and Legazpi Sunday Market. (Uy, 2017) "The bazaars are a great place to tweak and experiment on your product. I had no culinary background but because of the constant, weekly feedback I received, we got better," he told Entrepreneur. His persistence for improvement paid off. One of his anchor flavors introduced the country to the salted caramel trend and by 2013, he was opening in malls. Currently, Merry Moos has two stalls set up in SM Aura and SM Megamall. (Uy, 2017)

Programs of Small Business Corporation

Through credit delivery strategy, small business corporation gives credit assistance to micro, small and medium enterprises. This corporation has a vision that its micro-sized borrower will become small-sized, and soon will become medium-size and global competitor. This corporation operates four financing programs: Microfinance wholesale

program, direct lending to micro, small and medium enterprises, credit guarantee program and the wholesale lending programs for micro, small and medium enterprises.

Bank Programs for Micro, Small and Medium Enterprises

Republic Act 9501 has encouraged the private banking sector to offer more loans to smaller businesses. Government financing institutions had set up wholesale credit programs. Today, there is the perception that credit resources for MSMEs are plenty and are just waiting for takers. It is possible some small businessmen do not know these facilities are available or are reluctant to apply for loans for one reason or another. Banks and lending institutions that fall short of complying with the credit allocation requirement have the option to avail of alternative compliance instruments being offered by the Small Business Corporation — MSME notes and preferred shares. (Serdef.org, 2013)

Synthesis

As seen in these literature and studies, having effective financial management practices can help businesses in the long run. Food stall entrepreneurs should adopt and practice continuous education in financial management. MSMEs tend to have limited knowledge especially on financial management because they are new in the business. After going through the entire study by local and foreign researcher, they conclude that although some of the topics have been covered in the earlier literature review, no inclusive study exists that gives reliable financial management practices of food stall entrepreneurs. This study aims to bridge the gap. It means that the topic chosen for the study is significant. To summarize, the research opens the doors for exploration of related information regarding the effectiveness of financial management practices of food stall entrepreneurs to make further studies more important.



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Research Philosophy, Framework, Design, and Methodology

Financial management practices in MSMEs have five constructs such as financial reporting & analysis, investment, financing, working capital management, and accounting information system. Financial management practices include deciding financially, & choices with immediate financing and deals with the net working capital, investment and financial reporting. Similarly, Ang (1992) also indicated three goals in financial decision-making which includes investing, financing, and dividend choices. In the MSME sector, the financial management practices' strong points have long grabbed the researchers' attention. Dealing on various objectives, researchers focus various aspects of financial management practices. McMahon, Holmes, Hutchinson and Forsaith (1993) and McMahon (1993) simplified their financial management practices review in Australia, USA and UK. In their evaluation, the financial management practices' context includes these aspects: accounting information systems, deciding in investments & financing. But, these three exclude other important aspects like working capital management which would deals with cash, account, payable, accounts receivable, inventory management. (Abanis, et. Al., 2013) According to Hamptors John (2009), the financial statement is a group of gathered information which are organized in terms of logical & consistent accounting procedures. It is a way to bring an understanding of a business firm's financial aspects. Capital is the whole investment of a business according to cash and resources. The capital requirements can be classified into to fixed and working capital. Finance is the essence of an enterprise for it is intertwined with all activities done by the enterprise itself. Financing can be categorized into long-term and short-term. Capitalstructure is the stable financing of the business signified mainly by long-term debt and equity. Working capital management is an act to plan, organize & control the aspects of working

capitallike receivables, cash, payables, overdraft, cash on bank inventory & short-term loans. (Paramasivan & Subramanian, 2009) The aim of an accounting information system is for collecting, storing, and processing of financial and accounting information and producing informative reports that a firm can use to weigh business decisions.

Figure 1

Framework of Financial Management Practices in MSMEs



The input variables in this study are type of business ownership, how long the business is running, how many employees are working, capitalization, number of food stalls in Metro Manila. The other input variables included in this research are practices for financial management according to controlling and planning financially, investing, financing, managing working capital, and accounting information system. The process consisted the assessments on the profile of the prospects, and the calculation of level of effectiveness of financial management practices of foodstall entrepreneurs on selected malls in Metro Manila on through survey questionnaire, presenting, analyzing, and interpreting information. The output variables are the findings, conclusions and recommendations formed through the evaluation.



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Figure 2

The Conceptual Framework



Methodology

Descriptive method was used in this research particularly the survey technique. It describes and interprets the present, "what is". The descriptive method tries to define systematically a phenomenon, problem, service, and situation. It provides information like the living condition of a community, or defines attitudes towards a subject. (Ranjit Kumar, 2011, pg. 30). This design depends on observation as a way of gathering information. It tries to check conditions in order to establish what the standard is. (Nicholas Walliman, 2011, pg. 10)

The total population of the study covered food stall entrepreneurs in selected malls in Metro Manila who are specifically the business owners or operators. The population was unknown due to the difficulty to obtain the list of food stalls in the respective malls. The researcher submitted

letters to get the number of food stalls leasing in the malls, but the mall administrations cannot give this information due to confidentiality. Thus, purposive sampling method was recommended by the Assoc. Prof. Norie Maniego (statistician) and was applied in this study. The sample size is 179 which are the total surveyed respondents. The main factor in purposive sampling is your decision as to who can give the best data to meet the study's objectives. As a researcher, she only approaches those who in her opinion are expected to have the required and important information and have the will to share it. This sampling strategy is more common in qualitative research, but when you use it in quantitative research you select a preset number of people who, in your judgment, are great positioned to give you the necessary data for the research. (Ranjit Kumar, 2011).

The respondents of this study were the 179 food stall entrepreneurs which are business owners, or operators in selected malls in Metro Manila. The respondents came from selected malls in Metro Manila which are Ever Gotesco Commonwealth, SM North Edsa, Ayala Malls Trinoma, Ayala Malls Vertis North, Gateway Mall, SM Cubao, Cyberpark Tower 1, Farmer's Plaza Cubao, Shopwise Cubao, SM Megamall, Shangrila Plaza Mall, and St. Francis Square Mall.

The profile of the respondent was assessed in terms of business ownership (sole proprietorship, partnership or corporation and number of years in the business. They are those less than one year, 1 to 3 years 4 to 6 years, or more than 6 years.

The number of employees is from 1 to 9 employees, 10-99 employees 100-199 employees or more than 199 employees. The start-up capital (less than PHP 100,000, PHP 100,001 – PHP 500,000, PHP 500,001 – PHP 1,000,000, more than PHP 1,000,000); and number of food stalls in Metro Manila (1 stall, 2 stalls, 3 stalls, or more than 3 stalls).



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This study used a researcher-made questionnaire. This is constructed to align with the objectives of the study. This is also based on resource materials, based on books, journals, articles, researches, and online references. The questionnaire was pretested by Assoc. Prof. Norie Maniego, the researcher's statistician, and was also validated by the thesis adviser Dr. Hilda Felipe San Gabriel, and the panel, Dr. Guillermo Bungato Jr., Dr. Dominador Gamboa Jr, Dr. Antonio N. Alcantara, and Prof. Jerome P. Dumlao. The questionnaire was examined until the final set was formulated to validate the purposes of the study. The questionnaire is divided into two parts. The first part is about the profile of the respondents in terms business ownership, number of years in the business, number of employees, start-up capital, and number of food stalls in malls in Metro Manila. The second part is measuring the level of effectiveness of financial management practices of food stall entrepreneurs in selected malls in Metro Manila in terms of financial reporting & analysis, investing, financing, working capital management and accounting information system. This study used the weighted mean and Likert Scale.

The researcher administered the survey in several malls in Metro Manila. The questionnaires were distributed to either food stall operator or owner. The researcher prepared a translation for the survey questionnaire so it can be easily understood. The questionnaires were distributed to the respondents during mall hours. The objective of the study was carefully explained to the respondents verbally. Due to the sensitivity of the gathered information, the researcher assured the respondents that the business name or personal name will not be disclosed to maintain the confidentiality. The researcher briefly instructed the respondents on how to answer. If the respondent has enough time to answer the questionnaire immediately, the researcher waited and guided the respondents throughout the whole time. For the busy respondents, the researcher distributed the

questionnaire and briefly explained the instructions to answer the survey and cameback after a few hours. While retrieving the questionnaire from the respondents, the researcher sees to it that all the questions are answered. All the answers of the respondents were tabulated and started the processing of the data through the appropriate statistical tools.

The following are the statistical tools used in the study:

- 1 The frequency count and percentage distribution is used to analyze the demographic profile of the respondents.
- 2 For the assessment of the respondents' perception on the effectiveness of financial management practices of food stall entrepreneurs, the weighted mean was used since the option items of the questionnaire have assigned points.
- 3 Likert Scale was used in conjunction with the weighted mean. The following is the verbal interpretation and arbitrary scale for the Likert Scale.
- 4 Often characterized as an omnibus t-test, an ANOVA is also used as a test of mean comparisons. An ANOVA is that the ANOVA can compare means across more than two groups or conditions unlike in t-test. (Marczyk, 2005)
- 5 Rank order correlation is a non-parametric technique used to measure the strength of the relationship between two continuous variables (Alipio Garcia, et. al., 2007). This was used to average the result of the gathered data from highest to lowest based on the answers of the respondents.
- 6 All computations were done using SPSS.



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Table 1

Likert Scale

Likert Scale	Verbal Interpretation	Arbitrary Scale
5	Very Effective	4.51 – 5.00
4	Effective	3.51 – 4.50
3	Somewhat Effective	2.51 – 3.50
2	Less Effective	1.51 – 2.50
1	Not Effective	1.00 – 1.50

Data Results and Analysis

Profile of the Respondents According to Type of Business Ownership, Number of Years in the Business, Number of Employees, Start-up Capital, and Number of Food Stalls

- 1 Frequency and Percentage Distribution of the Respondents According to the Type of Business Ownership. Majority of the respondents were sole proprietorship with the frequency of 114 or 63.7%, 38 or 21.20% were corporation & 27 or 15.10% were partnership.
- 2 Frequency and Percentage Distribution of the Respondents According to the Number of Years in the Business. Food stalls operating for more than six years were dominant with the frequency of 68 or 38%, 49 or 27.40% were operating for one to three years, 45 or 25.10% were operating for less than one year & 17 or 9.50% were operating for four to six years.
- 3 Frequency and Percentage Distribution of the Respondents According to the Number of Employees. Majority of the respondents had 1 to 9 employees with the frequency of 103 or 57.5%. 41 or 22.90% had 10 to 99 employees, 21 or 11.70% had more than 199 employees, & 14 or 7.80% had 100 to 199 employees.
- 4 Frequency and Percentage Distribution of the Respondents According to Start-up Capital. Food stalls with a start-up capital of PHP 100,001 to PHP 500,000 were dominant with the frequency of 63 or 35.2%, 40 or 22.30% had both PHP 100,000 or less & PHP 500,001 to

PHP 1,000,000, & 36 or 20.10% had more than PHP 1,000,000.

- 5 Frequency and Percentage Distribution of the Respondents According to the Number of Food Stalls. Food stall entrepreneurs with more than three stalls were dominant with the frequency of 78 or 43.6%, 52 or 29.10% had one stall, 31 or 17.30% had three stalls & 18 or 10.10% had two stalls.

Effectiveness of the Financial Management Practices of Food Stall Entrepreneurs In Terms of Financial Reporting and Analysis, Investing, Financing, Working Capital Management, and Accounting Information System

- 1 Weighted Mean and Verbal Interpretation of the Respondents' Assessment on the Effectiveness of the Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila in Terms of Financial Reporting and Analysis. The "preparation of daily sales report" and "monitoring and analyzing daily sales to check profitability" were highly appreciated by the respondents respectively with the weighted mean of 4.65 and 4.60. On the other hand, there were lesser appreciation on the "preparation of financial statement regularly" and "preparation of financial statements is prepared by an accountant" with the respective means of 4.20 and 4.08.
- 2 Weighted Mean and Verbal Interpretation of the Respondents' Assessment on the Effectiveness of the Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila in Terms of Investing. The "developing new ideas to improve food products being sold" and "opening food stall in other place" were highly appreciated by the respondents respectively with the weighted means of 4.47 and 4.08 while there was lesser appreciation on the "upgrading from a food stall to a mini restaurant" and "opening another kind of food stall in the



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same place” with the respective means of 3.55 and 2.96.

3 Weighted Mean and Verbal Interpretation of the Respondents’ Assessment on the Effectiveness of the Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila in Terms of Financing. The “usage of earned profit or cash on hand” and “borrowing money from family, relatives or friends” were highly appreciated by the respondents respectively with the weighted means of 3.41 and 2.46 while there was lesser appreciation on “borrowing money from lending institutions like cooperatives, savings and loans association, credit union etc.” and “borrowing money from money lenders or loan sharks” with the respective means of 2.32 and 1.96.

4 Weighted Mean and Verbal Interpretation of the Respondents’ Assessment on the Effectiveness of the Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila in Terms of Working Capital Management. The “stocking or buying of the supplies if only needed to avoid spoilage” and “payment of expenses before or on time” were highly appreciated by the respondents respectively with the weighted means of 4.55 and 4.54 while there was lesser appreciation on “cash depositing of everyday sales in bank account for monitoring” and “buying the supplies in bulk to avoid overspending” with the respective means of 4.36 and 4.05.

5 Weighted Mean and Verbal Interpretation of the Respondents’ Assessment on the Effectiveness of the Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila in Terms of Accounting Information System. The “transaction recordings are being checked for any difference or error as early as possible” and “manual recording of transactions through writing” were highly appreciated by the respondents respectively with the weighted means of 4.31 and 4.11 while there was

lesser appreciation on “hiring of accountant for assistance of income tax return filing” and “hiring of accountant to supervise the accounting processes” with the respective means of 3.86 and 3.78.

6 Weighted Mean and Verbal Interpretation of the Respondents’ Assessment on the Effectiveness of the Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila. The working capital management and financial reporting and analysis were highly appreciated by the respondents respectively with the weighted means of 4.39 and 4.37 while there was lesser appreciation on investing and financing with the respective means of 3.73 and 2.53.

Significant Difference in the Level of Effectiveness of Financial Management Practices of Food Stall Entrepreneurs

1. Test of Significant Difference of the Respondents’ Assessment on the Effectiveness of the Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila When They Are Grouped According to the Type of Business Ownership. When the respondents were grouped according to type of business ownership, the overall perception were all “not significant” at 0.05 degree of importance whereby the null hypothesis was accepted.
2. Test of Significant Difference of the Respondents’ Assessment on the Effectiveness of the Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila When They Are Grouped According to the Number of Years in Business. When the respondents were grouped according to the number of years in business, the overall perception were all “not significant” at 0.05 degree of importance whereby the null hypothesis were accepted.
3. Test of Significant Difference of the



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Respondents' Assessment on the Effectiveness of the Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila When They Are Grouped According to the Number of Employees. When the respondents were grouped according to the number of employees, the overall perception were all "not significant" at 0.05 degree of significance whereby the null hypothesis were accepted.

4. Test of Significant Difference of the Respondents' Assessment on the Effectiveness of the Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila When They Are Grouped According to Start-up Capital. When the respondents were grouped according to start-up capital, the overall perception were all "not significant" at 0.05 degree of significance whereby the null hypothesis were accepted.
5. Test of Significant Difference of the Respondents' Assessment on the Effectiveness of the Financial Management Practices of Food Stall Entrepreneurs in Selected Malls in Metro Manila When They Are Grouped According to the Number of Food Stalls. When the respondents were grouped according to number of food stalls, the overall perception were all "not significant" as well, at 0.05 degree of significance whereby the null hypothesis were accepted.

Discussion, Conclusions, Recommendations

Discussion

Majority of the respondents were sole proprietorship with 63.7%. Food stalls operating for more than six years were dominant with 38%. Majority of the respondents that had 1 to 9 employees with 57.5%. Food stalls with a start-up capital of PHP 100,001 to PHP 500,000 were dominant with 35.2%. Food stall entrepreneurs with more than three stalls were dominant with the frequency of 78 or 43.6%.

"Preparation of daily sales report" and "monitoring and analyzing daily sales to check profitability" were highly appreciated by the respondents, respectively with the weighted mean of 4.65 and 4.60. "Preparation of financial statement regularly" and "preparation of financial statements" were less appreciated; which need an accountant to prepare. They garnered a respective means of 4.20 and 4.08.

"Developing new ideas to improve food products being sold" and "opening food stall in other place" were highly appreciated by the respondents respectively with the weighted means of 4.47 and 4.08 while there was lesser appreciation on the "upgrading from a food stall to a mini restaurant" and "opening another kind of food stall in the same place" with the respective means of 3.55 and 2.96.

"Usage of earned profit or cash on hand" and "borrowing money from family, relatives or friends" were highly appreciated by the respondents respectively with the weighted means of 3.41 and 2.46 while there was lesser appreciation on "borrowing money from lending institutions like cooperatives, savings and loans association, credit union etc." and "borrowing money from money lenders or loan sharks" with the respective means of 2.32 and 1.96.

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means of 4.31 and 4.11 while there was lesser appreciation on “hiring of accountant for assistance of income tax return filing” and “hiring of accountant to supervise the accounting processes” with the respective means of 3.86 and 3.78.

Working capital management and financial reporting and analysis receives a higher vote of approval appreciated by the respondents respectively with the weighted means of 4.39 and 4.37 while there was lesser appreciation on investing and financing with the respective means of 3.73 and 2.53.

There was not much difference while respondents were grouped according to business ownership, number of years in business, number of employees, start-up capital and number of food stalls. The overall perception agrees for all respondents.

Conclusions

Majority of the businesses are owned in the form of single proprietorship. Mostly are operating for more than six years, with at least 1 to 9 employees, starting with at least PHP 100,001 – PHP 500,000 start-up capital, and owned more than three food stalls.

Working capital management and financial reporting and analysis were highly appreciated by the respondents while there was lesser appreciation on investing and financing.

When the respondents were grouped according to type of business ownership, the number of years in business, the number of employees, start-up capital, and number of food stalls, the overall perception agreed or did not differ, which made the null hypothesis accepted

Recommendations

Majority of the businesses are owned in the form of sole proprietorship. This means that in the food

stall industry, this is their starting point. But to be able to compete with others in the longrun, they should be knowledgeable regarding the different aspects of business especially financial management. New entrepreneurs should firstly, study the market they entering. They should also invest in learning business management specifically in the financial aspect. They should also learn to research and be hands-on in the operation to be able to address any problems that may arise. Having a strong foundation in your starting years can effectively help you to develop and strengthen your business in the future.

In order to improve and gain proficiency in preparing financial reports and conducting analysis, an entrepreneur should learn to prepare financial statements through an accountant, although it is a bit costly to hire an accountant it is better to be able to learn from them at first especially for a new entrepreneur. They can teach you the basics and after you learn from them you can just hire them annually for external checking. External audit from an accountant should be practiced in order to verify if there are some lapses in the preparation of financial reports. An entrepreneur should also practice to prepare financial statements regularly especially in the food cart industry. This can help the owner to analyze the strengths and weaknesses of the business. This is also where the owner can see the business' financial position and business' profitability. With the financial analysis, the owner can come up on what strategies can be done to improve the sales and revenue of the business. Food cart entrepreneurs should continue the monitoring of their daily sales.

For the efficient improvement of the investing practices, if their first food cart is already stable food cart entrepreneurs should plan on expanding their business. They can open another kind of food cart in the same place. It is better to open up with the same location in order to manage the carts easier. They can monitor the carts because of the close distance. They can also serve the demand of



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other customers with different taste because they offer not only one kind of product but two or more. If not with additional carts, they can uniquely develop the food products or marketing strategies based on the demand and taste of the customers. If their food cart is on a great demand, they can upgrade their food cart into a mini restaurant. They can set up in a larger location so they can provide comfortable dining to their customers. They can also accommodate the influx of the customers.

To improve the efficiency of financing practices, other financing methods should be learned and practiced. Being in MSMEs specifically in a food cart industry, entrepreneurs mostly rely on internal financing. Entrepreneurs should avoid lending from loan sharks as much as possible. They implement very high interest that it will be difficult for the entrepreneur to pay in the future. There are several external financings that can be practiced in order to further manage your business. Our government is implementing several laws, budgets, projects, trainings, and seminars for MSMEs to introduce and to help them to avail low-cost financial services, with easier requirements. Entrepreneurs should invest and allot their time in learning alternative financing methods. Alternative financing includes borrowing money from family, or friends, availing bank loans, borrowing money from other lending institutions. Borrowing money from lending institutions like cooperative, credit unions, savings and loans association can also be extensions of external financing. Although they offer higher interest rate than banks the requirements are much easier to comply. It is more secured borrowing with these institutions than any individual or loan sharks. Aside from seeking external financing. Entrepreneurs can learn and avail investments like mutual funds or unit investment trust funds for emergency needs of their businesses. They can start from short term or in money market which are the most conservative type of investments. They can use their idle funds saved from the business that they will not use. At least, this money can possibly earn at least 2% to

3% per annum and can serve as a passive income of their business.

For the efficient improvement of working capital management practices of food cart entrepreneurs, they can try to deposit their sales daily in the banks. It is for easy monitoring of sales. If not daily, it can be weekly or in regular manner. They should use their petty cash instead of their previous sales for any expenses. They should make sure that there is enough petty cash for the daily operations and emergencies. Entrepreneurs can also buy in bulk to avail discount and to avoid overspending. For food cart entrepreneurs this is not applicable for the food ingredients for it can be spoiled. But for other materials that are not perishable like cups, tissues, forks, spoons, plates etc., it is very efficient to buy in bulk to avail discounts and to avoid spending too much money. Just store them in a proper storage area.

To improve the efficiency of accounting information system practices, it is better to invest in hiring an accountant to assist you in the business' accounting process. Even though the business is in a smaller scale, proper and accurate accounting processes should still be practiced. They can also help you in government and tax compliance like filing an income tax return which is required for all sole proprietor. An accountant can help entrepreneurs prepare consistent financial statements in accordance to the Philippine Financial Recording Standards. It is also better to use an accounting software or an automated software for your transactions in order to make your accounting recordings easier and to save time. Having an orderly accounting information system can generate a proper financial and accounting reports which can help entrepreneurs in their business decisions.

Developing your food cart and products can also help into your business' financial stability. Many competitors will arise so you should invest in market and research. Investing in marketing will be beneficial to the finance of your business. Being



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creative and unique can set you apart from your competitors and will possibly increase your sales in the future.

Banks and other financial institutions should incorporate MSMEs in the corporate social responsibility. This is a way to help, and educate MSMEs in their respective businesses. Banks should simplify the processes on product applications and simplify their requirements.

Government should also continue to provide means of financing not only for food cart entrepreneurs but also for the growing MSMEs in our country. They should provide affordable rates for loans and easier requirements for loans approval. DTI, BSP and other government institution can provide trainings and seminars for financial management for entrepreneurs. These can help entrepreneurs manage their business better.



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Correlation Between Credit Risk Management Practices and Financial Performance of Lending Companies in Central Luzon

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Abstract

Direct lending is a trend in which companies make loans to small businesses and low-income individuals without strict regulations compared to banks. These companies are highly vulnerable to risk, and adequate credit management is crucial. The study is aimed to determine the correlation between credit management practices and the financial performance of lending companies in Central Luzon. The 5Cs of the credit model served as the underlying theory of the study. The study used the descriptive model of inquiry and utilized a survey questionnaire to collect the pertinent data required. The Pearson Correlation Analysis was the statistical tool utilized to investigate correlation analysis.

The study found a moderate positive correlation between credit management practices on capacity, capital and condition, and financial performance, and a weak positive correlation between credit management practices on character and collateral and financial performance. The study suggests that lending companies should continuously monitor and review their credit management strategies to ensure that their operations are safe and sound, in accordance with strategic goals, business procedures, and financial circumstances. A credit management manual for lending is proposed to be developed by the regulator that would aid in monitoring and enforcing laws, and provide guidance for streamlined working procedures.

This research is carried out to identify measures that may aid in improving overall performance and gaining a competitive advantage through the implementation of comprehensive credit management. Sound credit management practices draw people from different levels of society and strengthen public trust and confidence in lending companies.

Key Words: credit management practices, financial performance, lending companies, Central Luzon

Introduction

Lending is a rapidly evolving market, driven by stricter regulations in the post-financial crisis world (Pagano and Maiga, 2018). One of the significant activities of lending companies in the world at large is credit administration. Lending companies in the Philippines by virtue of Republic Act (RA) No. 9474, commonly known as the "Lending Company Regulation Act of 2007" have been one of the

alternatives where a low-income earner and a small business can borrow money. Given the vulnerability of lending companies to credit risk, proper credit management is critical for a lending company's survival, growth, and development. Credit management has long been acknowledged as an essential component of sound financial management. Without proper credit management, issues arise which may affect the financial performance of a lending company.



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The development and implementation of a credit management system are critical for ensuring the stability and appropriateness of a financial institution's operations (Checklist of Credit Risk Management, n.d.). Nikolaidou & Vogiazas (2014) define credit management as “the combination of coordinated tasks which include controlling and directing risks tackled by an organization through the incorporation of key management methods aiming to achieve the organization’s objectives.” In addition, credit management is defined by Brealey and Myers (2018) as the tools used by a lending company to maintain an optimal level of credit and its effective management. One of the credit management practices used is the Cs of credit, which is a popular term for the primary elements of a lending company's analysis when reviewing a loan request (Peterdy, 2022).

The traditional Five Cs of Credit which is utilized as a basic framework for good lending is composed of Character, Capacity, Capital, Collateral, and Conditions. Character pertains to a borrower’s inner quality of integrity, stability, and honesty. The purpose of evaluating character is to determine whether the borrower is responsible and likely to make on-time payments on loans and other debts (Treece, K. and Tarver, J., 2021). Capacity is the ability of the borrower to generate income either through liquidation of assets or earning to repay the loan. Lenders need to be certain that the borrower can pay back the loan based on the stated terms and amount (Segal, 2021). Capital is the amount of money an individual or a business has. Lenders frequently take a close look at the quantity and kind of funds that the borrower is able to provide (Kazi, 2021). Collateral is an asset that can back or act as a security for the loan. If the borrower defaulted, the lending firm should be able to seize the collateral and sell it promptly to satisfy the outstanding balance (Van Horne & Wachowicz, 2008). Condition is the purpose of the loan, the amount involved, and prevailing interest rates.

The purpose of this study is to determine the relationship between the credit management

practices and the financial performance of lending companies in Central Luzon, to contribute to improvements in the efficient and effective implementation of these credit management practices and enhance the financial health and performance of lending companies. It specifically sought to answer: (i) the demographic profile of the respondents; (ii) the level of assessment of the respondents regarding the effectiveness of credit management practices of lending companies in terms of character, capacity, capital, collateral, and conditions; and (iii) the significant correlation between credit risk management practices and the financial performance of lending companies.

At the end of this study, it is anticipated that the study might be beneficial to the people working in the lending industry which includes lenders, borrowers internal and external auditors as well as its regulators. It may also be anticipated that the study may serve as a reference material to lecturers, researchers and students studying the same or similar topics of credit risks management practices and financial performance.

Literature Review

For a safe and sound lending process, due diligence is necessary for the credit management system. One of the credit management practices used is the Cs of credit, which is a popular term for the primary elements of a lending company's analysis when reviewing a loan request (Peterdy, 2022). The traditional Five Cs of Credit which is utilized as a basic framework for good lending is composed of Character, Capacity, Capital, Collateral, and Conditions.

Character pertains to a borrower’s inner quality of integrity, stability, and honesty. In the study of Koranteng, et al. (2016), they cited that before issuing a loan to an applicant, a loan officer should consider character as one of the elements to evaluate. Character is a factor that is widely misapplied even though it is widely acknowledged as the most important factor.



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Capacity is the ability of the borrower to generate income either through liquidation of assets or earning to repay the loan. For Habitegeko (2018), the lack of an adequate examination of credit borrowers' capacity is likely to have the same impact on performance as the lender's credit policies.

Capital is the amount of money an individual or a business has. It is thought that having a solid capital position will help to reduce moral hazard by ensuring that the company's owners will continue to be dedicated to their enterprise (Baiden, 2011).

Collateral is an asset that can back or act as a security for the loan. According to Kagan (2022), collateral enables the lender to make sure the borrower fulfills their financial obligation.

Condition is the purpose of the loan, the amount involved, and prevailing interest rates. Lenders abide by and comply with the lending regulations imposed by their regulators while qualifying borrowers for obtaining loans (CFI Team, 2020). They are required by law to properly disclose all pertinent information relating to a loan transaction to prevent the general public from not understanding the true cost (Republic Act No. 3765, "The Truth in Lending Act").

The importance of having a developed and established credit risk management in securing the soundness of a company (Checklist of Credit Risk Management, n.d.) and importance of measuring financial performance in growing a business (Kenton, 2022) were well explained in all the related studies and literature reviewed for this study.

The majority of researchers discovered that credit management has a favorable association with financial performance, as was generally shown in all the studies. Kodithuwakku (2015) established a framework for comprehending credit risk management and its impact on bank profitability, he concluded that credit risk management must lead to increased bank performance by limiting credit risk exposure to a reasonable level. Moreover, the

findings of Gatuhu (2013), indicated that the stability and continuing profitability of a financial institution depend on sound credit management, and the most common consequence of weak financial performance is declining credit quality. Her research also emphasized the importance of credit management in any organization, which cannot be overlooked by any business that uses credit.

These studies were supported by the studies of Mburu, I., Mwangi, L., & Muathe, S. (2020), Al Gamal & Siddiq (2019), Muriki (2017), and Koranteng, Owusu & Ntiamoah (2016). They discovered that investing in credit management has a notable and statistically significant favorable influence on performance. For Mburu, Mwangi, & Muathe (2020), an improvement in lending practices would result in an improvement in the banking industry's performance on loans. A proper system for determining a customer's creditworthiness that considers both the customer's loyalty and their ability to repay the credit should also be implemented. The management should supervise the facilitation of credit management as a significant level of process and documentation standardization (Muriki, 2017).

On the other hand, according to Garcia, Giménez, and Guijarro (2013), effective credit risk management procedures have not succeeded in getting rid of the human factor from risk management decision-making. There are still some challenges associated with decision making particularly on our limited abilities that lead to human error.

Nearly all of the studies were specifically concerned with evaluating bank credit management and how that affected their financial performance. Although this study was intended for lending companies in the Philippines, the researcher felt that it was also necessary to see the similarities and differences of the study to lending industries other than banks. Furthermore, there have been few studies conducted to investigate the relationship between credit



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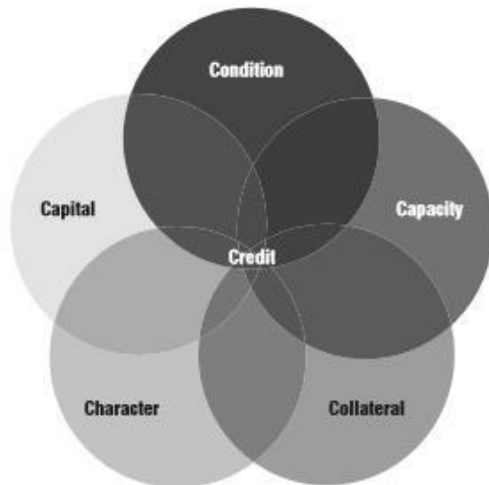
management practices and the financial performance of lending companies.

Research Philosophy, Framework, Design, and Methodology

This study is guided by the Five Cs of Credit model. According to Apostolic, Donohue, and Went (2012), this model provides a “fundamental framework for good lending”, which is especially applicable to small business lending. Character, Capacity, Capital, Collateral, and Conditions are the well-known Five Cs of Credit. These are represented graphically in Figure 1.

Figure 1.

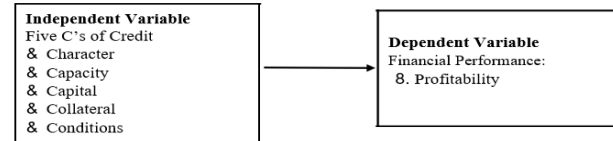
The Five Cs of Credit



Earning profit is the main aim of any kind of economic activity, thus it considers all options for increasing the profitability of the business. The effectiveness and proper usage of funds by the business determine profitability (Paramasivan, 2009). To measure the performance of any company, the first measure will be stability.

Figure 2.

Research Paradigm



Two variables, the independent variables and dependent variables, make up the conceptual framework of this study, as depicted in Figure 2. The independent variables are the Five Cs of Credit which consist of character, capacity, capital, collateral, and conditions; and the dependent variable is the financial performance indicator focusing on profitability.

Methodology

The study applies the Descriptive Method of inquiry. The process involved in credit management practices is sophisticated that must be understood in the context of the data that has been gathered. The total number of registered and currently operating lending companies in Central Luzon was 94. The sample size of 76 lending companies is determined using Slovin’s Formula. The simple random sampling method was used in this research to eliminate the possibility of human bias in the selection of respondents to be included in the sample.

To collect the pertinent data required, the survey questionnaire is used. The problems enumerated in the study were addressed in the survey questionnaire. The questions provided were answerable in five options having the corresponding scale using Likert Scale. The data were gathered using the drop-and-pick-later technique since it allows respondents time to complete the survey questionnaire.

To answer and analyze the statements of the problems described in the study, the statistical instruments utilized were: (i) frequency and



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percentage distribution; (ii) weighted mean; (iii) ranking; (iv) Analysis of Variance (ANOVA) and (v) Pearson correlation analysis. Frequency and percentage distribution are utilized to explain the distribution of the respondents in terms of sex, highest educational attainment, job position level, length of service in the company, the number of seminars and trainings attended related to the industry, and the company's number of years in operation. The weighted mean is applied to determine whether or not the survey samples agreed with a given statement in general. Ranking is done to draw attention to the item's position. An ANOVA test is a method of determining whether the survey results are significant, which can help the researcher decide whether the null hypothesis should be rejected or the alternative hypothesis accepted. Lastly, Pearson correlation analysis is applied to determine the degree to which two continuous variables with numerical measurements are related. The guidelines for interpreting Pearson's coefficient (r-values) on the next page are used:

Strength of Association	Coefficient, r	
	Positive	Negative
Very Weak	0 to 0.20	-0 to -0.20
Weak	0.21 to 0.40	-0.21 to -0.40
Moderate	0.41 to 0.60	-0.41 to -0.60
Strong	0.61 to 0.80	-0.61 to -0.80
Very Strong	0.81 to 1	-0.81 to -1

Data Results and Analysis

The analysis of the collected data is covered in this part of the study. The tables are used to answer the problems in this study.

Demographic Profile of the Respondents

The results on the demographic profile of the respondents shows that the majority of the lending companies of the respondents have above P1,000,000 capitalization, with 6 to 15 employees and operating for 11 to 15 years. Most of the

respondents were college degree holders, in rank-and-file position, have been working with the company for 5 years and below, and have attended 5 and below seminars and training.

Level of Assessment of the Respondents on the Effectiveness of Credit Management Practices of Lending Companies in Terms of Character, Capacity, Capital, Collateral, and Conditions

Table 1

Level of Assessment of the Respondents on the Effectiveness of Credit Management Practices of Lending Companies in Terms of Character

Character	Weighted Mean	Rank	Verbal Interpretation
1. The Company gives importance to the honesty and integrity of its borrowers and guarantors.	4.92	1	Very Great Extent
2. The Company conducts personal interviews in a manner that it will prove the trustworthiness and integrity of its borrower.	4.92	1	Very Great Extent
3. The Company equates the trustworthiness and integrity of the borrower with a good credit score.	4.87	2	Very Great Extent
4. The Company investigates the reputation of the borrower in the industry and in the community.	4.8	4	Very Great Extent
5. The Company completely understands how Character affects credit.	4.86	3	Very Great Extent



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6. The Company provides ample training to its employees to perform character assessment of its borrowers.	4.71	5	Very Great Extent
GRAND MEAN	4.85		Very Great Extent

Table 1 shows that the credit risk management of lending companies' effectiveness is to a 'Very Great Extent' in terms of character as reflected by its grand mean of 4.85. This could mean that evaluating the borrowers' character is something that lending companies place a high value on.

Table 2

Level of Assessment of the Respondents on the Effectiveness of Credit Management Practices of Lending Companies in Terms of Capacity

Capacity	Weighted Mean	Rank	Verbal Interpretation
1. The Company evaluates the borrower's ability to generate sufficient cash flows to repay the loan based on the proposed amounts and terms.	4.86	1	Very Great Extent
2. The Company seeks to find the primary and alternative source of repayment.	4.84	2	Very Great Extent
3. To analyze capacity, the Company examines the reliability and sustainability of the borrower's cash flows whether it resulted from one-time event or from recurring operations.	4.83	3	Very Great Extent
4. The Company reviews financial information of the borrower from prior periods and projections for future periods.	4.74	4	Very Great Extent
5. The Company calculates the borrowers' debt-to-income ratio to understand how their revenue or income compares to their current debts.	4.66	6	Very Great Extent
6. The Company calculates the borrowers' liquidity to ensure that the borrower meets their ongoing commitments and expenses.	4.70	5	Very Great Extent
GRAND MEAN	4.77		Very Great Extent

As shown in Table 2, all the statements concerning the effectiveness of credit risk management of lending companies in terms of capacity are verbally interpreted as 'Very Great Extent', having a grand mean of 4.77. This implies that the respondents' lending companies have imposed effective practices in terms of analyzing capacity.

Table 3 shown on the next page presents the level of assessment of the respondents on the effectiveness of credit management practices of lending companies in terms of capital. The opinions of the respondents regarding the capital efficacy of the

credit management practices used by their lending companies are shown in Table 3.

It is shown that all the statements regarding the effectiveness of credit management of lending companies in terms of capital are verbally interpreted as 'Very Great Extent', having a grand mean of 4.56.

Table 3

Level of Assessment of the Respondents on the Effectiveness of Credit Management Practices of Lending Companies in Terms of Capital

Capital	Weighted Mean	Rank	Verbal Interpretation
1. The Company analyzes the borrower's capital level.	4.71	2	Very Great Extent
2. The Company asks the borrower what personal investment he plans to make.	4.45	5	Very Great Extent
3. The Company looks carefully at the amount and quality of capital the borrower has to offer.	4.74	1	Very Great Extent
4. The Company views capital as an additional means to repay the debt obligation should income or revenue be interrupted while the loan is still in repayment.	4.55	3	Very Great Extent
5. The Company looks favorably on borrowers who have made financial investments in business.	4.54	4	Very Great Extent
6. The Company prefers a borrower with a lot of capital.	4.39	6	Very Great Extent
GRAND MEAN	4.56		Very Great Extent

Table 4

Level of Assessment of the Respondents on the Effectiveness of Credit Management Practices of Lending Companies in Terms of Collateral

Collateral	Weighted Mean	Rank	Verbal Interpretation
1. The Company make sure that the loans granted are secured by collaterals.	4.54	3	Very Great Extent
2. The Company measure collateral by its value and on how easy it is to liquidate.	4.61	1	Very Great Extent
3. The Company constantly monitor collateral value against credit outstanding.	4.50	5	Very Great Extent
4. The Company considers the personal assets of the guarantor as a secondary source of repayment.	4.51	4	Very Great Extent
5. The Company confirms the guarantor's ability and intention to warrant loans with a signed document.	4.57	2	Very Great Extent
6. In the event of a default, the Company is able to assume control over the collateral assets and organize an orderly sale to satisfy the loan's terms.	4.54	3	Very Great Extent
GRAND MEAN	4.54		Very Great Extent

The opinions of the respondents regarding the efficiency of credit management strategies for collateral used by their lending companies are displayed in Table 4.



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The results show that all the statements concerning the effectiveness of credit management of lending companies in terms of collateral are verbally interpreted as 'Very Great Extent', having a grand mean of 4.54.

Table 5

Level of Assessment of the Respondents on the Effectiveness of Credit Management Practices of Lending Companies in Terms of Condition

Condition	Weighted Mean	Rank	Verbal Interpretation
1. The Company reviews conditions such as the strength and weakness of the overall economy and the purpose of the loan.	4.62	6	Very Great Extent
2. Part of the credit analysis is the assessment of the borrower's vulnerability to changing conditions.	4.63	5	Very Great Extent
3. The Company uses certain quantitative measurements such as the loan's interest rate, principal amount and repayment length to assess conditions.	4.79	3	Very Great Extent
4. To ensure that loans are repaid, the Company lends to borrowers under favorable condition.	4.75	4	Very Great Extent
5. The Company deals with lending rules put out by its regulators and the ever-present operational risks.	4.80	2	Very Great Extent
6. The terms and conditions stipulated at the time of loan approval are being observed.	4.82	1	Very Great Extent
GRAND MEAN	4.73		Very Great Extent

The respondents' evaluation of the efficiency of the credit management techniques used by their lending organizations in terms of the condition is demonstrated in Table 5.

As presented in the table, it shows that all the statements regarding the effectiveness of credit management of lending companies in terms of capital are verbally interpreted as 'Very Great Extent', having a grand mean of 4.73.

Correlation between Credit Management Practices and Financial Performance of Lending Companies

Table 6 in the next page shows that a moderate relationship between credit management practices existed in terms of capacity, capital, condition, and financial performance with the following Pearson Coefficients: Capacity and Financial Performance with a Pearson Coefficient of 0.536, Capital and Financial Performance with a Pearson Coefficient of 0.465, and Condition and Financial Performance with Pearson Coefficient of 0.597.

Table 6

Pearson r - Significant Correlation between Credit Management Practices and Financial Performance of Lending Companies

Credit Management	Financial Performance				
	r-value	Interpretation	p-value	Decision	Remarks
Character	0.297	Weak Correlation	.009	Reject Ho	Significant
Capacity	0.536	Moderate Correlation	.000	Reject Ho	Significant
Capital	0.465	Moderate Correlation	.000	Reject Ho	Significant
Collateral	0.241	Weak Correlation	.034	Reject Ho	Significant
Condition	0.597	Moderate Correlation	.000	Reject Ho	Significant

It also shows that between credit management practices on character and collateral and financial performance, there is a weak correlation having the following Pearson Coefficients: Character and financial performance with a Pearson Coefficient of 0.297 and collateral and financial performance with a Pearson Coefficient of 0.241. The study findings are consistent with the studies of Kule, Kamukama, & Kijjambu, (2020) and Wonyonyi (2008) that reveal a weak and moderate relationship between credit management systems and financial performance. While a negative history on just one of the credit management practices are sufficient to deny an application, positive histories across the board increase the chances of approval. The Pearson Coefficients are all positive, indicating a direct correlation between financial performance and the aspects of credit management practices.

In addition, it showed the p-values for the correlation between character and financial performance is .009, between capacity and financial performance is .000, between capital and financial performance is .000, between collateral and financial performance is .034, and between condition and financial performance is .000. The null hypotheses were rejected since all p-values of the credit management practices fell below the .05 threshold for significance. This means that there is a statistically significant correlation between all the credit management practices and financial performance.



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Discussion, Conclusions, Recommendations

It has been observed that as credit management practices at lending companies improve, so does the financial performance of the business. Lenders must implement proper credit management strategies because effective credit management enables financial institutions to become viable, achieve sustainable growth, and increase profit margins (Laar, & Adjei, 2020). It showed that effective credit management is necessary for lending companies to improve their financial performance and satisfy their shareholders.

A credit management guidelines manual for lending is also important to be developed, established, and implemented by its regulators as it would help aid in the monitoring and enforcement of laws and regulations, as well as provide guidance for decision-making and streamline working procedures.

Finally, for future researchers, it is recommended to do research work on the correlation between credit management practices and the financial performance of lending companies in another region for purposes of comparison.

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Effect of ESG on Financial Performance of ASEAN Banks

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Abstract: Banks are concerned with Environmental, Social and Governance (ESG) metrics not only because of the increasing demand for sustainability report but also because of the ESG risks and opportunities banks face as a lender. Drawing from Spence's signaling theory, this paper investigates the overall and separate effects of environmental, social, and governance (ESG) scores on bank performance. The sample includes twenty-three & commercial banks from five ASEAN countries in the period 2017- 2020. These banks originate from the Philippines, Malaysia, Thailand, Indonesia, and Singapore. Panel data regression is used to test the relationship between ESG or separate ESG scores on bank performance. Bank financial performance is measured by return on equity (ROE) and return on assets (ROA). Other determinants affecting financial performance considered in the study are leverage, asset size (total assets), asset quality (NPL), efficiency, debt-to-equity ratio, and liquidity. The findings show that ESG has no significant effect on bank performance on the sample of ASEAN banks for the period. This result indicates a tradeoff between output or performance and ESG initiatives like environmental tradeoff. Total assets and non-performing loans have significant effects on bank performance for all specifications. Liquidity and efficiency variables are significant in some specifications. These variables affect bank performance negatively. ASEAN governments and central banks have recognized the importance of ESG disclosures. In the Philippines, the Securities and Exchange Commission issued a circular in 2019 requiring publicly listed companies to submit sustainability report.

Key Words: ESG, Bank Performance, ASEAN Banks

Introduction

As economies and businesses chart scenarios for post-pandemic world, the need for "green" infrastructure and for businesses to improve their performance on environmental, social and governance (ESG) metrics emerge as a common theme (Navarro et.al., 2021). The discussion focuses on stakeholder capitalism where interest of all stakeholders matters as opposed to shareholder capitalism where only the stock owners prevail. The debate calls for pushing for environmental, social and governance metrics, thus making businesses more ethical.

Evaluating bank performance is important in assessing the firm's survival (Hakimi & Zaghdoudi, 2017, p.55; Arif & Nauman Anees, 2012). The rise of globalization and interconnectedness brought about the exponential growth of numerous markets over time. However, this productivity came with adverse environmental effects, one of the more prominent advocacies in modern discourse. The increasing demand for environmental sustainability has encouraged the investigation of the effects of sustainability reports/ESG metrics on banking performance (Buallay, 2017). Since the banking system is essential for economic development, studying the effect of the ESG on banking performance may help firms balance productivity



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and environmental or ESG concerns. Banks also need to be concerned of the ESG risks and opportunities they face as a lender.

Research Objectives

This research seeks to determine the impact of ESG activities on bank performance. Particularly, this study will examine the effect of ESG scores (both combined and the separate scores) on bank performance measured by ROE and ROA. From the findings of the study, policy implications are identified.

Frameworks

ESG Scores and Financial Performance of Banks

Many studies have looked into the effect of ESG on firm performance including banks. Galleta et.al (2022) surveyed 271 researches on ESG performance in the banking industry from current status to future directions. ESG performance is growing over time and has a positive impact on financial performance among UAE banks (Zaman, et al. 2022). Additionally, Bualllay (2019) also observed that ESG scores have a positive impact on the performance of European banks, however, its individual scores on the environment, social, and governance pillars vary differently, with the environmental score being more prominent. Using generalized method of moments (GMM) technique. Shakil et al. (2019) showed a positive association between ESG and financial performance among 93 emergent market banks using data from 2015-2018.

In emerging economies, the ESG activity of banks is said to have a non-linear relationship with bank performance. It has been observed that lower levels of ESG activity have a positive effect on bank value, but as the ESG activity increases in level, it experiences a diminishing return on the performance of banks. This indicates that a certain level of ESG activity (whether environmental, social, or governance) would make bank stakeholders indifferent and reduce the marginal value of ESG

activity (Azmi, et. al., 2020). Similarly, in the Middle East, North Africa, and Turkey (MENAT) region, El Khoury et al. (2021) found out that ESG is also able to positively contribute to bank performance at lower investment levels, but this becomes harmful to bank performance at higher investment levels. Ersoy et.al (2022) found an inverted U-shaped relationship between market value and ESG and social pillar score among US commercial banks. The study used linear and non-linear panel regression for data on US commercial banks from 2016-2020.

On the other hand, Di Tommaso and Thornton (2020) showed that higher ESG scores can reduce risk-taking in European banks. However, at the same time, higher ESG scores are also attributed to lowering bank value. Di Tommaso and Thornton (2020) concluded that there is a form of a trade-off associated with the ESG scores of European banks particularly between lowering the risk-taking of banks and the bank value.

In 2018, the World Wildlife Fund published a sustainable finance report assessing the ESG implementation of 34 banks in the ASEAN region. The report pointed out that sustainability has not been integrated fully into their operations. Though the banks included sustainability in their plans, current policies and processes do not include these plans. Gaps in capacity and training make it hard for ASEAN banks to enact, integrate, and disclose a proper and robust ESG risk management framework.

Other Determinants of Bank Performance

Leverage

Belratti, and Paladino (2015) showed that higher leverage is associated with higher profitability using data from 337 international banks in 44 countries. Conversely, Bunyaminu et al. (2021) found that leverage has a significantly negative effect on bank profits in Ghana. Budhathoki et al. (2020) similarly also observed that lower leverage has a significantly positive effect on bank profits in Nepal.



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Bank Size (Total Assets)

Bank size measured as total assets of a bank is used as an indicator of bank performance. Usually, growing bank size and profitability have a positive relationship but only when economies of scale are taken advantage of (Menicucci & Paolucci, 2016). However, studies by Tharu & Shrestha (2019) and Aladwan (2015) have shown that size is negligible when it comes to bank performance, and in some cases has shown to have a negative impact. According to (Athanasoglou et al., 2008) the size effect on the profitability of extremely large banks could become negative due to bureaucratic or administrative management.

Non-performing Loans (Asset Quality)

In studying commercial banks in Uganda, Frederick (2014) observed that asset quality, as measured in non-performing loans, has a significantly negative effect on bank performance. To support this, Vinh (2017) also found out that non-performing loans and bank profitability have a significantly negative relationship among Vietnamese banks. Hossain (2019) also has similar findings in Bangladeshi banks considering non-performing loans are known to shrink banking profits by reducing the principal amount of the loan together with its interest income.

Efficiency Ratio

Efficiency ratio is used as an indicator of bank performance. The efficiency ratio is measured as the ratio of non-interest expense to revenue. A negative relationship between efficiency and profitability is expected as lower rates of efficiency indicate better bank performances as an amelioration of expenses causes profits to increase (Athanasoglou et al., 2008; Kumbirai & Webb, 2013; Loebach, 2015; Hays et al., 2009).

Efficiency

The debt-to-equity ratio is measured by the firm's total liabilities over its shareholder's equity. It has

been observed that the debt-to-equity ratio does not have a significant effect on return on equity (ROE), which is noted in a case study of banking performance in Jordan (Prasad, 2013). Additionally, with stock price as one of the measures of the firm's overall financial health, the debt-to-equity ratio does not affect stock price (Safitri, Mertha, Wirawati, & Dewi, 2020).

Liquidity (Total Deposits/Total Assets)

Liquidity is one of the common measures of banking performance. The risk connected with liquidity affects bank stability. High liquidity risk, where a bank is unable to meet its short-term obligations, has a negative effect on public trust and the bank's profitability (Hakimi & Zaghoudi, 2017; Arif & Nauman Anees, 2012). Liquidity risk has harmful effects on banking performance; however, this can be addressed by "maintaining sufficient cash reserves, raising deposit base, decreasing the liquidity gap and NPLs" (Arif & Nauman Anees, 2012).

Varying relationships can be observed between liquidity (risk) and bank performance, which range from positive to negative effects, and have no significant effect. In Hakimi and Zaghoudi's paper (2017), with bank performance measured by the ratio of interest margin to total assets, liquidity has a negative correlation with Tunisian bank performance. Huong, Nga, and Oanh (2021) utilized numerous studies for their literature to support their observations. Using return on equity (ROE) and return on assets (ROA) as the measure of banking performance and the dependent variables for separate economic models, their paper was able to further support the previous studies through a sample of nine (9) ASEAN countries over the period 2004-2016 (Huong, Nga, & Oanh, 2021). If the dependent variable is ROA, liquidity (risk) has a positive effect on banking performance, while the opposite effect can be observed if banking performance was measured by ROE. However, if the banks can maintain a good balance of liquidity, then it does not affect bank performance. They also found that most ASEAN banks have good performance if



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they have high liquidity risk. However, during times of financial crisis, high liquidity risk has a negative impact on bank performance.

Research Gap

Studies investigating the effect of ESG on bank performance yield mixed results. The studies either found a positive, negative or insignificant relationship. Some studies showed non-linear relationship. This study contributes to this ongoing discussion and is the first using a sample of banks in ASEAN countries.

Theoretical Framework

Signaling addresses information asymmetry in which the more informed party alerts the other party about an unobservable characteristic. In the case of ESG, the economic actors or managers attempt to communicate quality signal through a disclosure. According to Spence's signaling theory, manager can lessen information asymmetry to investors and analyst by voluntary information disclosure about firm value and quality to outside stakeholders. From a signaling stand, ESG reporting is not just a compliance or social need. ESG affects operations of an organization and its financial returns. Thus, ESG signals business risks are managed effectively reducing information asymmetry and lowering cost of equity (de Villers and van Staden 2011, De Klerk et al 2015 and van Zijl et al 2017 as cited in van Zijl et al. 2017). Long term sustainability initiatives of the firm as disclosed signals their commitment to environment, stakeholders and society (Taj, S.A., 2016; Ching, H.Y., & Gerab, F.,2017; Connelly et.al. 2011, as cited in Pulino et.al. 2022; . This study investigates the positive relationship between ESG reporting and return on equity.

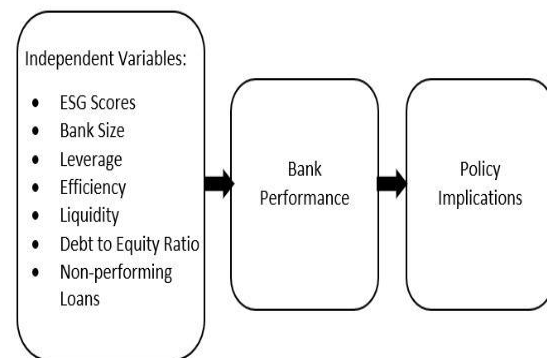
Conceptual Framework

From the literature review, the explanatory variables affecting bank performance included in this study are ESG scores (combined and separate),

bank size (total assets), leverage, efficiency, liquidity, debt to equity ratio, and non-performing loans. Bank performance is measured by ROE & ROA. This conceptual framework is presented in Figure 1.

Figure 1.

Conceptual Framework of the Study



Methodology

Research Design

This study used quantitative approach in analyzing secondary data obtained from Refinitiv database. Panel data regression was performed to determine the effect of ESG on bank performance. The measures of bank performance considered in this study were return on equity (ROE) and return on assets (ROA) with the combined ESG and individual environmental activity score (E), social activity score (S) and government activity score (G) as independent variables. The other determinants of bank performance included were leverage, asset size (total assets), asset quality (NPL), efficiency, debt to equity ratio liquidity. Four regressions were run for both fixed and random effect models. The Hausman test was used to determine whether the fixed or the random effect model is appropriate for the study.



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Fixed Effects Model:

$$ROE_{it} = \alpha_i + \beta_1 \cdot ESG + \beta_2 \cdot \ln(TOTASSETS_{it}) + \beta_3 \cdot LEV_{it} + \beta_4 \cdot EFF_{it} + \beta_5 \cdot LIQ_{it} + \beta_6 \cdot DERATIO_{it} + \beta_7 \cdot NPL_{it} + \varepsilon_{it} \text{ (Eq. 1)}$$

Random Effects Model:

$$ROE_{it} = \alpha + \beta_1 \cdot ESG + \beta_2 \cdot \ln(TOTASSETS_{it}) + \beta_3 \cdot LEV_{it} + \beta_4 \cdot EFF_{it} + \beta_5 \cdot LIQ_{it} + \beta_6 \cdot DERATIO_{it} + \beta_7 \cdot NPL_{it} + u_{it} \text{ (Eq. 2)}$$

Fixed Effects Model:

$$ROA_{it} = \alpha_i + \beta_1 \cdot ESG + \beta_2 \cdot \ln(TOTASSETS_{it}) + \beta_3 \cdot LEV_{it} + \beta_4 \cdot EFF_{it} + \beta_5 \cdot LIQ_{it} + \beta_6 \cdot DERATIO_{it} + \beta_7 \cdot NPL_{it} + \varepsilon_{it} \text{ (Eq. 3)}$$

Random Effects Model:

$$ROA_{it} = \alpha + \beta_1 \cdot ESG + \beta_2 \cdot \ln(TOTASSETS_{it}) + \beta_3 \cdot LEV_{it} + \beta_4 \cdot EFF_{it} + \beta_5 \cdot LIQ_{it} + \beta_6 \cdot DERATIO_{it} + \beta_7 \cdot NPL_{it} + u_{it} \text{ (Eq. 4)}$$

Fixed Effects Model:

$$ROE_{it} = \alpha_i + \beta_1 \cdot E + \beta_2 \cdot S + \beta_3 \cdot G + \beta_4 \cdot \ln(TOTASSETS_{it}) + \beta_5 \cdot LEV_{it} + \beta_6 \cdot EFF_{it} + \beta_7 \cdot LIQ_{it} + \beta_8 \cdot DERATIO_{it} + \beta_9 \cdot NPL_{it} + \varepsilon_{it} \text{ (Eq. 5)}$$

Random Effects Model:

$$ROE_{it} = \alpha + \beta_1 \cdot E + \beta_2 \cdot S + \beta_3 \cdot G + \beta_4 \cdot \ln(TOTASSETS_{it}) + \beta_5 \cdot LEV_{it} + \beta_6 \cdot EFF_{it} + \beta_7 \cdot LIQ_{it} + \beta_8 \cdot DERATIO_{it} + \beta_9 \cdot NPL_{it} + u_{it} \text{ (Eq. 6)}$$

Fixed Effects Model:

$$ROA_{it} = \alpha_i + \beta_1 \cdot E + \beta_2 \cdot S + \beta_3 \cdot G + \beta_4 \cdot \ln(TOTASSETS_{it}) + \beta_5 \cdot LEV_{it} + \beta_6 \cdot EFF_{it} + \beta_7 \cdot LIQ_{it} + \beta_8 \cdot DERATIO_{it} + \beta_9 \cdot NPL_{it} + \varepsilon_{it} \text{ (Eq. 7)}$$

Random Effects Model:

$$ROA_{it} = \alpha + \beta_1 \cdot E + \beta_2 \cdot S + \beta_3 \cdot G + \beta_4 \cdot \ln(TOTASSETS_{it}) + \beta_5 \cdot LEV_{it} + \beta_6 \cdot EFF_{it} + \beta_7 \cdot LIQ_{it} + \beta_8 \cdot DERATIO_{it} + \beta_9 \cdot NPL_{it} + u_{it} \text{ (Eq. 8)}$$

Where:

Variables	Definition
ESG	refers to ESG Combined Scores. It is defined as overall company score based on reported information in the environmental, social and corporate governance pillars.
E	refers to Environment. The environment pillar measures a company's impact on living and non-living natural systems, including air, land and water, as well as, complete ecosystems. It reflects how well a company uses best management practices to avoid environmental risks and capitalized on environmental opportunities to generate long-term shareholder value.
S	refers to Social. The social pillar measures a company's capacity to generate trust and loyalty with its workforce, customers and society, through the use of best management practices. It is a reflection of the company's reputation and health of its license to operate, which are key factors in determining its ability to generate long-term shareholder value.
G	refers to Governance. The corporate governance pillar measures a company's systems and processes, which ensure beyond its board members and executives act in the best interests of its long-term shareholders. It reflects a company's capacity, through its best management practices, to direct control its rights and responsibilities through the creation of incentives, as well as checks and balances in order to generate long-term shareholder value.



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TOTASSETS	Total Assets
ITOTASSETS	log(Total Assets)
LEV	Leverage is the ration of total assets to common shareholders' equity for the same period as expressed in percentage.
EFF	Efficiency is the ratio of non-interest expenses to total revenue less interest expenses for the same period and is expressed in percentage. It also measures the cost of bank of each unit of revenue. Lower values are better.
LIQ	Liquidity is measured by dividing total deposits by total assets.
DERATIO	Debt to Equity Ratio is measured by dividing total debt by total equity.
NPL	Non-performing loans as a percentage of total loans and other real estate owned. It is calculated as non-performing loans at the end of the fiscal year divided by total gross loans for the same period as expressed in percentage.
ROE	Return on equity before taxes is calculated as income before tax for the fiscal year divided by the total equity and is expressed in percentage.
ROA	Return on assets before taxes is calculated as income before tax divided by average total assets for the fiscal year and is expressed in percentage.

Results and Discussion

Effects of ESG (Combined and Separate) Scores and Other Determinants on Bank Performance

Table 1 presents the descriptive statistics of the data. The mean ESG score of the sample is 63.97 with the individual pillars (E, S, & G) being 43.42, 71.43, and 61.49 respectively. The overall average ESG score of 63.97 indicates a relatively good score due to high scores in the social and governance pillars. However, the environmental pillar is seen to have a poor score. The mean efficiency score of the selected ASEAN banks is 53.5%, which is slightly above the optimal score of 50%. In interpreting efficiency, a lower value would indicate that banks are more efficient. Non-performing loans have a mean of 2.3% which shows that the selected ASEAN banks are well below the recommended 6% and below NPL ratio (distressedpro.com, 2019). The mean log of total assets is 18.09. Total assets are in log form to reduce the extrema and create a more normalized dataset as total assets alone are measured in thousands USD.

Table 1

Descriptive Statistics

Variables	Mean	Std. Dev.	Min	Max
ESG	63.97141	11.683	38.75	87.16
E	43.41543	22.52154	4.9	92.55
S	71.43152	15.65056	31.17	93.98
G	61.49185	19.80487	15.78	95.13
Total Assets (log value)	18.09161	0.891692	16.38609	20.01407
Leverage	8.68913	2.103394	4.31	18.07
Efficiency	0.53525	0.0889491	0.386	0.802
Liquidity	0.7373739	0.0640081	0.5905	0.828
Debt to Equity Ratio	0.6844522	0.5519741	0.013	3.4848
NPL	0.0239391	0.0136147	0	0.0613
ROE	0.1308478	0.043893	0.017	0.239
ROA	0.0350435	0.0437892	0.001	0.17

Table 2 shows the panel data regression results for the different specifications. ESG scores (both combined and separate) have no significant impact on the measures of bank performance (ROE and ROA). This finding connects to the 2018 report of the World Wildlife Fund which found that ESG activities have not been fully integrated into the operational framework of ASEAN banks. For the period, 2017 to 2020, the current financial



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performance of ASEAN banks is reflective of practices that do not fully include and are not determined by ESG activities.

Table 2

Panel Regression Results for ROA and ROE and Combined ESG Scores

Variables	ROE Fixed Effects			ROA Random Effects		
	Coefficient	Robust Standard Errors	p-value	Coefficient	Robust Standard Errors	p-val
ESG	-0.0004675	0.0006522	0.481	-0.0004258	0.003272	0.193
ln(total assets)	-0.1318215***	0.0199227	0	-0.0225811***	0.0076148	0.003
Leverage	0.0048284	0.0098405	0.629	0.0024744	0.0029935	0.408
efficiency	-0.4079531***	0.140567	0.008	-0.0154826	0.0397324	0.697
Liquidity	-0.4642999	0.2315214	0.057	0.0072717	0.1085035	0.947
debt:equity ratio	-0.0038495	0.0392613	0.923	0.0069791	145896	0.632
Npl	-2.139272***	0.6780473	0.005	-0.9562767***	0.2918155	0.001
Constant	3.118326	0.3654604	0	0.4703518	0.1353404	0.001

Note: ***p<0.01, **p<0.05, *p<0.1

Table 3

Panel Regression Results for ROA and ROE and Separate ESG Scores

Variables	ROE Fixed Effects			ROA Random Effects		
	Coefficient	Robust Standard Errors	p-value	Coefficient	Robust Standard Errors	p-val
E	0.0001135	0.0003002	0.709	-0.001148	0.0000864	0.193
S	-0.000167	0.0003243	0.612	-0.0003138	0.0002648	0.236
G	-0.0002698	0.0003236	0.542	-0.0000435	0.000157	0.782
ln(total assets)	-0.1407364***	0.0220863	0	-0.0295679***	0.008779	0.001
Leverage	0.0041841	0.0108363	0.703	0.003148	0.0029509	0.287
efficiency	-0.4049074***	0.1413758	0.009	-0.006412	0.0352609	0.856
Liquidity	-0.4212741	0.2659049	0.127	0.0011034	0.11119791	0.992
debt:equity ratio	-0.0006534	0.0441817	0.988	0.005186	0.0139409	0.71
Npl	-2.13994***	0.7026536	0.006	-0.9188594***	0.2966134	0.002
Constant	3.248273	0.4133201	0	0.5854597	0.1520491	0

Note: ***p<0.01, **p<0.05, *p<0.1

For the other determinants of financial performance, both total assets and non-performing loans are significant at the 1% level in all models. Efficiency is significant at the 1% level but only present in Models 1 and 2, while liquidity is only significant at the 10% level in model 1 alone. All significant variables have a negative effect on the bank performance (both in ROA and ROE). The result in the variable ln(total assets) supports the literature that although a bigger bank size is observed to be generally beneficial, banks could be burdened by its administrative costs after a certain

threshold (Athanasoglou, 2018). Efficiency and non-performing loans indicators also show that lower values are better for bank performance (Kumbirai & Webb, 2013) (Frederick, 2014). Meanwhile, liquidity was observed to yield consistent results with the literature. Though bank profits improve when there are liquid assets, there is a point where holding liquid assets negatively impacts bank performance (Huong et. al, 2020).

Policy Implications

The insignificant effect of ESG on financial performance of ASEAN banks can be associated that ESG is more of a recent standard in ASEAN and bank investors and stakeholders are not become involved enough on environmental sustainability and ESG. For central bankers and policy makers, more information drive on ESG must be carried out. In the Philippines, The Securities and Exchange Commission (SEC) recognizes the importance of ESG disclosures with Memorandum Circular No. 4 series of 2019 requiring publicly listed companies (PLCs) to submit an annual sustainability report under a “comply or explain” approach (Villacorte, 2022). With this circular, ESG disclosures are expected to increase aside from the increasing demand from investors and consumers. The Sustainable Finance Framework (Circular No. 1085 dated April 29, 2020) issued by the BSP recognizes the role of the financial industry in achieving sustainable and resilient growth by enabling environmentally and socially responsible business decisions consistent with the government’s aspirations for the Filipino people. The second phase is the publication of the Environmental and Social Risk Management Framework in October, 2021 followed by the sustainability-related regulations in August, 2022 (Caraballo, 2022).

Singapore wants to maintain its position as the region’s financial hub by setting standards on defining and classifying ESG activities for ESG compliance (Yeow, 2022). In Malaysia, Hong Leong Bank takes the lead in ESG standards with promoting ESG practices it its operations, working



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with borrowers in improving standards, incorporating it in its loan approval process and ESG disclosures (Hazim, 2021). The Thai Bankers' Association adopted the ESG declaration in August 2022 setting the banking industry's direction towards sustainable growth (Kabange, 2022).

Conclusions and Recommendations

Using a sample of 23 commercial ASEAN banks for the period 2017-2020, this study investigated the effect of ESG on financial performance. The study found no significant effect of ESG on financial performance of banks. This finding might be associated with ESG being a recent phenomenon in ASEAN. The result of growing demand for ESG reporting along with policy initiatives of ASEAN countries will have to be tested in future researches

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with more years of data and more banks covered. The promotion of ESG for the financial sector is necessary in creating a more sustainable and progressive future. The on-track integration of ESG would require demand from all stakeholders. Sustainability practices and a strong financial system go together making banks a key player in a more resilient and sustainable economy (Pugoy & Laureto, 2022).

For future studies, other measures of bank performance like Tobin's Q and market value of banks are suggested. In addition, econometric estimation like the generalized method of moments (GMM) can be explored to account for endogeneity issues.

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Financial Awareness and Financial Outcomes of Selected Micro Businesses in the Municipality of Carmona, Cavite

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Abstract

Purpose – Micro businesses are increasing in the Philippine market and the major decision-makers play a vital role to their feasibility. A lot of entrepreneurs take risks to start their endeavors, but the success rate is questionable. Hereby, this study aimed to determine the relationship of financial awareness of selected micro business managers with their financial outcomes in Carmona, Cavite.

Design/methodology/approach – Descriptive method was used in this research and a survey was done to collect data. The Cochran formula is used to calculate an ideal number of samples at a desired level of confidence. In reference to OECD or Organization for Economic Co-operation and Development (2016) Financial Literacy Core Competency Framework, the researcher adopted the financial knowledge and behavior as the measurements of financial awareness. Financial outcomes were defined according to liquidity/debt, solvency/stability, and profitability.

Findings – The respondents were female, 31 to 50 years old, married, non-college graduates, attended 0 to 5 seminars/trainings, *carinderia* eatery type of business, with less than Php 500,000.00 capitalization, four and above years in operation, have 1-3 employees, and with gross annual revenue of less than Php 150,000.00. The financial awareness of the respondents was differentiated and assessed according to two aspects: financial knowledge and financial behavior. The data confirmed that there is a significant difference in financial awareness in terms of financial knowledge of the respondents when they are grouped according to their highest educational attainment, type of business, and years in operation. This study showed a “significant” level of correlation between financial awareness and financial outcomes based on indicators which are liquidity/debt, stability/solvency, and profitability.

Research limitations/implications – This study covered the respondents’ who are managers of selected micro businesses. In some cases, the owner handles the entire business in all aspects. In others, there are hired managers such as general managers or financial managers who play a crucial role in making the final financial decisions for the business. The study is limited to the municipality of Carmona, Cavite. This study covered food service and food retail micro businesses in the said location to focus the results on a homogeneous line of start-up micro business in Carmona. This research proven positive relationship of the financial awareness with the said respondents’ respective financial outcomes.



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Practical and social implications – Since financial awareness/literacy is directly related to business financial results, the capabilities of the micro business managers should be measured and improved. This research recommends to financial institutions and local government to educate them more and create products that fit their needs. Additional to expert training, micro business managers should also know when to seek helpful guides from colleagues, friends, and family.

Originality/value – This paper specifically targeted the group of micro business managers which the author believes to have easy entry to its market. Hereby, findings can help these types of entrepreneurs or small-scale managers to reflect on their individual capability despite of simple start-up. The author also selected a small town or a municipality to focus on the respondents' traits and eliminate the prospect of business' success brought by existing foot traffic or active market demand which is inevitable in main cities.

Key Words: financial awareness, financial knowledge, financial behavior, microbusiness, entrepreneurship

Relevant SDGs: **SDG 4 Quality Education, SDG 8 Decent Work and Economic Growth, SDG 11 Sustainable Cities and Communities**

Introduction

Growth of micro entrepreneurship in local towns of the Philippines plays as one key factor for economic sustainability. In achieving cityhood and maximizing the municipality's potential for development, feasibility of businesses in the area attracts investors and promote quality living for residents. Prosperous micro businesses result to availability of commodities near the residents' homes, access to employment within the town, attraction of more population because of ideal living, more local government budget for improved health care, educational facilities, and infrastructures, and so on.

The study aimed to correlate financial awareness of selected micro business managers with financial outcomes of their businesses in the Municipality of Carmona, Cavite. This study gathered the profile of the respondents, examined the significant difference in the respondents' demographics, collected data on financial awareness, and interpreted the

relationship between their financial awareness and business financial outcomes. The survey covered the selected food micro businesses of Carmona, Cavite. The completion of this study will inform the respondents about their perceived assessment of their financial awareness. The findings will sum up the skills that each respondent possess and those that need improvement.

This study also relates its significance to the three (3) sustainable development goals (SDGs), namely SDG 4 Quality Education, SDG 8 Decent Work and Economic Growth, SDG 11 Sustainable Cities and Communities.

Literature Review

Klapper, Lusardi, and Oudheusden (2016) in their study captioned, "Financial Literacy Around the World: Insight from the Standard & Poor's Ratings Services Global Financial Literacy Survey;" believes that financial literacy is the how one person makes financial decisions after they learned basic financial concepts. Lusardi (2019) confirmed in her paper



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“Financial literacy and the need for financial education: evidence and implications,” that a person’s competence to make financial judgement is based on his financial literacy.

With definitions above, financial literacy covers awareness of financial knowledge and skills individuals need that will enable them to arrive on smart money choices. And since most literatures found uses the term “financial literacy,” the researcher used “financial literacy/awareness” to show that they are considered synonymous in this study.

Financial Awareness/Literacy is crucial for Filipinos

Low financial awareness of Filipinos leads to threat that micro businesses will not survive. Lorenciana (2014) reported during the Micro Small Medium Enterprise Development Week held in Cebu City in July 2014; Mr. Maximo S. Eleccion of Cebu Bankers Club reiterated the importance of financial awareness to small and medium enterprises or SMEs. As cited by Lorenciana (2014), Eleccion said that “Among other business skills, small entrepreneurs should attain financial literacy and how they can access financial services to find their operations.” The article talked about the good level of dealing with finances which includes monitoring of “profit and loss, access to low interest funding, and cash planning.” According to the author, Eleccion stressed that one of the challenges to the SME sector is the access to financing services of banks due to lack of financial information.

A study conducted in 2015 by Guliman of Mindanao State University titled “An Evaluation of Financial Literacy of Micro and Small Enterprise Owners in Iligan City: Knowledge and Skills,” assessed the capacity of micro and small businesses in Iligan City, Lanao del Norte, Mindanao. The said study focused on financial knowledge and skills. According to Guliman (2015), financial literacy is understanding financial theories and having the right skills to apply them in one’s decisions.

Another study conducted here in the Philippines about financial awareness/literacy was titled “Financial Literacy of Micro Enterprises in a Selected District in the City of Manila.” In this research done by Macaranas of the Polytechnic University of the Philippines Graduate School (2016), awareness of microfinance programs and products is evidence of financial literacy of micro-entrepreneurs situated in Manila City.

Another research study in Municipality of Ragay, Camarines Sur, Philippines by Gonzalvo (2019) supports the two aspects- financial knowledge and financial behavior which contributes to business success.

The financial literacy covers a lot of factors that micro-entrepreneurs should develop, particularly in the Philippines after it was evaluated to have poor financial literacy based on surveys. The current standing of Filipinos is low is financial literacy but as to specific course of conducting a business which is more crucial than managing home finances, it should be encouraged to be developed.

Financial Awareness/Literacy: Its importance to Micro businesses

Not just in the Philippines, but financial awareness/literacy has also become a concern worldwide. In June 2019, the United States of America or USAID released the result of their Financial Sector Transformation Project. With its title, “Financial Literacy, Financial Inclusion, and Financial Well-being in Ukraine,” the financial awareness of Ukrainians was surveyed. USAID followed the OECD pillars of financial literacy which are financial knowledge, financial behavior, and financial attitude to interpret the capability of the Ukraine people (OECD 2016). In general, Ukraine showed low results on financial knowledge. Financial knowledge talked about simple interests, risk and return, diversification, inflation, and time value of money.



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Even though the government promotes entrepreneurship and even people have the willingness and passion to engage into their own business, there are many challenges that a micro business owner or manager faces in the actual operation of the company. One of the causes of business failures is the poor level of financial literacy (Senevirathne & Jayendrika, 2016). With the rapid growth of micro businesses by Filipinos, it is important to study the financial awareness in the country because Senevirathne and Jayendrika also said that a “financially illiterate micro business owner encounters higher business risk in dealing with business transactions.” Hence, eventually leads to failure of the business. Another study by Derbyshire (2016) has identified inadequate financial knowledge for the business as a factor that delays success of the micro business. Hereby, the researcher looks into some evidence on importance of financial awareness or literacy for micro business owner/managers.

In 2017, a study was done by Ponio and Timog of Bacolor, Pampanga, Philippines titled, “Financial Knowledge, Behavior, and Attitude of Micro business Owners: Basis for Developing Financial Literacy Training Modules.” In the research focused on micro businesses in public markets in Pampanga, the writers of the study correlated the three factors of financial literacy and found the affirmative relationship of “financial knowledge” and “financial behavior.” The finding implies that when a micro business owner/manager has positive financial knowledge, it will affect financial behavior in such a helpful way because it will bring good actions of the respondent about financial matters.

It can be noticed in most recent studies of financial literacy of micro business owners or managers that it is rare to find that they have high financial literacy or awareness level. This contradicts their objective to promote economic growth, in personal perspective and in bigger picture.

Financial Awareness/Literacy of micro businesses linked to financial outcomes

Business survival is about making profit; so, all decisions are financially inclined. Consequently, the person handling financial matters of a micro business will rely to his or her own training and experiences on financial awareness to support growth of their company. With this, research by Ibrahim (2017) looked closely into the relationship of financial awareness of a micro business owner to his or their businesses’ profitability. Ibrahim stated that though some studies decline the impact of level of financial awareness to financial outcome of a micro business just like the one when he cited Plakalović (2015). Based on the latter’s study, managers of SMEs were able to achieve a good status of the company’s liquidity even they showed a low financial knowledge. So, Ibrahim intentionally focused on his paper to relate financial literacy aspects to business management by following OECDs three financial competency factors. According to him, this is to make sure that he wouldn’t do the mistake of other researches which just included personal finance practices or selected financial behaviors only and fail to connect it to financial status of the micro business. The research paper of Ibrahim was titled, “The Impact of Financial Literacy on the Profitability of Micro and Small Enterprises owned by University Students in Kenya.” In this descriptive analysis, the writer covered formal and informal micro businesses of students in Nairobi, Kenya. Simple random sampling was done because the total population cannot be determined, and he ended to total of sixty (60) respondents. The questionnaires distributed also contained three division of financial literacy by OECD. Then, the profitability of the micro businesses of the students in the USIU-A or United States International University- Africa, formal and informal, is determined if related to financial awareness of the respondents. Ibrahim found that the respondents were able to answer correctly financial knowledge sub-topics except source of finance. It showed that 57% of the micro businesses use personal and/or informal funding instead of



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availing loans from banks or other microfinancing companies. On the other hand, the respondents were low in awareness level with regards to financial behavior. They do not prepare financial statements, budgets, or financial performance monitoring. This fact may imply why they were not able to access formal financing which requires documents to support the financials of the business. With high financial knowledge scores but low to neutral financial behavior levels, Ibrahim noted that a good financial knowledge does not equate to good financial behavior based on his research. They recorded neutral response about savings. But they do not record transactions formally like what accountants do in corporate, they lack financial statements analysis, they have very little knowledge in maintaining ledgers, they do not see retirement plans to enough reason in making long-term plans, the only income they have is the sole business that time, and they don't plan about future or their retirement. This led to the finding that financial behavior does not affect profitability of the micro businesses. Other results found about financial attitude were that micro-entrepreneurs do not believe in risk taking, have neutral attitude toward short term versus long term outlook and social environment, and are not into taking trainings about financial awareness. Financial attitude was also found to have important impact to financial results of a micro businesses in Kenya. In summary, Ibrahim found that financial knowledge needs to be converted into actions before it translates impact to the business. On the other hand, developed financial behavior and financial attitude contributes to business outcome.

Determinants of Financial Awareness/Literacy

The prior parts of this study will look into demographics of the respondents and if it determines financial awareness. Few studies were found to relate sex, age, civil status, highest educational attainment, and number of seminars and trainings attended, with financial literacy/awareness. The second set demographic

data that can be related to financial awareness is the business profile of the respondent.

Aside from respondents' demographical characteristics, financial literacy/awareness will be measured. Recent studies about financial literacy were found majorly backed up by the mentioned group, OECD. The said international organization published the "Core Competencies framework on financial literacy for adults" in 2016 to address G20 leaders. G20 is a group of 19 countries and the European Union representing more than 80% of the world's gross domestic product (Crowley, 2019). This framework released by OECD focused in the financial aspects that will help improve the financial competency of the adults (OECD, 2016). This is related to the study, because OECD later released the same topic applicable for MSMEs.

The "Core Competencies Framework on Financial Literacy for Adults" was made by OECD to become a basis for learning topics in financial literacy, and also to identify shortcomings of a certain population about financial decisions in life. Given that this framework is designed to be applicable in different countries, OECD (2016) said that this framework for adults' financial literacy should be treated as a high-level overview for financial awareness status of an individual. It is important to look into the personal financial awareness or literacy first of an adult who can already enter formal engagement of business in the country because personal knowledge is very important foundation to larger responsibilities like majorly handling the finances of a micro business or even the whole business. This framework mainly talks about the three core competencies. The first category, Financial "awareness, knowledge, and understanding" or simple Financial Knowledge, is being educated about finance that will result to comprehension to essential daily life finance concepts. The second category or the Financial Behavior, refers to the actual activities the adults do which deals with their finances. OECD (2016) specified that those actions should be consistent to the goal of an adult to achieve financial well-being. Lastly, Financial Attitude includes the mental state



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of a person when it comes to financial matters. People have different emotions about finances because of different factors like his or her environment while growing up, his or her values, and/or confidence on deciding about money matters.

Financial awareness became an international concern and OECD is one organization that contribute to this topic of discussion from different countries. In fact, it was way back in 2015 when OECD published the Core Competency Framework on Financial Literacy for Youth. The OECD financial literacy standards were known and then, they released a version of their framework applied to micro-entrepreneurs in 2018.

Based on OECD concept of financial awareness, this study focused on the respondent's knowledge of interest rates, risk in investing, risk diversification, inflation, time value of money, and source of finance. There was a report by Abad (2015) about negative investment habits of Filipinos when Business Mirror interviewed Mr. Randell Tiongson, Director of Registered Financial Planner Institute Philippines (RFPIP). Mr. Tiongsod said in the interview that Filipinos have low savings rate, and reveal that they also don't invest that much or they lack awareness about investing in different financial instruments. It can also be noted in Abad's report in 2015 that only 20% of Filipinos were able to avail insurance for themselves.

Financial outcomes of micro businesses are affected by inflation and the time value of money because their small scale of transactions is mostly exposed to changing prices in the market (Ledbetter, 2018). It was also observed by the researcher that micro business manager claimed that their business is seasonal. Thus, the effect on this point is to achieve their breakeven point for a particular season. Also at some point, whether the owners are gaining or losing more, they seldom share their financial status to some of their relatives which makes sense for Filipinos (Abad, 2016).

Filipino consumers usually look for alternative brands and compare prices. One aspect is that, if a person is a consumer, they want quality products even if the product is pricy (Panlilio, 2016). And the observation by the researcher, that the entrepreneur-respondents preferably uses cash to buy to avoid unnecessary spending. On the other hand, if a person is a producer, they tend to seek cheaper prices in the market to maximize their profits. This may result to a passive trait for businessmen to seek alternatives depending on the use and viability of a product.

Measurement of Financial Outcomes of Micro businesses

Micro businesses became priority of the government in many countries, their growth and their sustainability. Aside from the support they get from public sector, micro-entrepreneurs were also given attention by private institutions. One example is the Business Development Bank of

Canada or BDC which specialized their whole endeavor to be exclusive for entrepreneurs. According to BDC, there are four ways of measuring business performance through financial ratios. Their article discussed about liquidity ratios, efficiency ratios, profitability ratios, and leverage ratios. The same method of measurement was applied by Mendoza (2015) in his study in the Philippines. While in an article by Baskerville (2017), he said that there are top three financial ratios in his mind when reviewing financial outcomes of a small businesses. He discussed about gross profit, quick ratio, and average customer sale (sales divided by number of customers). Based on the said writings, the primary goals of financial ratios are to measure liquidity, profitability, and solvency of the business. This is confirmed by the article by Maverick (2016) where he also mentioned liquidity, solvency, operation efficiency, and profitability as best ways to determine the financial health of the business. It can be noticed from the references above that the three usual financial measurements were about liquidity, solvency, and



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profitability. Therefore, this study will aim to identify the perceived financial outcomes of the micro businesses in Carmona, Cavite primarily divided into three categories namely liquidity or debt, solvency or stability, and profitability.

Summary of the related literature and studies

The Philippines has increasing trend in registered businesses (DTI, 2017), but Filipinos were found financially illiterate (Delavin, 2016). This research explored what was the level of financial awareness/literacy of the micro businesses in Carmona, Cavite, and its impact to their financial outcomes. The first part of the questionnaire enclosed the questions about the demographical data of the respondents. The demographics data needed have two parts: personal information of the micro business manager (sex, age, civil status, highest educational attainment, and number of trainings and seminars attended) and the business profile (capitalization, number of years in operation, number of employees, and gross annual revenue). The author finds these characteristics of the respondents to be the most applicable in this paper based on other related studies. The author also found the gap about civil status identification which impacts decision-making of an individual and included the “single with dependent” option in the survey.

The OECD framework (2016) were widely used as measurement of financial awareness. The core competencies of micro businesses according to OECD has three pillars namely financial knowledge, financial behavior, and financial attitude. However, Ibrahim (2017) found that financial knowledge needs to be converted into actions before it translates impact to the business. Thus, the researcher finds that only financial knowledge and financial behavior is applicable for this study. Financial attitude is excluded as financial awareness determinant in this study because it deals with mental state of a person when dealing with money matters (OECD 2016). The researcher seeks to assess based on educational

background and behavioral training of the subjects which are the attributes developed over time. Yet, other researchers may take opportunity on further studies on financial attitudes.

Financial knowledge includes interest rates, risk and return, diversification, inflation, and time value of money (USAID, 2019) It also includes sources of finance (Ibrahim, 2017). Financial behavior will determine financial awareness through saving, planning, comparing when buying and use of financial products, seeking advice, talking about money matters, goal setting, and making ends meet (USAID 2019). The questionnaire will include the enumerated topics under financial knowledge and financial behavior, and then relate it to financial outcomes of the respondents.

Fernandes (2015) has proven in his study about the alignment between financial literacy/awareness and the business’ feasibility. While Senevirathne and Jayendrika (2016) wrote that inadequate financial awareness is a root cause of problems of micro businesses.

Financial outcomes will be measured qualitatively but will be based on the concepts of common financial ratios in use today to measure financial performance which are liquidity, efficiency, profitability, and leverage. Maverick (2016) also mentioned liquidity, solvency, operation efficiency, and profitability as best ways to evaluate the status of the company. To align with the financial ratios and financial health determinants by Maverick; the respondents will answer questions about liquidity and debt (short term finances that will include ideas of activity ratio), solvency and stability (long term finances that includes operation efficiency context), and profitability.

This study on correlation on financial awareness of micro business managers in Carmona, Cavite and their financial outcomes is also brought by the familiarity of the author to the community and frequently witnesses birth and then fast closing of food micro businesses in the area.



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Research Philosophy, Framework, Design, and Methodology

This paper is fulfilled while observing the pragmatism research philosophy. Given the factors mentioned affecting the financial outcomes of a business, various responses are measured and interpreted after the data gathering.

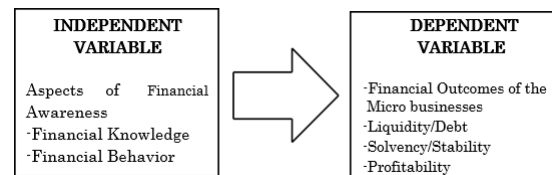
The study was based on Exchange Theory which was founded in 1961. The said theory is by George Casper Homans of America and is defined by as the perspective of people to give something to get something in exchange. Exchange theory demonstrates that there is a win-win relationship between what people give away to experience things in life and the learnings they get once they get the wanted experience. In exchange of a new wisdom, expertise, or literacy skill, there is a guaranteed return to the micro business managers when they educate themselves by attending trainings, handling the business alone, or getting help by professionals.

Best theory that supported this study is the Goal-Setting Theory. Goal Setting Theory authors Locke and Latham (2002) emphasizes that when someone is motivated to meet a certain objective, the person will work at his/her best ability. Goal-setting theory assumes that individuals should have clear and challenging goals, they should be committed to it, they should ask for feedback, and must consider the task complexity.

This study is best described by the Theory of Goal-setting because a successful business is a big vision to achieve. It is critical for the micro business managers to have the appropriate education, trainings, and habits to operate the enterprise. Thus, financial awareness is a key to achievement of goals because company decision makers will have suitable skills needed for the success of their endeavor. This is how the expectation to do well in the industry should be equipped with right knowledge and conduct in the finance aspect of business works.

Figure 1

Research Paradigm



This study will follow above conceptual paradigm. First, the profile of the respondents was divided into two: individual profile of the micro business manager and the business profile. Individual profile of the respondents has data namely sex, age, civil status, highest educational attainment, and number of seminars or training attended. While, business profile included capitalization, years in the business, number of employees, and gross annual revenue. After the profile of the respondents were identified and assessed, this study processed all the data and delivered interpretations. The researcher then evaluated the financial awareness of the micro businesses in the Municipality of Carmona, Cavite.

Finally, the result of financial awareness of the respondents was analyzed for its correlation to their financial outcomes. The researcher presented the conclusions and recommendations after the entire evaluation of available data. All are data derived from survey questionnaires was organized, studied, and interpreted by the researcher.

Research Design

Descriptive method was used to fulfill this paper. A survey was done to collect data. Surveys are effective way to collate data because in this way questions are targeted to subjects or people who "have the desired information." (Juneja, n.d.) It is also faster and cheaper but with reliable data collected. In this study, survey results eventually led to the identifying the financial awareness of micro business managers in Carmona, Cavite.



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Methodology

The survey questionnaire is mainly based on study of OECD (2016) about financial literacy core competency framework. The researcher adopted the financial knowledge and behavior as the two determinants of financial awareness. For financial outcomes questions, literatures from Mendoza (2015) and Maverick (2016) led to the identification of measurement of financial results which are liquidity/debt, solvency/stability, and profitability. The questionnaire was also checked and validated by a statistician for accuracy and veracity of contents.

The questionnaire is composed of three parts, containing the respondent's personal and business profile is the first part of the survey. The second part is about financial awareness assessment of the respondents. The last part is regarding the perception of the micro business managers of their financial outcomes.

To collect data, the researcher distributed the questionnaires to the food micro businesses managers who are involved in making final financial decisions in their enterprise. Only the businesses that are included in the list from the local government that falls under micro business category were inquired by the researcher. The researcher requested from the municipal hall of Carmona, Cavite about the list of micro businesses in the town as of 2018. The questionnaires were reproduced, distributed, and retrieved accordingly by the researcher. Data gathering was conducted in September 2019. The questionnaires were disseminated with the help of three persons. The researcher asked few more questions for better understanding of the answers of the respondents in the form of short interview. The data gathered was then tabulated and analyzed by correct statistical tools. The respondents' answers were treated as confidential and would serve for academic purposes only.

Data Results and Analysis

Profile of the respondents

The study found that out of the 182 respondents, mostly were female, 31 to 50 years old, married, non-college graduates, attended 0 to 5 seminars/trainings, *carinderia/eatery* type of business, with less than Php 500,000.00 capitalization, four and above years in operation, have 1-3 employees, and with gross annual revenue of less than Php 150,000.00.

Financial Awareness of the Respondents

The financial awareness of the respondents was assessed according to two aspects: financial knowledge and financial behavior. It was found that under the first aspect of financial awareness which is financial knowledge, "I know that money today will have less value on later days," got the highest weighted mean of 4.01. The level of financial awareness of the respondents based on financial knowledge resulted to an overall weighted mean of 3.81 and is verbally interpreted as "Agree." With regards to the respondents' financial behavior, "Before I buy something, I carefully consider if I can afford it" got the highest mean of 4.30. Financial awareness in terms of financial behavior of the respondents got the overall weighted mean of financial behavior of the respondents is 3.94 and is verbally interpreted with "Agree."

Financial Outcomes of Food Micro businesses

In terms of financial outcomes, measurement was based on the respondents' liquidity/debt, solvency/stability, and profitability. According to the liquidity/debt survey question, "Our business does have enough cash to cover its daily expenses" got a weighted mean of 3.60 and was interpreted as "very effective." Then, micro business managers in Carmona perceived their financial outcomes as "moderately effective" with their overall weighted mean of 3.45. The solvency/stability of the respondents highlighted the low access to business



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loans of the respondents (Our business has access to loans/has been approved to a business loan) has the least effectivity with a weighted mean of 3.09. The perceived financial outcomes of the respondents in terms of their solvency/stability is “moderately effective” with overall weighted mean of 3.23. All profitability indicators were also evaluated with “very effective” level of awareness, except for one factor. “From the past year, our business has increased its total value” is “moderately effective” and has the lowest weighted mean of 3.44. Unlike liquidity/debt and solvency/stability, profitability was assessed by the respondents to be “very effective” with overall weighted mean of 3.72.

Significant Difference in the Level of Financial Awareness of the Respondents by Profile This research also found that when the respondents are grouped according to their highest educational attainments ($f=5.804$ and $p=.001$), type of food business ($f=2.184$ and $p=.027$), and number of years in operation ($f=3.560$ and $p=.008$); the null hypotheses were rejected and there are “significant” differences among their financial knowledge.

Significant Relationship Between Financial Awareness and Financial Outcomes

Upon studying all data gathered, this paper found a “significant” relationship of financial awareness (financial knowledge and financial behavior) to the financial outcomes of the respondents. As per the assessment of perceived financial outcomes based on indicators which are liquidity/debt, stability/solvency, and profitability, respondents showed “significant” level of correlation to their financial awareness. It was found that there is a weak relationship between financial knowledge and liquidity/debt, and between financial knowledge and profitability. Still, there are moderate relationships between other pairings of financial awareness and financial outcomes. This study found that financial awareness in terms of financial knowledge and financial behavior impacts financial outcomes.

Discussion, Conclusions, Recommendations

Respondents’ Profile and their Significant Differences

When grouped according to their profile, the data showed that there is significant difference in financial awareness in terms of financial knowledge of the respondents when they are grouped according to their highest educational attainment, this is affirmed by Fernandes (2015), Guliman (2015) and Macaranas (2016) as they said that financial knowledge and educational attainment is positively related with each other. But it negates the Decipher Market Research (Atkinson, 2014) which found that educational attainment does not contribute to financial performance. Mainly, school is the source of knowledge. Access to education shows important link on how the respondents make financial decisions.

This research also found the significant difference of financial awareness in terms of financial knowledge of the respondents when they are grouped according to their type of business. Understanding of interest rates and choice of financing sources mostly influenced the total financial knowledge of the respondents if based on type of business. This may imply that retail/bakery group which is mostly composed of vegetable, fruits, or meat vendors in the market are less financially aware of lending or borrowing capital. It was confirmed with interview that retailers use their cash or own money for the business and don’t avail loans. It was also observed that meat vendors in Carmona have this consignment system where a meat supplier delivers every morning and only collects after the products were sold so micro-entrepreneurs need no capital or additional funding. This result contradicts Macaranas (2016) as he found type of business that does not affect financial awareness. The significant difference among business types of financial knowledge is driven by the how a certain food business type is acquiring and revolving its funds. If they are retailers and usually should sell their product within the day, they access additional funds



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from quick financing practices which are informal ones most of the time. These are the types of businesses with fast cash flow like a vegetable/meat vendor or a *carinderia*. This is the reason why they do not have enough knowledge of loan interest rates and formal financial products. These group of respondents need their cash quick and easy.

The respondents also showed significant differences when grouped according to their years of operation as their financial awareness in terms of financial knowledge is measured. It is discovered that 7 years and below micro businesses in Carmona are those with advanced financial awareness in terms of financial knowledge in interest rates and time value of money than the other half of older businesses. In the past recent years, financial awareness or literacy is being focused to be developed in the international and local scene and it may have already influenced the new entrepreneurs.

Even though there are no significant differences among the remaining factors of financial awareness of the respondents by their profile, there are select sub-factors to highlight to be significant when the respondents are grouped according to their financial knowledge by age (I understand the risk of investing), financial behavior by age (I compare prices in the market before purchasing goods/services), financial behavior by educational attainment (I have savings in the bank and I compare prices in the market before purchasing goods/services), financial knowledge by capital (I know how inflation affects my business/endeavors), and financial behavior by years of operation (I discuss money issues with my family and friends).

Financial Knowledge and Financial Outcomes of the Respondents

The first financial knowledge factor that significantly affected liquidity/debt of the respondents is the micro business' ability to pay its short-term obligations. This confirmed that financially aware micro business managers can control its assets and cash flow to meet payable

commitments, and it mainly impacts the firm's liquidity. (Peavler, 2019) Having excess cash denotes healthy liquidity of a company and it is also influenced by level of financial decisions of the respondents. Cash is the main measurement of financial liquidity, and it is visible if a manager or owner of a micro business is financially aware to manage cash well (Eton, 2019). Ability to pay debts on time signifies a quick ratio wherein it serves an instant clue if the business is financially doing well, which is characterized with enough cash to pay debts. Financial awareness also positively relates to the business' liquidity/debt.

The result of this study confirmed the finding of Ndanu (2015) that source of finance impacts micro business outcomes. As observed by the researcher, source of financing got the second lowest mean because the respondents rarely avail formal financing like those from banks. Long tenure loans or obligations is harder to pay because of the challenge for business to sustain sales and minimize expenses that will result to available cash to pay all debts. The decisions leading to better business status are affected by the level of financial awareness based on financial knowledge of the respondents. This is because long term results are often rooted to the small actions done at present. This is also why there are lots of micro businesses which fail to survive longer (Otar, 2018). Utilizing cash from loans to the things they supposed to be spent, minimizing availing of business loans with high interests, access to formal financing, and maintaining greater value of total assets than total liabilities are also solvency indicators with positive relation to financial outcome. This means that all financial solvency/stability indicators are affected by the degree of financial knowledge of the respondents. A micro business owner or manager with competent financial knowledge is key to one's enterprise success.

Targeting sales requires financial knowledge (Brock, 2014) and it resulted to significant factor to financial success of micro businesses. The lowest mean may be related to the fact that the food



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industry is seasonal, and the respondents related that the lean season of their sales were not their target months. To reduce expense is one financial knowledge required to improve cash flow and to ensure sustainability of micro businesses (Kulathunga & Ye, 2019). This factor was the second lowest mean since for the respondents there are uncontrollable factors when they purchase perishable goods. This study confirmed also that financial knowledge translates to profitability just like Mwithig (2016) found in his study.

Lowered operating expense has the top result of correlation coefficient to financial awareness in terms of financial knowledge. Just like applying the operating expense ratio, measuring how much is the spending to generate revenue is a test to financial wellness of the business (Sullivan, n.d.). And those activities or signs of financial knowledge impacts financial outcomes of the respondents.

Financial Behavior and Financial Outcomes of the Respondents

In this study, the first measure of financial outcome which is liquidity/debt has been found to be linked to respondents' financial behaviors such as putting savings in the bank, determining the affordability of products to buy, setting long term goals, ending the month with excess cash, comparing prices of goods or services in the market, and initiating financial topics with family and friends. Micro business managers are short from consultants or advisers before deciding for the enterprise. Most of the time, it is only handled by one person.

Enough cash for daily expense showed significant relation to financial behavior of the respondents (Dahmen, 2014). Though with lowest weighted mean, behavior towards liquidity is controllable by the micro business manager and it just least evident with the respondents because they mostly prefer cash basis. The indicator "Our business' total obligations is not more than our net worth," is mostly to be affected by financial behavior of a micro business manager because tracking one's net worth

motivates a good financial behavior according to Sanchez (n.d.).

Financial Awareness and Financial Outcomes of the Respondents

The significant relationships as it was measured per each indicator of financial awareness against each indicator of financial outcomes, it was only with three financial outcome indicators under liquidity/debt that resulted to "insignificant" relationship with financial awareness in terms of financial knowledge. Specifically, "Our business does have enough cash to cover its daily expenses," "Our business is able to collect its receivables on time," and "In case of need, our business has enough assets that can be easily converted to cash," had p-values of less than .05 and null hypothesis regarding them was rejected. However, values of grand correlation coefficient for relationship of financial knowledge and liquidity/debt still revealed "significant" relationship.

Ultimately, it is found that there is a significant relationship between the micro business managers' level of financial awareness and their perceived financial outcomes.

Recommendations

The local government of Carmona, Cavite shall encourage, help, and support the least represented group of food micro business managers in their area like male entrepreneurs, the youngest and the seniors, non-married individuals, and college graduates who are mostly focused on employment. There should be affordable and accessible trainings or seminars for them. The tertiary education institutions situated in the area may help by boosting their home-grown hospitality majors. The rural banks and financial institutions in Carmona may use this study as a reference for creating products needed by the respondents so they can increase their capital. It is also recommended to have further studies by other researchers about the life span of businesses in the subject municipality to



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seek more information on what could help them and what makes the other entrants die early. There will also be more job openings from these types of micro businesses if the government can support the food industry as part of tourism. Micro business managers shall also be dynamic and start to educate themselves about the latest effective financial decision practices to maximize revenue generation. Interest rates and risks of investments may be top topics for banks to explain to the respondents to increase financial knowledge. Seeking family and friends help in making financial decisions is also a behavior to be improved by the Filipinos, open line communication for a better judgment of the business situations is a must. Respondents and other micro business owners are advised to improve liquidity or availability of cash by increasing the assets of their businesses.

In addition, financial awareness may be achieved thru maximizing internet use and taking online courses while operating the businesses. This era of information makes education easy and free. This study also recommends the use of promoting financial knowledge thru common media like television and radio which are used among all ages and are still commonly used by older people. The “suki” practice in the Philippines is suggested to have further research if it does more harm than benefits to the businesses. Healthy financial behaviors like saving and comparing prices should be taught at school and practiced with parents as early as they can to make it a habit. To be aware of the latest financial facts like inflation, the respondents shall organize themselves, elect leaders, and gather to serve as a support group and network for the progressive endeavor. The financial behavior of discussing money issues with friends and families is more usual for the respondents who existed 5 years and below. It is recommended that this behavior shall be maintained until the late years of operation so other people can positively contribute to the further success of a business. Private-public companies’ partnerships should be strengthened to promote financial awareness to start-up businesses. The researcher suggested

further research on what are the financial awareness skills that are needed by micro business owners and managers. Future studies may adapt this study and cover other municipalities and cities in the country or other types of micro businesses.

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Financial Management Practices of Optical Businesses in Quiapo, Manila

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Abstract

The study aimed to find out the effectiveness of financial management practices of the optical businesses in Quiapo, Manila. Specifically, it sought to identify the profile of the respondents, assess the level of effectiveness of the financial management practices in terms of financial planning, financial reporting and control, working capital management in the aspects of cash management, receivable management, payable management and inventory management and accounting information system and determine the significant difference in the respondent's assessment of the effectiveness of the Financial Management Practices of Optical Businesses in Quiapo, Manila when the respondents were grouped into profile.

The researcher used a descriptive design wherein a research-made questionnaire was employed. Frequency and Percentage Distribution, Weighted Mean, t-Test, ANOVA and Rank Order Correlation were utilized as statistical tools.

The respondents' assessment on the effectiveness of Financial Management Practices in Quiapo, Manila revealed that receivable management obtained the remarks of "Very Effective", while financial planning, financial reporting and control, working capital management in terms of cash management, receivable management, payable management and inventory management and accounting information system got the remarks of "Effective". There was a significant difference in the Effectiveness of Financial Management Practices of Optical Businesses in Quiapo, Manila as assessed by the respondents when they were grouped according to number of years in the business and number of employees the overall perception disagreed or did differ which made the null hypothesis rejected. However, When the respondents were grouped according to the type of business ownership and capitalization their perception agreed on working capital management - receivable management that made the null hypothesis accepted and disagreed on financial management, financial reporting and control, working capital management in the aspects of cash, payable and inventory management and accounting information system hence, the null hypothesis were rejected.

The purpose of this study did not to cover all the context of financial management practices but only reviewed selected financial management practices adopted by the selected businesses in Quiapo, Manila. These include accounting information systems, financial reporting and analysis, planning and control, working capital management and financial capital structure management and capital budgeting management. The study covers respondents who were into optical business specifically the



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manager or owner and the cashier of the business. The study's coverage area was limited to Quiapo, Manila City.

The study will give knowledge to micro entrepreneurs on the effective financial management practices that will contribute to the success of their businesses; for existing micro entrepreneurs they will be able to assess their current financial management practices and know the areas which they need improvement. The study will also help broaden their knowledge and financial management literacy about the effective financial management practices suitable to their business needs. The city government of Manila will also benefit from this study by providing them relevant information on how the optical businesses execute their financial practices. The government can provide additional help by providing seminars and extensive trainings for them to effectively manage their business to achieve its full potential. This study will likewise benefit the institutions that supply financial management services. The study will provide them a picture on the current financial management practices employed by their clients which they can use to further improve and enhance their products and services. It will also help them assess the effectiveness of their current products and services available in the market and help them innovate and cater the more specific needs of the optical businesses. As finance major, the researcher will also profit from this study through attainment of additional knowledge, perceptions, experience and professional development. It will give the researcher an opportunity to contribute to the continuous development of financial management practices. Financial management is a very prolific subject; hence this study will aid as reference material for other researchers like business management scholars who will conduct similar studies. It will also open up another path in the field of financial management which can be used to explore more ideas and concept.

Key Words: Financial Management, Working Capital Management, Optical Businesses

Relevant SDGs: SDG 1 No Poverty, SDG 8 Decent Work and Economic Growth, SDG 17 Partnership for the Goals

Introduction

One of the most important aspects in business is a sound financial management. It is vital in every business to make sure that all of the areas of financial management are taken care of and executed properly. After all, the goal of every business is to maximize its wealth. It is the responsibility of the owner or financial manager to consider the potential consequences of their decisions in profits, cash flow, and financial condition of the business. The activities in every

aspect of financial management can greatly affect the profitability of the business and would have a high impact on the financial performance of the business in short or long time. A sound financial management is considered to be one of the keys to a sustainable and profitable business organization.

Financial Management is a discipline that deals with financial decisions corporations make, and the tools and analysis used to make the decisions. The discipline as a whole may be divided between long-term and short-term decisions and techniques. Both share the same goal of enhancing a firm's value by



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ensuring that return on capital exceeds cost of capital, without taking excessive financial risks (Pandey, 2010).

Financial management practices have long attracted the attention of researchers. Depending on different objectives, researchers emphasize different aspects of financial management practices. McMahon (1999), summarized their review of financial management practices in Australia, UK and USA. In their review the context of financial management practices includes the following areas: accounting information systems, financial reporting and analysis, working capital management, financial structure management, financial planning and control, financial advice and financial management expertise.

One of the growing industries in the country is the Optical / Eyewear businesses. The global eyewear market size was valued at USD 102.66 billion in 2015. The increasing dependence on electronic gadgets such as mobile phones, television, and computers has led to eyesight problems resulting in the purchase of more eyewear products. The rise in the number of optical deficiencies and growth in the elderly population is expected to augment the eyewear market growth. The increasing occurrence of myopia has led to an increased demand for the prescription-based eyeglasses. Changes in lifestyle and technological advancements have led to prolonged exposure to electronic devices that have caused strain on eyes. The need among the individuals to protect their eyes is expected to drive the eyewear demand globally.

The rise in disposable income has resulted in the increased purchase of eyeglasses, especially spectacle frames and sunglasses, which are perceived as a fashion accessory. Consumers are likely to buy a new set of eyeglasses or replace the old ones. Furthermore, the growing preferences of luxury and branded sunglasses are contributing significantly to the eyewear demand. Consumers are exhibiting preferences towards the premium product segment and are willing to spend more on

these products. Vendors have introduced innovative eyewear products to cater to various needs of the customers.

The greatest number of Optical / Eyewear businesses in the Philippines is found in Quiapo, Manila. It is dubbed to be the center for affordable eyeglasses due to the highly populated optical shops in the area that offers the lowest prices of eyewear. This area is mostly known to have all the things you would need when it comes to eyewear products and services Whether sunglasses, or eyeglasses with prescription, contact lenses, fashionable eyewear or eye checkup services are available in every corner of the area.

The study was brought up to the researcher due to the continuous increase of businesses that caters for the growing demand for optical products and services. How these businesses execute their financial management practices to identify the areas that can be improved. However, the purpose of this study is not to cover all the context of financial management practices but to review selected financial management practices adopted by the selected businesses in Quiapo, Manila. These include accounting information systems, financial reporting and analysis, planning and control, working capital management and financial capital structure management and capital budgeting management.

The study aimed to find out the effectiveness of financial management practices of the optical businesses in Quiapo, Manila. Specifically, it sought to identify the profile of the respondents, assess the level of effectiveness of the financial management practices in terms of financial planning, financial reporting and control, working capital management in the aspects of cash management, receivable management, payable management and inventory management and accounting information system and determine the significant difference in the respondent's assessment of the effectiveness of the Financial Management Practices of Optical



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Businesses in Quiapo, Manila when the respondents were grouped into profile.

The study covers respondents who were into optical business specifically the manager or owner and the cashier of the business. The study's coverage area was limited to Quiapo, Manila City. Based on the provided record from the Business Permit and Licensing Office of Manila City, there are at least 127 registered businesses in Quiapo, Manila related to Optical/Eyewear industry. The study targeted 2 respondents per establishment to be the respondents. The reason why the Quiapo, Manila is chosen as a target location is because it is known for numerous optical businesses situated in the area. It is also near Raon Business Center, Quiapo and Divisoria which are regarded as one of National Capital Region's (NCR) premiere commercial centers, as various business establishments like street shops, tiangge-styled bazaars, shopping malls and even funfairs are all found there. Because of this, subject location is considered as a suitable place to conduct a survey.

The following individuals and organizations are identified to benefit from the study. The existing micro entrepreneurs they will be able to assess their current financial management practices and know the areas which they need improvement. The study will also help broaden their knowledge and financial management literacy about the effective financial management practices suitable to their business needs. The city government of Manila will also benefit from this study by providing them relevant information on how the optical businesses execute their financial practices. The government can provide additional help by providing seminars and extensive trainings for them to effectively manage their business to achieve its full potential. This study will likewise benefit the institutions that supply financial management services. The study will provide them a picture on the current financial management practices employed by their clients which they can use to further improve and enhance their products and services. It will also help them assess the effectiveness of their current products

and services available in the market and help them innovate and cater the more specific needs of the optical businesses. Financial management is a very prolific subject; hence this study will aid as reference material for other researchers like business management scholars who will conduct similar studies. It will also open up another path in the field of financial management which can be used to explore more ideas and concept.

Literature Review

Optical / Eyewear Industry

Eyewear consists of items and accessories worn on or over the eyes, for fashion or adornment, protection against the environment, and to improve or enhance visual acuity. Eyewear can also include more utilitarian forms of eye protection, such as goggles. Conversely, blindfolds are a form of eyewear used to block vision for a variety of purposes. There are various benefits of eyewear such as when you're driving it provide a certain level of protection against various irritants and it helps to express your unique personality. This industry comprises establishments primarily engaged in retailing and fitting prescription eyeglasses and contact lenses. These establishments may or may not grind lenses to order on the premises. Establishments primarily engaged in retailing non-prescription sunglasses are also included. Business activities may include retail of contact lenses, eyeglasses, spectacles, frames, prescription eyeglasses and contact lenses and lens grinding (Gov't of Canada, 2014). Increasing health initiatives and image consciousness of consumers have brought stability to the eyewear market in the Philippines, thanks to the increasing knowledge of such issues among local consumers, not least due to the various social media platforms. Demand for eyewear is also growing as incomes are rising, with middle-income consumers trading up to higher-quality brands and higher-income groups looking for more exclusive items in the marketplace. (Euromonitor, 2018). According to the (Wood, 2018), the global eyewear market was valued at US\$ 109



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Billion in 2017. Looking forward, the market projected to exceed a value of US\$ 167 Billion by 2023, growing at a CAGR of 7.4% during 2018-2023. The rising standard of living and exposure to electronic gadgets are expected to boost the demand for spectacles and contact lenses, thereby driving the eyewear market growth. Increasing awareness regarding the significance of appropriate eye protection is further expected to stimulate the sales of these products. Additionally, the growing consumer preferences for luxury and premium products will encourage the manufacturers to invest in the development and marketing of technologically advanced eyewear, leading to higher profit margins for them.

Retail eyewear falls into one of three categories. Prescription glasses include simple, functional frames and colorful fashion frames for differently shaped faces. Frame sales representatives also market high-end designer eyewear that often complements a designer's clothing line. Consumers also purchase fashionable prescription sunglasses or rugged sports-oriented sunglasses to help protect against harmful ultraviolet rays. Eyewear retailers also sell prescription contact lenses to a segment of the business's customers. Doctor of Optometry, or Optometrists, often operate eyewear stores adjacent to their exam offices. Optometric assistants help patients select and fit the prescription glasses and contact lenses. Stand-alone discount eyewear retailers feature a full selection of eyewear in varied price ranges, including designer eyewear. Some of these retailers also offer eye exams (Greene, 2019).

In the Philippines majority of the businesses are MSMEs, defined as any business activity or enterprise engaged in industry, agri-business and/or services that has: (1) an asset size (less land) of up to PhP100 million; and (2) an employment size with less than 200 employees. ¹ Based on these categories, it is classified as micro, small or medium regardless of the type of business ownership (i.e., single proprietorship, cooperative, partnership or corporation).

The Magna Carta for Micro, Small and Medium Enterprises (RA No. 6977, as amended by RA 8289, and further amended by RA 9501) defines a small business as any enterprise or business activity engaged in the major sectors of the economy (i.e., industry, trade, services, practice of profession, operation of tourism-related establishments and agri-business) whether single proprietorship, cooperative, partnership or corporation whose total assets, inclusive of those arising from loans but exclusive of the land on which the particular business entity's office, plant and equipment are situated, are ranging from more than P3,000,000 to P15,000,000. If the total assets stated above will amount to P3,000,000 or less, they can be considered micro businesses. If ranging from more than P15,000,000 to P100,000,000, they can be considered as medium enterprises. And if the total amount of those assets will exceed P100,000,000, they might be considered as large enterprises. Businesses are also considered large enterprises if they are publicly listed companies or if they are operating public utilities. Businesses can also be defined according to the number of employees. Micro businesses usually employ less than 10 workers, while small businesses employ 10 to 99 workers. Moreover, medium enterprises employ 100 to 199 workers, while companies employing 200 employees and above could be considered as large businesses.

Determining whether a business is micro, small, medium or large is important because the size of a business is a factor used by the government when it comes to regulation and support. For example, MSMEs (Micro, Small and Medium Enterprises) are covered by The Magna Carta for MSMEs which aims to promote MSMEs in the Philippines. Micro businesses should also be determined if they qualify as BMBE under R.A. 9178 so that they can avail the benefits provided by that law, such as exemption from income tax, exemption from the coverage of the Minimum Wage Law, priority to government financial assistance, technology support and others (VIC, 2013).



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Products and Services of Optical Businesses in Quiapo, Manila:

Most of the stores offers a wide selection of optical frames. The stores display the frames with varied shapes, sizes, colors, styles and brands that are often readily available for purchase. Not only for prescription glasses, but they also offer a variety of sunglasses and other safety glasses to choose from. More important than selecting the right frame is selecting the right lenses to give you the best vision possible. Lenses are available in different type of materials such as glass, plastic, high index plastic, and polycarbonate. Just a background, Plastic lenses are lighter than glass lenses and can be tinted to almost any color. High Index plastic lenses use advanced technology that gives thinner and lighter lenses for stronger prescriptions without compromising vision quality. Polycarbonate lenses are incredibly light in weight, high impact in resistance, and offers 100% UV protection. These lenses are recommended for children, teens, active adults, occupational safety, and anyone who needs superior protection. Additional features such as scratch guard, anti-reflective coating and transitions are also available. Scratch Guard protects the lenses from everyday wear and tear. Protecting the lens surface prolongs the usefulness of the lenses. Anti-reflective coating reduces distracting reflections. The results are more transmitted light, better quality of vision, improved night vision, and reduced eye fatigue. These lenses are great for working on a computer and night driving and offer a cosmetic appeal by showing your eyes more clearly. Transitions or adjustable tint lenses darken in the sunlight and lighten indoors. Improved technology provides you with a lens that is virtually clear indoors and as dark as sunglasses outdoors. These lenses also include UV protection.

Contacts make a great option for many people which is why it is also common in these optical stores. Contact lenses offer people the convenience of great vision without wearing glasses. These include contact lenses for correcting astigmatism, farsightedness, nearsightedness and presbyopia

(when you need prescription for both far and near vision).

Specialty lenses like safety/work, computer, or sunglass lenses are offered. Safety/work lenses can be customized for almost any occupation, hobby, visual or safety requirement. These lenses help to protect the eye in environments where there is potential to cause harm. Computer lenses are for people who spend more than two hours of their day on the computer. These lenses can help to reduce eye fatigue and headaches associated with computer use. Sunglass lenses can be made with polarized, tinted plastic or mirror lenses. Polarized lenses are highly recommended because they eliminate glare. They are great for anyone who has water and snow hobbies. Tinting can be done to most plastic lenses to transform an old pair of glasses. Mirror lenses have a coating that provides a reflective surface that makes the eye almost invisible to others, while keeping your eyes protected from glare.

Eyewear maintenance products are also being sold in the stores some are liquid eyeglass cleaner; eyeglass cases and fabrics use for cleaning. Aside from the variety of eye products available, almost all of the stores have on-site Optometrists ready to check the customers right away. They have machines to assess the needs of their customers and give the correct prescription.

Financial Management

If a firm's finance matters are managed properly then the firm will be able to survive, beat competition, avoid bankruptcy and financial distress, minimize costs, maximize profits and maintain a steady growth of the firm's returns (Agyei-Mensah, 2011).

According to Firer (2004) financial management answers three questions. The first question concerns long term investments decisions by the firm. The process of planning and managing a firm's long-term investments is called capital budgeting. Here the manager tries to identify investment opportunities



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that can generate more value than they cost to acquire. Many methods can be used to make investment appraisal which include payback method, accounting rate of return and the net present value method. The second question is about how a firm obtains and manages the long-term financing that is needed to support the above-mentioned investments. The manager must decide the best mixture of debt and equity by determining how much to borrow. This is known as the capital structure of the firm. The third question answers the working capital decisions of the firm. Working capital management is a day-to-day activity that ensures that the firm has adequate resources to continue operations without interruptions. Issues addressed here are on how much cash and inventory to keep, credit policy and how to obtain any needed short-term financing. Harif and Osman (2006) added that apart from capital budgeting, working capital management and capital structure, financial management also involves financial planning and control as well as financial accounting and analysis. Before the various areas of financial management can be discussed, it is important to note that financial management plays a very central role in relation to other functional areas of a business (Nguyen, 2001).

Liu Z. (2002) posits that the implementation of sound financial management practices enhances the performance of a firm. For the reason that deficiencies in financial management cause failure, it is common knowledge that sound financial management practices may increase the probability of a firm's success. This is because financial management offers the possibility to plan the way to achieve the firm's objectives, to cover a well-defined path and to take advantage of new opportunities.

Financial Planning

Financial performance is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the

same industry or to compare industries or sectors in aggregation (Metcalf & Titard, 2016). Moghimi and Anvari (2014) argued that successful financial performance of a firm requires financial planning. On the other hand, financial planning involves analyzing financial flows of a firm as a whole, forecasting the consequences of various investments, financing and dividend decisions and weighting the effects of various alternatives. Performing financial planning is critical to the success of any organization. It forms the basis of a workable business plan that is measurable and achievable within a period of time. These fuels the need to work towards set targets from a financial perspective. It also helps the CEO to set financial targets for the organization and give targets to his subjects. In enhancing the level of motivation amongst employees' rewards and recognition are accorded to those who hit the targets as provided by the budget (Moghimi & Anvari, 2014). This leads to financial performance of firms due to motivation and the desire to meet set targets.

A budget is a detailed estimate (forecasted) of future transactions which are expressed in terms of physical quantities, money or both. The essence of a budget is that it is a target set for management to keep within, achieve or surpass it. Wilbert (2003) defines financial planning as the adaption of the broad objectives, strategies and other plans of an organization into financial terms. In addition, the best practices for planning and executing projects is a budget and then employ it as a benchmark for improving project from other industries (Whonderr-Arthur 2009). Budget involves financial planning and shows the required cash flow for each time period (Yason, 2014). Regular budget plan review should focus more on the role level rather than the activity level. This approach is said to increase the planning of a project which will lead to better completion results. However, budgeting allows a public administrator to plan, make proper choices, and decide on the mission and direction of an organization (Zindiye, 2008).



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Budgeting is particularly important for small-business owners, who often operate on a shoestring budget (McQuerrey, 2019). The most effective financial budget includes both a short-range, month-to-month plan for at least one calendar year and a long-range, quarter-to-quarter plan you use for financial statement reporting. It should be prepared during the two months preceding the fiscal year-end to allow ample time for sufficient information-gathering. Planning your purchase ahead of time is key to getting the most for your money. You have little room for error in your budget for small business. Overspending on your big purchase could be devastating to your company. It could even cause you to go under. To avoid overspending, look over your business's financial history. Patterns in your expenses and income should give you an idea of the best time to make large purchases. Review the previous year's financial statements to determine how to create a business budget that accommodates your purchase (Kappel, 2016). Budgets are quantitative plans for the future. However, they are based mainly on past experience adjusted for future expectations. Thus, accounting data related to the past play an important part in budget preparation. The accounting system and the budget are closely related. The details of the budget must agree with the company's ledger accounts. In turn, the accounts must be designed to provide the appropriate information for preparing the budget, financial statements, and interim financial reports to facilitate operational control (Don Edwards, 2018).

Financial Reporting and Control

Financial Statements represent a formal record of the financial activities of an entity. These are written reports that quantify the financial strength, performance and liquidity of a company. Financial Statements reflect the financial effects of business transactions and events on the entity.

The four main types of financial statements are statement of financial position, income statement, cash flow statement and statement of changes in owner's equity.

- **Statement of Financial Position**, also known as the Balance Sheet, presents the financial position of an entity at a given date. It is comprised of the following three elements: assets, liabilities and owner's equity (AccountingSimplified.com). A balance sheet shows a snapshot of a company's assets, liabilities and shareholders' equity at the end of the reporting period. It does not show the flows into and out of the accounts during the period (Sec.gov, 2017).
- **Income Statement**, also known as the Profit and Loss Statement, reports the company's financial performance in terms of net profit or loss over a specified period. Income Statement is composed of the following two elements: income and expenses. An income statement is a report that shows how much revenue a company earned over a specific time period (usually for a year or some portion of a year). An income statement also shows the costs and expenses associated with earning that revenue. The literal "bottom line" of the statement usually shows the company's net earnings or losses. This tells you how much the company earned or lost over the period.
- **Cash Flow Statement** presents the movement in cash and bank balances over a period. The movement in cash flows is classified into the following segments: operating activities, investing activities and financing activities. Cash flow statements report a company's inflows and outflows of cash. This is important because a company needs to have enough cash on hand to pay its expenses and purchase assets. While an income statement can tell you whether a company made a profit, a cash flow statement can tell you whether the company generated cash.

The study conducted by Ystrom in 2010, the study found out that financial reporting information on cash flow to be a particularly relevant in the context of entrepreneurial SMEs. By providing investors with the very important information on how the cash flow of an



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entity has been generated, the cash flow statement makes up the most essential part of the financial reports. By providing investors with the very important information on how the cash flow of an entity has been generated, the cash flow statement makes according to Caisa Drefeldt, 2010 up the most essential part of the financial reports. The study conducted by Turyahebwa, 2013 found that 81 percent of the small enterprises regularly obtained summary financial information. Ninety-one percent of the summary information was in the form of traditional financial statements (balance sheets, profit and loss statements, fund statements), the remainder being bank reconciliation and operating summaries whereas no business was regularly receiving cash-flow information. The study further found that 61 percent of respondents felt the financial statements provided the information they required for planning and decision-making. Nevertheless, only 11 percent of respondents reported that they had used financial statement information formally as part of managerial evaluation, planning and decision-making, 2 percent of businesses utilized financial ratio analysis, and few made even simple historical comparisons.

Cash management is something most businesses of all sizes struggle to perfect. While the Cash Flow Statement is by no means the only method of monitoring cash flows, it is an integral part of the reporting statements and should not be overlooked by the financial statement users (O'connpr, 2014).

Working Capital Management

Working capital management is a significant area of financial management, and its administration or management has a significant impact on the profitability and liquidity of the firm (Garcia and Solano, 2007). Literature review like Agyei-Mensah (2012) and Azam and Haider (2011), shows that working capital management has significant impact on MSMEs performance and it is concluded in the

study by Kehinde (2012), that owner-managers can increase the value of their wealth and return on asset by reducing their inventory size, cash conversion cycle and net trading cycle. Increase in liquidity and the time period to pay up suppliers will also lead to firms' overall performance. Kehinde (2011), also posits that the effective management of working capital in MSMEs is very pivotal to their solvency and liquidity. Despite the importance of working capital management in enhancing MSME performance, some MSMEs are still failing. Literature has consistently referenced inadequate working capital decisions and accounting information as causes of MSME failures. Agyei-Mensah (2012), asserts that some firms do not manage their working capital as expected and this has affected the viability of their businesses. Firms fail because they do not maintain sufficient liquidity.

Cash Management

Cash management is the efficient collection, disbursement, and investment of cash in an organization while maintaining the company's liquidity. In other words, it is the way in which a particular organization manages its financial operations such as investing cash in different short-term projects, collection of revenues, payment of expenses, and liabilities while ensuring it has sufficient cash available for future use (myaccountingcourse.com).

Enow and Kamala (2016) added, minority of the MSMEs hold cash for speculative purposes or even invest surplus cash. This suggests that they are not optimizing their utilization of scarce resource. This could imply that either the decision-makers of MSMEs are ignorant of the available short-term investment opportunities or they simply are not generating a cash surplus that can be invested. Given the proliferation of computers at a low cost, it is rather surprising that only a minority use them for managing their cash. This could be attributed to the prevalence of computer illiteracy among most decision-makers of MSMEs, particularly the micro enterprises. For MSMEs to optimize cash



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management which will further enhance the wealth of their businesses, they should invest their cash surpluses in profitable investments.

According to Thangavelu (2015), by generating enough cash, a business has more control over its activities. It can meet its everyday business needs and avoid taking on debt. Uzialko, 2018 states that often, small businesses and startups work with a tight budget. As a result, it might be tempting to forego certain types of insurance that aren't required by law. In fact, a survey of 30,000 business owners conducted by Next Insurance found that 44% of responding businesses have never had insurance at all. Garstantein 2018 explained, the owner and operator of a sole proprietorship has the greatest personal and financial stake in his company, so it is natural for him to use personal funds such as savings to start and build his business. When a sole proprietor invests in his own enterprise, he takes the greatest risk for financial losses, but he allows himself virtually unlimited freedom for using and paying back the investment. This freedom applies to how he uses the money as well as the time it takes him to repay it.

Receivable Management

Accounts receivable management is a very important aspect of corporate finance since it directly affects the liquidity and profitability of the company (Pandey, 2010). It is useful to think of the decision to grant credit in terms of carrying costs and opportunity costs. Carrying costs are the costs associated with granting credit and making investment in accounts receivable. It includes the delay in receiving cash, the losses from bad debts and the costs of managing accounts receivable. Economic conditions and the firm's credit policies are the chief influences of the level of accounts receivable to be maintained by a firm at any given time (Horn 2007). Debt management requires that an organization put in place a credit policy whose main aim is to maximize shareholders wealth by increasing sales. A firm may follow a lenient or stringent credit policy. Lenient policy allows the

organization to sell to customers on very liberal terms while stringent policy allows a firm to sell on credit on a highly selective basis to customers who have proven record creditworthiness (Pandey 2010). Trade credit involves receivables which the firm expects to collect in the near future and has some risks (Pandey 2010). These include risk of bad debts where the debtor totally fails to pay. Secondly, the risk of loss of economic value of money due to inflation as a result of delayed payment. The investment in accounts receivable depends on the volume of credit sales or the objective of offering credit and the collection period (Manasseh1990). According to Peel and Wilson (1996), good receivable management practice is being pivotal to the health and performance of both small and large firms alike.

The key principles of accounts receivable management that a firm should adhere to are ageing of accounts receivable, evaluating the potential customers ability to pay using criteria such as integrity of the customer, financial soundness, collateral to be pledged and current economic conditions should be analyzed, establishment of credit terms and limits, collection of trade credit, assessment of default risk and responsibility and the financing of accounts receivable until it has been paid by the purchaser (Schaum ,1998).

In the recent study by Marketinvoice, they found out that almost two-thirds of invoices issued by MSMEs over 2017 were paid late – a total of over £21 billion. Late or unpaid invoices also cost a supplier business in terms of debt interest, additional administrative costs, and wasted time chasing payment. Offering early payment discounts encourages your customers to pay on time and this has many benefits. Firstly, your business is likely to move to the front of any payment queue. Cash will return to your business faster, and your cash conversion cycle will sharpen, providing extra liquidity. Secondly, you're more likely to receive payment from financially struggling customers looking to cut costs. Thirdly, early payment discounts can reduce the risk of bad debt, as the longer a payment is outstanding, the greater



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the risk that it will never be repaid. Lastly, offering early payment discounts to your customers builds loyalty, as customers may see the discount as an incentive to choose your business over your competitors.

Payable Management

Payable management is a critical business process through which an entity manages its payable obligations effectively. The administration of a company's outstanding debts, or liabilities, to vendors for purchases of goods and services made on credit. The accounts payable of a company is an important working capital account. Effective accounts payable management is important to SMEs because it ensures that their payables contribute positively to cash flow and support mutually beneficial relationships with their suppliers (Bizfilings, 2015). Concerning cash flow, effective accounts payable practices enable SMEs to minimize late payment costs such as penalties, interest charges, lost prompt payment discounts, payment to creditors before collecting from debtors (Olivier & Esker, 2012). An SME with effective, streamlined accounts payable operations ultimately saves money by avoiding these costs, and minimizing supplier invoices processing costs, all which improve cash flows (Deloitte, 2015). Dr. Andres Parungao, owner of Parungao Optical explained, purchases in bulk is not so effective in small optical shops since the order from their customer is usually made sold per piece.

Inventory Management

Inventory management is the supervision of non-capitalized assets (inventory) and stock items. A component of supply chain management, inventory management supervises the flow of goods from manufacturers to warehouses and from these facilities to point of sale. A key function of inventory management is to keep a detailed record of each new or returned product as it enters or leaves a warehouse or point of sale (Rouse, 2017).

Merritt, 2019 explained, one of the worst things you can do in business is to turn away customers – people who are ready to give you their money – because you've run out of the item they want. "Stockouts" not only cost you money from missed sales, they can also make you lose customers for good, as people resolve to take their business somewhere that can satisfy their needs. An efficient inventory control system tracks how much product you have in stock and forecasts how long your supplies will last based on sales activity. This allows you to place orders far enough ahead of time to prevent stockouts. When inventory isn't managed well, you can also wind up with overstock – too much of certain items. Overstock comes with its own set of problems. The longer an item sits unsold in inventory, the greater the chance it will never sell at all, meaning you'll have to write it off, or at least discount it deeply. Products go out of style or become obsolete. Perishable items spoil. Items that linger in storage get damaged or stolen. And excessive inventory has to be stored, counted and handled, which can add ongoing costs.

According to Patricia Barlow in 2015, companies like to use JIT as it is seen as a more cost-efficient method of holding stock. Its purpose is to minimize the amount of goods you hold at any one time, and this has numerous advantages such as less space needed - with a faster turnaround of stock, you don't need as much warehouse or storage space to store goods. This reduces the amount of storage an organization needs to rent or buy, freeing up funds for other parts of the business. Waste reduction – a faster turnaround of stock prevents goods becoming damaged or obsolete while sitting in storage, reducing waste. This again saves money by preventing investment in unnecessary stock and reducing the need to replace old stock. Lastly, smaller investments - JIT inventory management is ideal for smaller companies that don't have the funds available to purchase huge amounts of stock at once. Ordering stock as and when it's needed helps to maintain a healthy cash flow. Dr. Andres Parungao, owner of Parungao Optical also explained, purchasing supplies/materials in advance



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is not always applicable in the business. They are buying different frames for display so that customers will have various designs to choose from. However, for the materials used in making the prescriptive lenses, those were only purchased upon order. This is to not tie up the cash on their inventory.

Accounting Information System

Accounting information system refer to complete collection of business components that comprises entire inputs, gathering and reporting of financial transactions information. It if from this outcome of the system setup that backs the production and delivery of accounting information system. The aim of this information system is to collect and store data about transactions in order to produce meaningful output for decision making. A well designed and operating accounting system enables an organization to manage its most valuable resources which is information.

The study of Fagbemi & Olaoye (2016) concluded that accounting information systems would significantly influence the accounting performance of MSMEs. Therefore, it was recommended that MSMEs that adopt computerized accounting information system should ensure that the level of computerization improves in line with current level of advancement in technology. The study conducted by Dorothy Davis et al, 2009. A good record keeping, and accounting system can help assure that the firm is doing well, can pay its obligations in an orderly fashion when they come due and provide information to the owners for planning and control and to others who have a need to know the firm's financial standing. This can be explained by the entrepreneurs choosing to not deposit their cash surplus to banks. Ciaran, 2009, explained cash deposits can present a business owner with logistical problems, additional transactions should be done to get the money back when you need to use it. SMEs tend to keep their cash in a safe if they feel secure in the business premises.

As seen in these literature and studies, having effective financial management practices can help businesses in the long run. Continuous education in financial management should be adopted and practiced by optical entrepreneurs, especially MSMEs. Newbies in the enterprising industry tends to have limited knowledge especially on financial management. After reviewing the entire study carried out at local and foreign level, the researcher concludes that although some of the topics have been covered in the earlier literature review, no comprehensive study exists that treats the financial management practices of optical entrepreneurs. The current study aims to fill the gap. It indicates that the topic chosen for the study is quite relevant. To summarize, the research opens the doors for exploration of related information regarding the effectiveness of financial management practices of optical businesses in order to make the further studies more meaningful.

Research Philosophy, Framework, Design, and Methodology

Financial Management Practices are defined as the practices performed by the accounting officer, the chief financial officer and other managers in the areas of budgeting, supply chain management, asset management and control. The most common financial management practices used are Accounting Information Systems (AIS), Financial Reporting and Analysis (FRA), Working Capital Management (WCM), Capital Budgeting Management (CBM) and Capital Structure Management (CSM). All these practices are crucial for an efficient financial management in organizations (Moore and Reichert, 1989).



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Figure 1

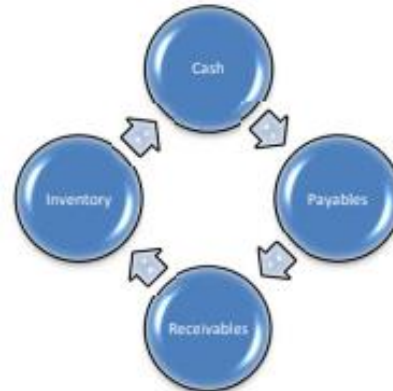
Aspects of Financial Management Practices



The cash conversion cycle (CCC) is a process or a cycle where the company purchases inventory, sells the inventory on credit as an account receivable, and then collects the account receivable or turns it into cash. The company needs to cash to pay its own bills. The cash conversion cycle looks at the time tied up in converting inventory and receivables to cash, as well as the amount of time the company is given to pay its bills without incurring any penalties. It is vital that the business owner calculate the cash conversion cycle. It tells the owner the number of days that cash or capital stays tied up in the business processes of the firm. The cash conversion cycle is a measure of working capital efficiency. Cash conversion cycle (CCC) has been considered a useful measure of firm's effective working capital management and especially the cash management (Panigrahi, 2013).

Figure 2

The Cash Conversion Cycle (CCC)



In Porter's five forces, threat of new entrants refers to the threat new competitors pose to existing competitors in an industry. Therefore, a profitable industry will attract more competitors looking to achieve profits. If it is easy for these new entrants to enter the market – if entry barriers are low – then this poses a threat to the firms already competing in that market. More competition – or increased production capacity without concurrent increase in consumer demand – means less profit to go around. According to Porter's 5 forces, threat of new entrants is one of the forces that shape the competitive structure of an industry. Thus, Porter's threat of new entrants' definition revolutionized the way people look at competition in an industry.

The threat of new entrants Porter created affects the competitive environment for the existing competitors and influences the ability of existing firms to achieve profitability. For example, a high threat of entry means new competitors are likely to be attracted to the profits of the industry and can enter the industry with ease. New competitors entering the marketplace can either threaten or decrease the market share and profitability of existing competitors and may result in changes to existing product quality or price levels. An example of the threat of new entrant's porter devised exists in the graphic design industry: there are very low barriers to entry. (Wilkinson, 2013).



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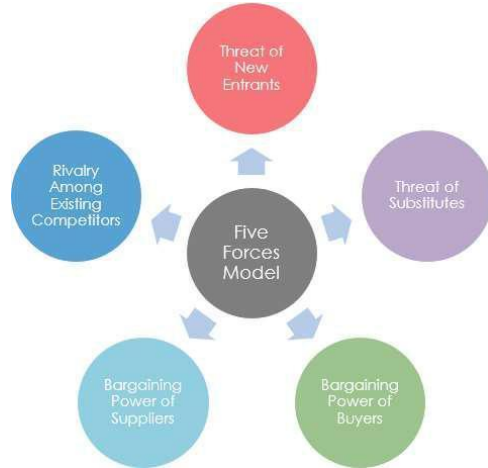
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Figure 3

Porter's Five Forces



The study adopted the “Input-Process-Output” (IPO) model. The IPO model implies a chronology (left-to-right) where, in turn: resources of the inputs are made available for the work of the project. In this case, the study is executed to produce certain outputs through combination of processes and those outputs are then delivered to the outside world (Zwikael and Smyrk, 2011).

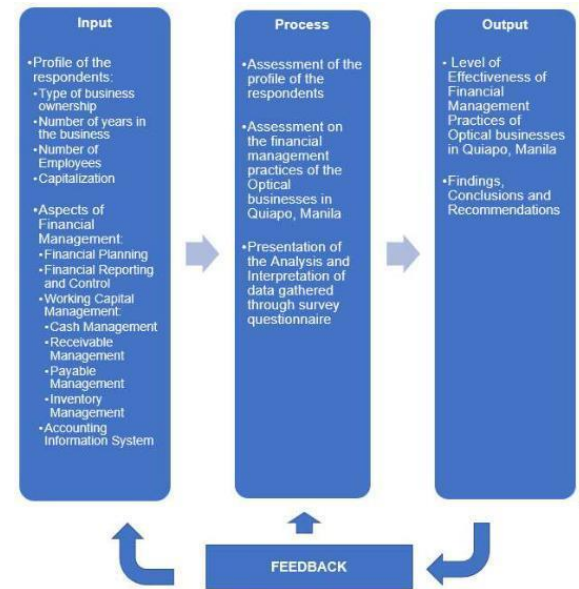
The input variables for this study include the respondents’ profile which referred to form of business, number of years in the business, number of employees and type of business. Other input variables are the aspects of Financial Management Practices such as Accounting Information System (AIS), Capital Budgeting, Working Capital Management, Capital Structure, and Financial Reporting, Analysis, Planning and Control. The process contains the assessments on the profile of the respondents, the effectiveness of their financial management practices through the use of survey questionnaires, presentation, analysis and interpretation of data.

The output variables for the study includes assessed data on the level of effectiveness of financial management practices of Microentrepreneurs in

selected district of Manila, conclusions together with recommendations.

Figure 4

The Conceptual Framework



Methodology

This study used a descriptive research method, wherein it tried to describe the present conditions, events, systems or the nature of a situation at the time of the study based on impressions or reactions of respondents (Alipio Garcia, et al., 2007). Also, descriptive research method is the best to use to know how the respondents regard various financial management practices because it aims to define, gauge, and evaluate the data gathered based on respondents’ practice and experiences.

Survey questionnaires were administered wherein questions were written in both English and Tagalog so that they can be easily understood by the respondents



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Population, Sample Size, and Sampling Technique

The total population of the study covered optical/eyewear related businesses located in Quiapo, Manila particularly, the owners or managers and the designated cashier or accounting personnel of the business. The sampling designed is applied to the samples were taken because they were most available. The researchers took the nearest individuals as the respondents of the study, (Alipio Garcia et al., 2007).

Since the population is known and defined, the study used Slovin's formula to compute for the appropriate sample size which is written as $n = N/(1+Ne^2)$ where n = number of sample size. N = total population and e = error tolerance. The researcher gathered one hundred seventy (127) optical business who were doing business in the targeted location. The researcher averages the respondents up to 2 respondents per business, the cashiers or accounting personnel and the owners or managers who are directly managing the operation of the business garnering a total population of 254. Using the Slovin's formula, it was computed a minimum of one hundred ninety-four (194) respondents with a .05 level of significance to participate on the survey to be conducted by the researcher. Of the 194 respondents 215 were produced and disseminated during the three-week collection of data but 195 responses returned with a retrieval rate of 90.70%.

Description of Respondents

Financial Management Practices properly executed will greatly help the optical businesses hence, the study's respondents were focused on the business' accounting personnel and owners with establishments in Quiapo, Manila. There were two target respondents per business establishment. The respondents of the study were categorized by their type of business ownership (sole proprietorship,

partnership, corporation or cooperation), number of years in the business (2 - 5 years, 6 - 10, 11 - 15 and 16-20 years), number of employees (less than 5 employees, 6 -8 employees, 9-11 employees, 12 -14 employees and more than 15 employees) and capitalization (Php 5,000 - Php 3,000,000, Php 3,000,001 to Php 15,000,000 and Php 15,000,001 to Php 33,000,000).

Research Instrument

The study used a researcher made questionnaire which was constructed to suit the purpose and content of the study and was based on different material such as books, researchers, articles and online references to obtain information related to the study. It contains Likert Scale to measure the degree of respondents' effectiveness on the aspects of financial management. The questionnaire was also checked by the University Statistician, Engr. Leodegario Bautista for accuracy and veracity of the contents.

The questionnaire was composed of two parts. The first part was comprised of the respondents' profile particularly the type of business organization, number of years in the business, number of employees and capitalization. The second part was comprised of the different financial management practices such as Financial Planning, Financial Reporting and Control, Working Capital Management in the aspects of Cash Management, Receivable Management, Payable Management and Inventory Management, lastly, Accounting Information System which will be utilized to evaluate the effectiveness of their current financial management practices.

Below is the opinion index of the Likert Scale for the respondents' level of effectiveness and it indicates interpretations and numerical descriptions.



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Table 1

Likert Scale

Mean	Numerical Descriptions	Interpretations
5	5	Highly Effective
4	4	Effective
3	3	Somehow Effective
2	2	Less Effective
1	1	Not Effective

Data Gathering Procedure

This study used a researcher-made questionnaire to collect data. First, the researcher made an authorization to conduct survey approved by Chairman and Dean of PUP Graduate School. Second, the researcher requested for the list of registered Optical Businesses in Manila City (Business Permit and Licensing Office). Third, the researcher consulted his statistician for the proper computation of the samples to be gathered from the list provided by the Manila City BPLO. Fourth, based on the list of the registered entrepreneurs provided by the BPLO Manila, the university statistician advised the researcher to distribute the questionnaires on all the Optical businesses to not less than 195 respondents. The researcher disseminated the questionnaire to the owners or manager and cashier or accounting personnel of the businesses. The researcher sees to it that the respondents understand the questions stated on the survey. The researcher has provided a translated version of the survey for easy answering. Accordingly, distributed survey-questionnaire were retrieved and collected from the respondents after a period of time. Lastly, after the retrieval and collection of questionnaires, all the answers of the respondents are tabulated based on the required format of the problems of the study and started the processing of data using appropriate statistical tools.

Statistical Treatment of Data

The study utilized the use of descriptive statistical tools such as frequency and percentage distribution, weighted mean, T-test, analysis of variance

(ANOVA) and rank order correlation which are described as follows:

- **Frequency and Percentage Distribution.** By using frequency, it determines the number respondents who favored a particular item over the given set of items while in percentage, it expresses the size of one item whether large or small relative to other items.
- **Weighted Mean.** The weighted mean is a measure of central tendency wherein it points out to where the majority of the respondents' answers to a question cluster and reveals the reaction of the majority of the respondents (Alipio Garcia, et. Al, 2007).
- **T-test.** The independent Sample T-test will be used when there are two different groups of people. Under this statistical tool, the collection of information is done in one occasion only but from two different sets of people. In this study, male and female (Alipio Garcia, et. al, 2007).
- **Analysis of variance (ANOVA).** The analysis of variance (ANOVA) will be used to test the significant difference between two or more groups in the study by comparing the mean scores of the group on a continuous variable (Alipio Garcia et. al, 2007).
- **Rank Order Correlation.** Rank order correlation is a non-parametric technique used to calculate the strength of the relationship between two continuous variables (Alipio Garcia, et. al, 2007). This will be used to arrange the result of the data from highest to lowest based in the respondents' answers.
- **SPSS.** All computations were done using SPSS.



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Data Results and Analysis

Profile of the Respondents According to Type of Ownership, Number of Years in the Business, Number of Employees and Capitalization

- Frequency and Percent Distribution of the Individual Respondents According to Type of Business Ownership. The result shows that out of the 195 respondents of the study, the form of business ownership of 124 or 63.6% is sole proprietorship, of 48 or 24.6% is corporation, of 16 or 8.2% is partnership, and of 7 or 3.6% is cooperative.
- Frequency and Percent Distribution of the Individual Respondents According to Number of Years in the Business. The result shows that out of the 195 respondents of the study, 67 or 34.4% are doing business for about 6-10 years, 49 or 25.1% are from 2-5 years, 40 and 20.5% are from 11-15 years and 39 or 20.0% are from 16-20 years.
- Frequency and Percent Distribution of the Individual Respondents According to Number of Employees. Majority of the respondents employed less than 5 employees with frequency of 89 or 45.6%. The lowest frequency result of 9 or 4.6% are from respondents with 9-11 employees.
- Frequency and Percent Distribution of the Individual Respondents According to Capitalization. Majority of the respondents has a capitalization of Php 5,000 – Php 3,000,000 with a frequency of 27 or 13.8%.

Effectiveness of Financial Management Practices of Optical Businesses in Quiapo, Manila in terms of financial planning, financial reporting and control, cash management, receivable management, payable management, inventory management, and accounting information system

- Respondents' Assessments on the Effectiveness of Financial Management Practices of Optical Businesses in Quiapo, Manila in Terms of Financial Planning

shows that "the business prepares budget for big purchases/expenses" and "the business prepares budget for day to day operation" were highly appreciated by the respondents respectively, with weighted means of 4.22 and 4.00. While there was lesser appreciation on "Uses past year or period records as basis for budgeting" and "Uses estimates based on assessed market demands and trends as basis for budgeting" with weighted means of 3.33 and 3.37 respectively.

- Respondents' Assessments on the Effectiveness of Financial Management Practices of Optical Businesses in Quiapo, Manila in Terms of Financial Reporting and Control shows "The business prepares balance sheet" and "The business prepares cash flow report" were highly appreciated by the respondents respectively, with weighted means of 4.62 and 4.72. While there was lesser appreciation on "The business prepares income statement" and "The business analyzes the trend of sales, cost and profit" with weighted means of 4.60 and 3.88 respectively.
- Respondents' Assessments on the Effectiveness of Financial Management Practices of Optical Businesses in Quiapo, Manila in Terms of Cash Management shows "Cash is available to cover daily operation requirements" and "Deposit cash surplus in bank for safekeeping" were highly appreciated by the respondents respectively, with weighted means of 4.64 and 3.61. While there was lesser appreciation on "The business avails insurance to secure the stability of the business from unexpected expenses due to uncontrolled events" and "Avail cheaper loans from lending institutions (peer to peer, cooperatives, etc.) to support cash needs" with weighted means of 3.32 and 3.40 respectively.
- Respondents' Assessments on the Effectiveness of Financial Management Practices of Optical Businesses in Quiapo, Manila in Terms of Receivable Management shows "Offers discount for



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early payment" and "Offers sales on credit for loyal customers/regular customers" were highly appreciated by the respondents respectively, with weighted mean of 1.5. While there was lesser appreciation on "All credit sales were collected on time", "Making sure to issue credit sales to credible customers only to avoid uncollectible sales (bad debts)" and "Proactive in reminding customers to speed up cash collection" with weighted means of 4.93, 4.93 and 4.88 respectively.

- Respondents' Assessments on the Effectiveness of Financial Management Practices of Optical Businesses in Quiapo, Manila in Terms of Payable Management shows "Make sure payables are settled on time to avoid penalties and interests" and "Pay disbursements/expenses only on due date" were highly appreciated by the respondents respectively, with weighted means of 4.86 and 4.75. While there was lesser appreciation on "Pay disbursements / expenses early to avail discount" and "Purchase supplies/materials in bulk orders to avail discounts" with weighted means of 4.28 and 2.57 respectively.
- Respondents' Assessments on the Effectiveness of Financial Management Practices of Optical Businesses in Quiapo, Manila in Terms of Inventory Management shows "Uses Inventory System ("FIFO, JIT, etc.) to properly manage the stocks" was highly appreciated by the respondents with weighted mean of 3.58. While there was lesser appreciation on "Buying of supplies/materials in advance to avoid shortage" with weighted mean of 3.43.
- Respondents' Assessments on the Effectiveness of Financial Management Practices of Optical Businesses in Quiapo, Manila in Terms of Accounting Information System shows "The business keeps a sales, purchases and expenses book" and "The business keeps a stock book" were highly appreciated by the respondents respectively, with weighted means of 4.74 and 4.59. While there was lesser appreciation on "The business keeps a

deposit and withdrawal record" and "The business secure that all business transactions are recorded correctly" with weighted means of 4.05 and 4.45.

- Summary of Grand Mean and Verbal Interpretation in the Respondents' Assessments on the Effectiveness of Financial Management Practices of Optical Businesses in Quiapo, Manila shows that Receivable Management got the highest grand mean of 4.93 which is interpreted as "Very Effective". On the other hand, Financial Planning and Cash Management both got the lowest mean 3.67.

Significant difference in the respondents' assessments on the effectiveness of financial management practices of optical businesses in Manila when they are grouped according to profile

- The result shows that when the respondents were grouped according to type of business ownership their perception did not agree on the aspects of "Financial Planning", "Financial Reporting and Control", "Cash Management", "Payable Management", "Inventory Management" and "Accounting Information Systems". The p-value is less than the assumed level of significance .05, hence, the null hypothesis were rejected. While they differ on the aspects of "Receivable Management" at 0.05 degree of significance whereby the null hypothesis was accepted.
- The result shows that when the respondents were grouped according to the number of years in the business the overall perception were all "Significant" at 0.05 degree of significance whereby the null hypothesis was rejected.
- The result shows that when the respondents were grouped according to the number of employees the overall perception were all "Significant" at 0.05 degree of significance whereby the null hypothesis was rejected.
- The result shows that when the



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respondents were grouped according to type of business organization their perception did not agree on the aspects of "Financial Planning", Financial Reporting and Control", "Cash Management", "Payable Management", "Inventory Management" and "Accounting Information Systems". The p-value is less than the assumed level of significance .05, hence, the null hypothesis were rejected. While they differ on the aspects of "Receivable Management" at 0.05 degree of significance whereby the null hypothesis was accepted.

Discussion, Conclusions, Recommendations

Discussion

Profile of the Respondents. Respondents encompass 63.6% belonging to Sole Proprietorship, 34.4% are doing business for about 6-10 years, 45.6% are operating with less than 5 employees, 71.8% have a capitalization of Php5,000 – Php 3,000,000.

Financial Management Practices in terms of the indicators: Financial Planning, Financial Reporting and Control, Working Capital Management (Cash Management, Receivable Management, Payable Management, Inventory Management) and Accounting Information System. The business prepares budget for big purchases/expenses" and "the business prepares budget for day to day operation" were highly appreciated by the respondents respectively, with weighted means of 4.22 and 4.00. While there was lesser appreciation on "Uses past year or period records as basis for budgeting" and "Uses estimates based on assessed market demands and trends as basis for budgeting" with weighted means of 3.33 and 3.37 respectively.

The business prepares balance sheet" and "The business prepares cash flow report" were highly appreciated by the respondents respectively, with weighted means of 4.62 and 4.72. While there was lesser appreciation on "The business prepares income statement" and "The business analyzes the trend of sales, cost and profit" with weighted means

of 4.60 and 3.88 respectively. Cash is available to cover daily operation requirements" and "Deposit cash surplus in bank for safekeeping" were highly appreciated by the respondents respectively, with weighted means of 4.64 and 3.61. While there was lesser appreciation on "The business avails insurance to secure the stability of the business from unexpected expenses due to uncontrolled events" and "Avail cheaper loans from lending institutions (peer to peer, cooperatives, etc.) to support cash needs" with weighted means of 3.32 and 3.40 respectively. Offers discount for early payment" and "Offers sales on credit for loyal customers/regular customers" were highly appreciated by the respondents respectively, with weighted mean of 1.5. While there was lesser appreciation on "All credit sales were collected on time", "Making sure to issue credit sales to credible customers only to avoid uncollectible sales (bad debts)" and "Proactive in reminding customers to speed up cash collection" with weighted means of 4.93, 4.93 and 4.88 respectively. Make sure payables are settled on time to avoid penalties and interests" and "Pay disbursements/expenses only on due date" were highly appreciated by the respondents respectively, with weighted means of 4.86 and 4.75. While there was lesser appreciation on "Pay disbursements / expenses early to avail discount" and "Purchase supplies/materials in bulk orders to avail discounts" with weighted means of 4.28 and 2.57 respectively. Uses Inventory System ("FIFO, JIT, etc.) to properly manage the stocks" was highly appreciated by the respondents with weighted mean of 3.58. While there was lesser appreciation on "Buying of supplies/materials in advance to avoid shortage" with weighted mean of 3.43.

Significant Difference in the Respondents' Assessments on the Effectiveness of Financial Management Practices of Optical Businesses in Manila According to Profile. When the respondents were grouped according to number of years in the business and number of employees the overall perception disagreed or did differ. When the respondents were grouped according to the type of business ownership and capitalization their



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perception agreed on working capital management - receivable management and disagreed on financial management, financial reporting and control, working capital management in the aspects of cash, payable and inventory management and accounting information system.

Conclusions

Majority of the respondents are Sole Proprietorship doing business for 6-10 years, with less than 5 employees and have a capitalization of Php 5,000 - Php 3,000,000.

The effectiveness of financial management practices of optical businesses in Quiapo, Manila as assessed by the respondents as to financial planning, the grand mean was effective. As to Financial Reporting and Control, the grand mean was effective as well. The effectiveness of the working capital management as to cash management the grand mean was effective, receivable management with grand mean verbally interpreted as very effective, payable management and inventory management, both had a grand mean which is effective. Lastly, as to the accounting information system the grand mean was found out to be effective.

Significant Difference in the Effectiveness of Financial Management Practices of Optical Businesses in Quiapo, Manila as assessed by the respondents when they were grouped according to number of years in the business and number of employees the overall perception disagreed or did differ which made the null hypothesis rejected. When the respondents were grouped according to the type of business ownership and capitalization their perception agreed on working capital management - receivable management that made the null hypothesis accepted and disagreed on financial management, financial reporting and control, working capital management in the aspects of cash, payable and inventory management and accounting information system hence, the null hypothesis were rejected.

Recommendations

Majority of the business owners are Sole Proprietorship doing business for about 6 to 10 years. This may mean that the owners have now seen the cycle of the business processes, the trend in sales, cost and profit. They've seen how the market is operating. As a recommendation, the owners/manager of the businesses should always have an open mind to new ways of doing business. They should always be innovative and creative to stay in the game. This type of industry where tight competition is present, they should not limit the business to what they are currently doing. They should think out of the box to think of ways to gain market share and to maintain their present customers. The industry of optical products and services is very promising as the market and trends evolve, so as their business, their strategies and ways of doing business.

To add efficiency in financial planning, the owners/managers should realize the importance of budgeting. This will set the target and expectation of the business in terms of sales and expenses. This could help drive the business to push more to achieve the targets and this could provide higher morale to the employees because of the sense of fulfillment once achieved. Make use of historical financial data, this will show you how the sales and expenses moved in the past year. Another basis that the business can use for financial planning or budgeting is the market demand, the manager/owner should keep themselves updated on the latest crazes, issues and product/services development available in the market. Analyze the data carefully, if possible, review the budget on a regular basis. To monitor if the business is doing fine otherwise, implement corrective actions.

To add efficiency in financial reporting and control, a simple reporting should be done by the owner and managers of the business on a regular basis. It is not enough to create financial statements for the sake of "BIR requirements" only. They should take their time to analyze and learn the meaning behind the



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numbers, analyze the trend of sales, cost and profit. This would give the managers the view on how their business is doing and the areas of growth and improvement will be more visible. The owners should maximize the opportunities offered by the Government and financial institutions on free financial advisory classes and seminars in entrepreneurship and financial matters.

To add efficiency to the working capital management, for cash management, businesses should keep the maximum amount that they should have on hand during operating hours. Any cash surplus should be deposited either for safe keeping or be considered for a short- or long-term investments. This could yield additional income to the business. It is also recommended for the businesses to avail insurance policies; this could save the business in certain unfortunate events. There are a lot of insurance policies available in the market and nowadays, it's not just insurance but an investment. Insurance companies also offer policies that suits the business needs and capacity to pay.

As to payable management, maximize the credit terms and discounts available, make sure to have a complete and correct list of your payables to properly monitor the due dates. This could help you prioritize the payment and allocate your resources properly, settling your payables on time will not only lessen the probability of getting late fees and interests but all also will help you maintain a good credit standing with your business partners. Lastly, to improve the inventory management of the businesses, keep a list of all the stocks and items that they have in storage and in display and continuously monitor and update the log. If possible, apply an inventory system that suits their operation. This will help them to properly account all of their stocks and to avoid shortages or over stocking.

To add efficiency to the Accounting Information System, the business should upgrade their method of recording, storing and generating their business information. The businesses should invest in

computerized systems to ensure the accuracy, completeness and security of their records. The system could also provide the information they may need real time whenever a financial decision making is required. They should make sure that all of the entries they make is complete, understandable and accurate to correctly account all the business transactions. This could really help the management in making sound financial decisions. If the computer systems is not available, there should be a systematic approach on handling the records of the business to make sure that all transactions are correct and complete. It is recommended that businesses regularly check the accuracy of their records.

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The Profile, Research Competencies, Motivations, Attitudes, and Problems of Accounting and Business Instructors of a Private HEI

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ABSTRACT

Research, by its very nature, is a challenging academic endeavor and discipline that requires in-depth knowledge of the subject matter, competency, motivation, and attitude. Thus, this study appraised the research competency of the faculty of the School of Accountancy and Business (SAB) of a Higher Educational Institution (HEI). Also, this study determined the profile variables, research motivations, attitudes toward research engagement, and research issues and problems they encountered. Findings indicated that the majority of the faculty members of SAB were females, finished the accounting program, were baccalaureate degree holders, had part-time employment status and had worked in the academe for eight years and below. In relation to research endeavors, the majority were engaged solely as a panel of evaluators; their competencies were from their undergraduate studies and their involvement in research was as regular advisers and panel of evaluators; and not actively engaged in production, presentation, publications, and attendance to conferences. They were practitioners in their level of competency meaning average knowledge, were intrinsically and extrinsically motivated to conduct research, had a fairly positive attitude towards research, and were faced with several problems in doing and producing research. Findings showed that their level of competency in research was significantly related to or influenced by their research involvement in activities as adviser and panel of evaluators, their experience of conducting research during their undergraduate and masteral courses, their attendance to research trainings their experience in writing research during their baccalaureate and master's degree, their attendance to research trainings and seminars, number of research conferences attended (Municipal and regional), and their personal initiative in studying and reading research-related materials. With all these findings, it is recommended that research capability enhancements for the Accounting and Business instructors of the said HEI be conceptualized and implemented.

Keywords: Abstract, Employment Status, Higher Educational Institution, Highest Educational Attainment, Major Parts, References, Research Responsibilities, Technical Aspects

Higher Educational Institutions (HEIs) are mandated to perform trifocal functions. These are instructions, research, and extension. Private Universities and Colleges as well as State Universities and Colleges (SUCs) being higher

educational institutions are therefore mandated to institutionalize the conduct of research. This is so since universities and colleges are among the primary institutions tasked to generate, disseminate, and utilize knowledge. Moreover, HEIs play an important role in developing and nurturing



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a “research culture” among the people (CHED Memo. No. 32, s. 2008). From the aforementioned statements, it can be inferred therefore that the functions of the faculty of HEIs had been trifocal consisting of teaching, research, and community service or extension. As Peñarendo-Untong (2020) asserted, university faculty members were mandated to play an important role in the educational and integral formation of professional competent, service-oriented and principled and productive citizens. Also, teachers were expected to develop their competencies in delivering up-to-date knowledge to sustain their duties and functions as knowledge providers in a changing and increasingly competitive work environment (Del Mundo & Refozar, 2013).

Research was made as a university function in addition to the task of teaching in the late 19th century after the first academic revolution (Etzkowitz, 2003, as quoted by Okoduwa, Abe, Samuel, Chris, Oladimejo, Idowu, & Okoduwa, 2018). It is an essential function of HEIs and of any institution of higher learning. As Dacles, Valtoribio, Del Rosario, Matias, & Saludarez (2016) put it, “Research is a major function of higher educational institutions; presumably faculty members should not only be aware of it but must in fact be actively involved in the generation of knowledge”. As one of the triad functions of HEIs, research enhances and expresses the individual’s capacity to conduct discipline-based, policy-oriented, and technology directed innovative work (CHED Memo. No. 32, s. 2008 & CHED Memo No. 30, s. 2010). Cooper and Schindler (2005), as quoted by Mallari and Santiago (2013), forwarded that research as a systematic inquiry provided information needed to solve managerial problems and a disciplined process for conducting an inquiry of a management dilemma. As a process, research includes conceptualization of problems, collection of data, and analysis and interpretation of information systematically to answer queries. Thus, research as an academic endeavor requires competence, interest, and attitudes. As Manongsong & Panopio (2018) posited, research competency was a needed skill and

experience to do research.

Moreover, research was one of the major tools in the HEIs to achieve academic excellence as well as one of the standards of accreditation in assessing the development of competent professionals (Manongsong & Panopio, 2018). Mendoza (2012) also asserted that the conduct of research among faculty of HEIs in the country had been a basic requirement to obtain accreditation of programs by private accrediting bodies under the umbrella of the Federation of Accrediting Agencies in the Philippines (FAAP). Manongsong & Panopio (2018) added that the research element was assessed by the accreditors to evaluate the programs and the institutions and concretized the ability of the university to produce research that would generate knowledge for productivity of the institutions and the community. This was furthered by Okoduwa, Abe, Samuel, Chris, Oladimejo, Idowu, & Okoduwa (2018) as they quoted Gross (2004) and Williams (2013) positing that research output derived from the academe had been assessed and used to rank universities. Research is one of the ten (10) criteria (areas) used in the assessment of programs by the Accrediting Agency of Chartered Colleges and Universities in the Philippines, Inc. (AACCUP). It was furthered that research and publication had now become major tasks for academics in addition to teaching (Narbarte & Balila, 2018) and that research had become a significant asset among teachers from the prospect of professional development and promotion (Landicho, 2019). He added that other benefits of doing research included intellectual and emotional growth and an improved practice through knowledge generation and dissemination.

Furthermore, due to paucity of research in Philippine HEIs, the Commission on Higher Education (CHED) pursuant to Republic Act (RA) 7722, otherwise known as “Higher Education Act of 1994”, provided policies and mandates that were largely geared towards the intensification in the involvement and engagement of faculty in doing research that will ultimately lead to the



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improvement of research productivity which according to Mendoza (2012) was accomplished through the National Higher Education Research Agenda (NHERA) that embodied program thrusts envisioned to create genuine research culture in higher education. Among these were CHED Memorandum Order No. 52, Series of 2016 on “Pathways to Equity, Relevance, and advancement in Research, Innovation, and Extension in the Philippine Higher Education”, CHED Memorandum Order No. 30, Series of 2010 on “Revised Guidelines for the CHED Best Higher Education Institution (HEI) Research Program (BHERP) Award”, and CHED Memorandum Order No. 32, Series of 2008 on “Revised Guidelines for the CHED Best Higher Education Institution (HEI) Research Program Award”.

With the aforementioned policies, mandates, and sanctions from CHED and as a result of the accreditation requirement, the HEIs in the country had responded in various ways to the call for a stronger research orientation among the universities (Salazar-Clemeña & Almonte-Acosta, 2016) and many have institutionalized the production of research outputs on a regular basis as a requirement for their faculty.

Saint Mary’s University (SMU), a premier CICM Catholic educational institution, in order to continuously, relentlessly, and religiously dedicate itself to forming persons exemplifying excellence, innovation, and passion for Christ’s mission, and in keeping the changes in the educational landscape, dedicatedly embraced the call to establish and build a research culture. As stated in the Manual of Operating Procedures and Guidelines (MOPG) 2018 of SMU, the present university research center had its beginning in 1970 and it continuously and aggressively committed itself in promoting the advancement of knowledge and development of a scientific attitude among faculty and students and as a venue for research endeavors such as production, implementation, dissemination, and even publication both for faculty and students and other research-oriented individuals in the region. To

date, the Saint Mary’s University-Research Center’s (SMU-RC) envisions itself as “A service-oriented center for the continuing advancement of knowledge, development of scientific attitude, and the conservation, transmission, and promotion of national heritage”. Moreover, a Research Development Program focusing on the development of research consciousness among faculty and students and research agenda was formulated and was implemented by the Research Center (SMU-RC MOPG, 2018). To add, SMU-RC implemented research productivity incentives to motivate faculty members to become more active in research production.

However, it has been generally observed that faculty members especially those in the accounting department conducted limited researches though according to Mendoza (2012), in accounting education, the requirement for research was embodied in the Revised Policies and Standards for the Bachelor of Science in Accountancy program under CHED Memorandum Order No. 3, series of 2007. Also, based on the data of the Center for Research Innovation and Data Management, the College of Dentistry was one of the colleges with low research productivity (Manongsong & Panopio, 2018). Based on the list of faculty members of the School of Accountancy and Business (SAB) of SMU, SAB had an average of 12 out of 32 faculty who were into research production whereas 16 of the total faculty served as research advisers and/or panel of examiners of student researchers in the last five (5) years.

It is in this light that this study was conducted to determine the profile, research competency, motivation, attitude, and problems of SAB-SMU faculty which would serve as the basis in planning the enhancement of the research capability and motivation of the faculty of the said school to conduct research. Through this said endeavor, practical recommendations for a more enhanced research capability building programs for the university would also be generated.



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Statement of the Problem

This study primarily dealt with the appraisal of the research competency of the Accounting and Business Instructors of Saint Mary's University.

Specifically, the study sought answers to the following:

1. What are the profile characteristics of the faculty-participants in terms of:
 - 1.1. Sex
 - 1.2. Bachelor's degree
 - 1.3. Highest educational attainment
 - 1.4. Employment status
 - 1.5. Number of years in the teaching profession
 - 1.6. Research responsibilities
 - 1.7. Sources of research competency
 - 1.8. Number of researches conducted
 - 1.9. Number of researches published
 - 1.10. Number of research conferences attended
2. What are the research competency of accountancy and business faculty members on the following areas:
 - 2.1. Technical aspects
 - 2.2. Major parts of a research
 - 2.3. Other parts
3. What are the factors that motivate the faculty-participants to conduct research?
4. What is the attitude of the faculty-participants toward research engagement?
5. What are the problems related to the conduct of research among the faculty-participants?
6. Is there a significant difference in the research competency of the faculty-participants when grouped according to their profile?

Statement of the Hypothesis

There is no significant difference in the research competency of the faculty-participants when grouped according to their profile characteristics.

Methodology

This study employed the descriptive-comparative-quantitative type of research. It was conducted within Saint Mary's University (SMU), Bayombong, Nueva Vizcaya. Which is a Catholic Higher Educational Institution (HEI) in the province that offers programs in Accountancy, Business and Hotel and Tourism Management. As a Higher Educational Institution, SMU envisions its graduates to be missionary Marian professionals who uphold Excellence, Innovation, Communion, and Passion for Christ's Mission. The respondents of the study were 26 faculty of the School of Accountancy and Business (SAB) of SMU, part time or full-time and temporary, probationary or permanent excluding those who served as panel of evaluators of this paper. The academic year 2021-2022 first semester list of faculty members was requested from the office of the Dean of the School of Accountancy and Business through the secretary to the Dean. Pertinent, relevant, reliable and necessary data were gathered through a prepared survey questionnaire reflecting the problems of the study. It was an adopted and modified survey questionnaire that was duly reviewed and approved by the research coordinator, panel of evaluators, and university statistician to check the face validity, especially its content. The questionnaire formulated by Mendoza (2012) in the conduct of his research "Research Competencies and Interests of Accounting Educators in the Philippines", the questionnaire used by Mallari & Santiago (2013) in their research "The Research Competency and Interest of Accountancy Faculty Among State Colleges and Universities in Region III", questionnaire crafted by Manongsong & Panopio (2018) in their study "Dentistry Faculty Members' Research Competencies and Attitude towards Research Engagement", and the questionnaire developed and used by Landicho (2020) in his research study "Research Attitudes, Motivations, and Challenges of STEM Education Researchers" formed mostly the parts of the questionnaire. Some modifications and revisions were done to suit the questions raised for the respondents.



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The gathered data were tabulated and arranged accordingly, and were treated and analyzed using Statistical Packages for Social Sciences (SPSS). The following statistical tools were used; (a) Frequency and Percentage were used to determine the profile variables, (b) Mean and Standard Deviation were used to determine the Faculty-Respondents' Research competency, Research motivational factors, Attitudes towards research engagement, and problems encountered in the conduct of research, and (c) Inferential Statistics (Mann-Whitney Tests, Kruskal-Wallis Test, ANOVA) were used to determine if significant difference in the research competency of the respondents exist when grouped according to profile variables. To have a more reliable and worthy analysis and interpretation of data gathered, the following were pointed out and used: (1) Pertinent information and data from related literatures and studies were used, (2) Implications from the analyzed and interpreted data was also crafted and (3) Informal Interview was conducted.

Results and Discussion

Table 1

Distribution of Respondents as to Sex, Highest Educational Attainment, Employment Status, and Years of Teaching Experience

Profile Variables	Categories	Frequency	Percent
Sex	Male	6	23.1
	Female	20	76.9
Bachelor's Degree	BSA	8	30.8
	BSMA	1	3.8
	BSHM	3	11.5
	BSTM	3	11.5
	BSDA	1	3.8
	BSC-Acctg	4	15.4
	BSC-Mktg	1	3.8
	BSC-BnF	1	3.8
	BSC-M	1	3.8

Highest Educational attainment	BSC-M	1	3.8
	BSSA	2	7.7
	AB-Econ	1	3.8
	Baccalaureate Degree	7	26.9
	Master's Degree (units earned)	7	26.9
	Master's Degree (completed)	5	19.2
Employment Status	Doctorate (units earned)	5	19.2
	Doctorate (completed)	2	7.7
	Full Time-Temporary	3	11.5
	Full Time-Probationary	1	3.8
Full Time-Regular	7	26.9	
Part Time	15	57.7	

Employment Status	Full Time-Temporary	3	11.5
	Full Time-Probationary	1	3.8
	Full Time-Regular	7	26.9
	Part Time	15	57.7

Years of Teaching Experience	1 gear and below	8	30.8
	2	3	11.5
	3	1	3.8
	4	1	3.8
	5	1	3.8
	6	1	3.8
	8	2	7.7
	11	1	3.8
	13	1	3.8
	16	1	3.8
	21	1	3.8
	22	1	3.8
	23	2	7.7
25	1	3.8	
30	1	3.8	

It can be gleaned from Table 1 that more than 75% of the faculty-respondents of SAB were females.



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From the total faculty-respondents, above 46% finished accounting program (BSA-30.8% and BSC-Acctg- 15.4%) and the remaining faculty-respondents finished business related programs and Hotel and Tourism Management programs (27.0% and 26.8%, respectively). Moreover, it can be gleaned from the table that that less than 50% (f=12; 46.2%) of the faculty-respondents met the minimum CHED requirement for faculty in HEI (Master’s Degree) and from among those who met the said CHED requirement, slightly above 25% proceeded to doctorate studies (Doctorate degree holder: f=2, 7.7%; On-going Doctorate study: f=5, 19.2%). However, based on the informal interview and records from the office of the Officer-in-Charge of SAB, some faculty-respondents were practicing lawyers, Juris Doctor graduate, and taking Juris Doctor studies. With regard to status employment, the table clearly shows that there were more part-time faculty-respondents than full-time (f=15, 57.7%; f=42.3, 42.3%, respectively). Based on informal interview conducted, some of the part-time faculty-respondents were industry practitioners (employed in government agencies, practicing lawyer, managing his/her own business), graduate students, and Juris Doctor students. Also, it can be clearly seen that from the total full-time faculty-respondents, only seven were enjoying their regular employment status since the rest of the fulltime faculty-respondents had just finished master’s degree and some had on-going studies. The table further discloses that from the total faculty-respondents, more than 60% were in the academe for 1-8 years and the remaining (f=9, 34.3%) had been in the academe for more than 10 years. Worthy to note was that six (22.9%) out of the 26 total faculty respondents were in the academe for more than 20 years already; however, eight (30.8%) had been in the academe for one year and below.

Table 2

Distribution of Respondents as to Research Responsibilities.

Research Responsibilities	Frequency	Percent
Research Adviser	Yes 13	50
	No 13	50
Research Coordinator	Yes 1	3.8
	No 25	96.2
Panel of Expert	Yes 19	73.1
	No 7	26.9
Research Instructor	Yes 3	11.5
	No 23	88.5
Research Promoter	Yes 6	23.1
	No 20	76.9

Table 2 clearly discloses the research-related responsibilities held by the faculty-respondents. It can be seen that out of the 26 faculty-respondents, exactly 50% experienced being a research adviser, less than 4% acted and experienced being a research coordinator, more than 70 % experienced being a panel of expert or panel member, about 12% served as research instructor, and slightly above 23% acted as research promoter. This implies that many of the faculty-respondents are not into research-related responsibilities particularly with regard to research adviser and research promoter which are research related responsibilities not assigned by the administration and without any units assigned. Moreover, this tells that the faculty-respondents are more involved into research as panel of experts or panel members. This reveals further that the faculty-respondents are not into in-depth writing of research papers leading a group of student-researchers. Based on the informal interview conducted, they did not engage themselves into research promotership because many of them were not yet qualified for the said scheme of the research center because of their employment status and that not all of them were inclined to writing research.



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Table 3

Distribution of Respondents as to Sources of Research Competency

Sources of Research Competencies		Frequency	Percent
Undergraduate courses in research	Yes	23	88.5
	No	3	11.5
Masters courses in research	Yes	15	57.7
	No	11	42.3
Doctoral courses in research	Yes	6	23.1
	No	20	76.9
Training and seminars (attended on your own initiative)	Yes	15	57.7
	No	11	42.3
Training and seminars (sponsored by the school)	Yes	15	57.7
	No	11	42.3
Self-study/reading of reference materials in research	Yes	20	76.9
	No	6	23.1
Involvement in research activities (e.g. panel and adviser)	Yes	21	80.8
	No	5	19.2

Table 3 clearly shows the faculty-respondents' sources of research competency. The table shows that the faculty-respondents' sources of research competency arranged according to frequency and percentage rating were undergraduate courses in research (f=23, 88.5%), Involvement in research activities as panel and of expert and research adviser (f= 21, 80.8%), Self-study or self-reading of reference materials in research (f=20, 76.9%), Training and seminars both sponsored by the university and attended with their own initiative, and Masters courses in research (f=25, 57.7%) and Doctoral courses in research (f=6, 23.1%). This implies that the faculty of SAB's research's competencies commonly come from what they have learned in their research course during their bachelor's program, the things they have learned in their involvement as research adviser and panel of

experts or evaluators and the things they learned through their initiative to study and read reference materials related to research. This implies, moreover, that there are various ways of learning research or improving research competency. The findings confirmed the result of the study of Manzano (2012) wherein there were different ways of learning research. Also, the findings of the present study was supported by Mallari and Santiago (2013) when they posited that the sources of research competency of accountancy faculty included the undergraduate courses, master courses, doctoral courses, training and seminars attended, self-studying and reading, field exposure/trip and study missions, and actual research experience.

Table 4

Distribution of Respondents as to Number of Researches Conducted, Number of Researches Published and Number of Research Conferences Attended.

Profile Variables	Categories	Frequency	Percent
Number of Researches Conducted	None	18	69.2
	01-May	5	19.2
	6 and above	3	11.6
Number of Researches Published	0	22	84.6
	1	2	7.7
	2	2	7.7



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Number of Research Conferences Attended			
Institutional	0	6	23.1
	1	8	30.8
	2	6	23.1
	3	2	7.7
	5 or more)	4	15.4
Municipal	0	23	88.5
	1	1	3.8
	2	2	7.7
Provincial	0	20	76.9
	1	3	11.5
	2	2	7.7
	3	1	3.8
Regional	0	18	69.2
	1	2	7.7
	2	4	15.4
	5 or more	2	7.7
National	0	19	73.1
	2	3	11.5
	3	1	3.8
	5 or more	3	11.5
International	0	18	69.2
	1	2	7.7
	2	3	11.5
	3	2	7.7
	5 or more	1	3.8

It can be gleaned from Table 4 that almost 70% of the faculty-respondents were not able to conduct any research. The table also reveals that there were only about 20% of the faculty-respondents who conducted 1-5 research papers and the remaining (F=3, 11.5%), conducted 6 and above research papers. This implies that very few from among the faculty-respondents are into writing or conducting research.

With regard to research published, the table clearly shows that almost 85% of the faculty-respondents published no research work at all while the

remaining faculty-respondents were able to publish one (f=2, 7.7%) and two (f=2, 7.7%) research works. This clearly shows that very few of the faculty-respondents who conducted research were into publication.

The table further presents that majority of the faculty-respondents never attended any municipal (f=23, 88.5%), provincial (f=20, 76.9%), regional (f=18, 69.2%), national (f=19, 73.1%) and international (f=18, 69.2%) conferences. However, it is evident that there were faculty respondents who attended research conferences five times and above in institutional (f=4, 15.4%), regional (f=2, 7.7%), national (f=3, 11.5%) and international (f=1, 3.8%) level. Furthermore, it can be seen from the table that the majority of the faculty-respondents attended research conferences at the institutional level (f=20, 76.9%). This implies that the faculty-respondents attend only institutional research conferences sponsored and organized by the university spearheaded by the University Research Center (URC) during the yearly celebration of the *Linggo ng Likha at Lingkod (LLL)* either student research forum or faculty research forum.

Table 5

Distribution of Respondents as to Number of Faculty Who Published, Level of Publication, Number of Faculty who Presented During Research Conferences, and Level of Research Conferences Attended

Variables	Categories	Frequency	Percent
No. of Faculty Published	Yes	3	11.5
	No	23	88.5
Level of Publication	In-House	0	100
	Municipal	0	100
	Regional	0	100
	National	2	7.7
	International	2	7.7



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Number of Faculty Who Presented During Research Conferences	Yes	6	23.1
	No	20	76.9
Level of Research Presentation	Institutional	2	7.7
	Municipal	0	100
	Regional	0	100
	National	3	11.5
	International	2	7.7

Though there were faculty-respondents who published their research paper as shown in Table 5, it was evident in Table 9 that only three (11.5%) faculty respondents were able to publish their research work in the national and international publications, respectively. The table clearly discloses also that less than 25% of the faculty-respondents who attended research conferences as revealed in Table 8 presented their paper in the institutional national (f=3, 11.5%) and international (f=2, 7.7%) research conferences. This further supported the findings in Table 8 that very few from the faculty-respondents were into the stage of research publication and that a small number only of the researches conducted were presented during research conferences.

Table 6

Research Competency of Accountancy and Business Faculty members on the Technical Aspects.

Statements	Mean	SD	Qualitative Description
I can construct grammatically correct sentences	3.23	1.07	Practitioner
I can organize sentences and paragraphs systematically	3.31	1.05	Practitioner

I can systematically and correctly organize the different parts of a research	3.19	1.021	Practitioner
I have good written communication skills	3.23	1.032	Practitioner
I have good oral communication skills (for the conduct of research)	3.15	1.047	Practitioner
Overall Mean	3.2231	1.01718	Practitioner

Legend: Beginner (1.00-1.49), Apprentice (1.50 – 2.49), Practitioner (2.50 – 3.49), Master (3.50 – 4.49), Expert (4.50 - 5.00)

Table 6 clearly reveals the research competency of faculty-respondents on the technical aspects. It reveals that the faculty-respondents' level of competency on the technical aspects of research was practitioner (M=3.2231, s=1.01718). This is evident too in all the aspects assessed. This implies that the faculty-respondents have average research competency on the said aspects of research. This implies further that SAB faculty members are good at constructing and organizing grammatically correct sentences into paragraphs and good at communicating and conveying their ideas and thoughts in a written form. However, it was evident from the table that in terms of systematically and correctly organizing the different parts of the research (M=3.19; s=1.021) and orally communicating their ideas for the conduct of research (M=3.15; SD=1.047), they lacked the speed and flexibility of the proficient or adept researcher.



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Table 7

Research Competency of Accountancy and Business Faculty members on the Major Parts of the Research on.

Introduction			
Statements	Mean	SD	Qualitative Description
I can write a brief, comprehensive and well-established rationale.	2.85	1.084	Practitioner
I can create and state the research problem directly	2.73	1.041	Practitioner
I can create the specific research problems base from the general problem	2.73	1.041	Practitioner
I can present and discuss conceptual and analytical framework systematically	2.69	1.123	Practitioner
I can create/make a research paradigm that reflects the variables and problems of the study	2.62	1.098	Practitioner
I can formulate/construct hypothesis/es that can be subject of an empirical study	2.69	1.087	Practitioner
I can employ the correct procedures in conducting a review of related literature	2.65	1.231	Practitioner
I can cite sources of literatures and studies using APA format	2.85	1.223	Practitioner
I can use literatures and studies reviewed in enhancing the research question and framework	2.85	1.156	Practitioner
Composite Mean	2.7393	1.07586	Practitioner
Methods			
Statements	Mean	SD	Qualitative Description
I can formulate the proper research design based on certain relevant factors	2.5	1.14	Practitioner
I can compose/craft and present the data collection procedure systematically	2.58	1.137	Practitioner
I can clearly identify data related to the study	2.73	1.185	Practitioner
I can code data gathered if necessary	2.5	1.068	Practitioner
I can construct a reliable sampling design	2.5	1.068	Practitioner
I can define the population on which research is to be conducted	2.65	1.093	Practitioner
I can propose measurement methods for variables and their attributes	2.46	1.104	Practitioner
I can identify what tools/instrument needed to use in gathering data	2.65	1.129	Practitioner
I can construct a research instrument for data gathering	2.65	1.164	Practitioner
I can word/state and order questions in the research tool	2.73	1.116	Practitioner
I can identify what statistical tools/treatment to be used in analyzing data	2.5	1.175	Practitioner

I can write data gathering procedure systematically	2.77	1.107	Practitioner
I can employ data-gathering plan	2.65	1.164	Practitioner
I can write research locale/environment	2.81	1.096	Practitioner
I can define the population on which research is to be conducted	2.81	1.132	Practitioner
I can propose the most appropriate method(s) of gathering data	2.58	1.102	Practitioner
I can propose the most suitable method of conducting the research	2.58	1.102	Practitioner
I can appraise the quality of data that are relevant in a particular study	2.62	1.098	Practitioner
Composite Mean	2.626	1.0768	Practitioner
Results and Discussion			
Statements	Mean	SD	Qualitative Description
I can present data gathered in a systematic and organize manner	2.77	1.07	Practitioner
I can interpret/analyze results of processed data	2.73	1.079	Practitioner
I can correlate/utilize literatures and studies reviewed to affirm results	2.73	1.079	Practitioner
I can demonstrate an understanding of several methods of data presentation (like tables, graphs, etc.)	2.73	1.041	Practitioner
I can interpret results of data gathered in relation to the research questions/problems	2.81	1.059	Practitioner
I can compose research findings clearly and accurately	2.85	1.084	Practitioner
I can explain the difference between data, facts, and inferences	2.88	1.033	Practitioner
I can recognize that data must be interpreted within a context to be of value	2.85	1.008	Practitioner
Composite Mean	2.7933	1.02831	Practitioner



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Conclusion and Recommendation Statements	Mean	SD	Qualitative Description
I can synthesize the results of the study base from the discussion	2.73	1.041	Practitioner
I can express additional value or importance to the existing facts	2.62	1.023	Practitioner
I can formulate recommendations base from the conclusions to address the research problem and concerns found in the study	2.81	1.059	Practitioner
I can relate research findings with the needs of a particular organization or community	2.69	1.011	Practitioner
I can translate research findings into meaningful plans of actions or strategies	2.65	1.018	Practitioner
Composite Mean	2.7	0.998	Practitioner
Overall Mean	2.7147	1.01323	Practitioner

Legend: Beginner (1.00-1.49), Apprentice (1.50 – 2.49), Practitioner (2.50 – 3.49), Master (3.50 – 4.49), Expert (4.50 - 5.00)

It can be gleaned from Table 7 that the level of competency of the faculty-respondents on the major parts of the research was practitioner as shown in the overall mean of 2.71 and standard deviation of 1.01.

In terms of introduction, the respondents assessed themselves as practitioners. The highest mean was in writing a brief, comprehensive and well-established rationale, citing sources of literature and studies using APA format, and using literature and studies reviewed in enhancing the research question and framework. However, the lowest mean was on creating or making a research paradigm that reflects the variables and problems of the study. This implies that the faculty-respondents, though they are knowledgeable and capable in writing introductions, still need to improve and strengthen their competency and skills in this aspect especially in making a research paradigm. The SAB faculty-respondents' level of competency in writing the introduction part of research was not in agreement with the level of competency of Dentistry Faculty Members which was competent as evident in the study of Manongsong and Panopio (2018). The result, however, was congruent with the findings of the study of Mallari and Santiago (2013) wherein SUC 1 and SUC 2 faculty competency on

conceptualization (problem identification, literature review and writing, etc.) was that of a practitioner.

In terms of method, the faculty-respondents rated themselves as practitioners. Writing research locale/environment and defining the population on which research is to be conducted got the highest mean whereas formulating the proper research design based on certain relevant factors, coding data gathered if necessary, constructing a reliable sampling design and identifying what statistical tools/treatment to be used in analyzing data got the lowest mean. This implies that the faculty-respondents have average knowledge in writing the methodology part of a research. This means that they have difficulty in this part, but they are capable and ready to write. Also, they need to improve their competency in this major part of research with regard to the aspects determined as their lowest in this part. In terms of their difficulty in the mentioned aspects, the university has a statistician and pool of data analysts that they can consult anytime. This was similar to the results of the study of Manongsong and Panopio (2018) wherein Dentistry Faculty Members got the lowest rank in statistical tools/treatment and development of research design though they assessed themselves as competent. However, the results of the present study was not congruent to the findings of the study of Mallari and Santiago (2013) wherein the research competency on data collection (defining population of the study, computing sample size, constructing sampling design, proposing appropriate method of data gathering, constructing research tool, employing data gathering plan, etc.) of SUC 1 and SUC 3 accountancy faculty was that of a master. But the results were congruent with the research competency of SUC 2 accountancy faculty which was described as practitioner.

As to results and discussion part, the faculty-respondents' level of competency as clearly revealed in the table was practitioner. Explaining the difference between data, facts, and inferences got the highest mean. This means that they can distinguish data from facts, data from inferences,



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and facts from inferences. Composing research findings clearly and accurately and recognizing that data must be interpreted within a context to be of value followed. In this part of research, the aspect which was presenting data gathered in a systematic and organized manner ranked third. The respondents also assessed themselves as practitioners in the aspects of interpreting and analyzing results of processed data, correlating and utilizing literature and studies reviewed to affirm results, demonstrating an understanding of several methods of data presentation like tables, graphs, etc.), although these had the lowest mean. This implies that though the faculty-respondents are capable of accurately and clearly composing research findings, in organizing and systematically presenting data gathered, etc., it is evident that they could hardly interpret and analyze results substantiated with reviewed related literature and studies. Also, they are not that equipped on how to present analyzed data through tables, graphs and other ways. As to the result on presentation of data gathered, this was not in agreement with the results of the study of Manongsong and Panopio (2018) wherein the level of competency of the Dentistry Faculty Members in this aspect was competent. Furthermore, the overall result in the level of competency of SAB faculty-respondents in this part of research was not congruent with Manongsong and Panopio's findings in their study which were competent. Also, the results of the present study were not congruent to the findings of the study of Mallari and Santiago (2013) wherein the research competency on data processing and analysis (Recognizing that data must be interpreted within a context to be of value, Interpreting data gathered in relation to the research question, Identifying relationships and differences in variables based on data gathered, and composing research findings clearly and accurately) of SUC 1 and SUC 3 accountancy faculty was that of a master. But the results were congruent with the research competency of SUC 2 accountancy faculty which was described as practitioner.

Lastly, with regard to the conclusion and recommendation part, the faculty-respondents assessed themselves as practitioners in all the items. Formulating recommendations based on the conclusions to address the research problem and concerns found in the study got the highest mean followed by synthesizing the results of the study based on the discussion. This implies that the faculty-respondents have average knowledge in crafting recommendations grounded on the conclusions and based on the results or findings of the study. However, the findings clearly showed that the faculty-respondents assessed themselves in the item expressing additional value or importance to the existing facts as practitioners. This means that they have difficulty in relating the findings and conclusions of the study to real problems or situations. The results did not match with the level of competency of Dentistry Faculty Members in this same major part of research which was competent as evident in the study of Manongsong and Panopio (2018). Furthermore, in Manongsong and Panopio's study, the item expressing additional value or importance to the existing facts ranked first which was not in agreement in this study's result which ranked last. However, the findings of the present study were supported by the findings of the study of Mallari and Santiago (2013). Their findings showed that the research competency on research application (Relating research findings with the needs of a particular organization or community, translating research findings into meaningful plans of actions or strategies, Discuss the contributions of research in building the knowledge in a discipline, etc.) of the accountancy faculty of SUC 1 and SUC 2 was that of a practitioner. However, the research competency in this area of the accountancy faculty of SUC 3 was described as master.



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Table 8

Research Competency of Accountancy and Business Faculty members on Other Parts.

Abstract	Mean	SD	Qualitative Description
Statements			
I can clearly state the research focus	2.77	1.107	Practitioner
I can summarize the research methods used	2.77	1.142	Practitioner
I can outline briefly and comprehensively the results and discussion of the study	2.85	1.156	Practitioner
I can summarize the conclusion and recommendations of the study	2.88	1.143	Practitioner
I know and I can use the abstract format	2.77	1.107	Practitioner
Composite Mean	2.8077	1.11496	Practitioner
References			
Statements			
I can present/format different kinds of references in APA format	2.69	1.123	Practitioner
I can access available and updated materials	2.77	1.107	Practitioner
I know where to access available and updated materials	2.77	1.142	Practitioner
Composite Mean	2.7436	1.10074	Practitioner
Overall Mean	2.7837	1.08257	Practitioner

Legend: Beginner (1.00-1.49), Apprentice (1.50 – 2.49), Practitioner (2.50 – 3.49), Master (3.50 – 4.49), Expert (4.50 - 5.00)

Table 8 clearly reveals the level of competency of the faculty-respondents on other parts of a research. It can be seen in the table that the faculty-respondents assessed themselves as practitioners (M=2.7837; s=1.08257). Respondents assessed themselves as practitioners both in preparing the abstract (M=2.81; s=1.1150) and list of references (M=2.74; s=1.1007) of a research paper. In the preparation of the abstract, the item summarizing the conclusion and recommendations of the study (M=2.88; s=1.143) ranked first followed by outlining briefly and comprehensively the results and discussion of the study (M=2.85, s=1.156). This could be attributed to their level of competency in the conclusion and recommendation part of a research which was practiced specifically on the item formulating recommendations based on the conclusions to address the research problem and concerns found in the study which got the highest mean. The table further presents that the items clearly stating the research focus, summarizing the research methods used and using the abstract format, all with a mean of 2.77 but varying standard

deviation (1.107, 1.142 and 1.107 respectively) came next.

With regard to the presentation of references used in the study, accessing available and updated materials, and knowing where to access available and updated materials, the respondents assessed themselves as practitioners with a mean of 2.77 but differing standard deviation (1.107 and 1.142, respectively). However, it is to be noted that Table 11 clearly reveals that the item presenting and formatting different kinds of references in APA format (M=2.69; s=1.123) ranked last, though still categorized as practitioner. This implies that the faculty respondents have average knowledge and understanding of the APA format in presenting and formatting references. The result was not congruent with the findings of Manongsong and Panopio (2018) in which the Dentistry Faculty Members' level of competency in other parts of research was competent.

Table 9

Factors that Motivate the Accountancy and Business Faculty members to Conduct Research

Factors	Mean	SD	Qualitative Description
Contribution to existing body of knowledge to the discipline	4.04	0.871	Very Important
Improvement of research skills	3.92	1.055	Very Important
Improvement of teaching skills	4.04	0.999	Very Important
A personal sense of fulfillment	3.73	1.251	Very Important
Contribution to my school's/university's ranking and performance	3.85	1.12	Very Important
Motivation from my family	3.46	1.334	Important
Motivation from my colleagues and supervisors	3.38	1.267	Important



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Research compensation or incentives (e.g. publication awards)	3.42	1.301	Important
Possible promotion	3.35	1.325	Important
Conducting research will help me finish my graduate studies	3.85	1.223	Very Important
Compliance to school requirements for accreditation	3.65	1.093	Very Important
Publication of research output in journals	3.31	1.192	Important
Peer pressure	2.58	1.391	Important
Potential for professional growth	4	0.98	Very Important
Potential contribution to the improvement of school management	3.69	1.123	Very Important
Prestige of position, career and job	3.12	1.451	Important
Visit places and meet new friends	2.62	1.525	Important
Impress friends and other professionals	2.08	1.44	Somewhat Important
Prepare future other engagements	3.08	1.324	Important
Locate for greener pasture/s	3.12	1.366	Important
Just for passion and satisfaction	2.96	1.455	Important
Overall Mean	3.3919	0.93103	Important

Legend: Not at all Important (1.00-1.49), Somewhat Important (1.50 – 2.49), Important (2.50 – 3.49), Very Important (3.50 – 4.49), Extremely Important (4.50 - 5.00)

The factors that motivated the faculty-respondents to conduct research were clearly presented in Table 9. It can be seen clearly that the primary factor that motivated the faculty-respondents in conducting research was their willingness to contribute to the existing body of knowledge in their discipline (M=4.04; s=.871) and to improve their teaching skills (M=4.04, s=1.055). They see in the conduct of research a potentiality for growth in their profession (M=4.00; s=.980). They want to improve their research skills (M=3.92; s=1.055). They want to contribute to their university's ranking and performance (M=3.85; s=1.120). They will be helped in finishing their graduate studies (M=3.85; s=1.223). They find a personal sense of fulfillment (M=3.73; s=1.251). They see research as a potential contributory in improving the school management

(M=3.69; s=1.123) and they want to comply with school requirements for accreditation (M=3.65; SD=1.093). The aforementioned factors were rated by the faculty-respondents as very important. It can be seen further that all the factors rated as very important by the faculty-respondents except for personal sense of fulfillment were factors that led to professional development, the improvement of their field or discipline, and contributed to the prestige and standing of their school or university. These motivations rated as very important were consistent with the findings of the study of Landicho (2020) and Mendoza (2012).

Moreover, the faculty-respondents were motivated to conduct research because of the motivation coming from their family (M=3.46; s=1.334), the incentives or remunerations from research (M=3.42; s=1.301), the motivation from their colleagues and supervisors (M=3.38; s=1.267), the possibility of promotion (M=3.35; s=1.325), publication of their output in journals (M=3.31; s=1.0192), prestige of position, career and job (M=3.12; s=1.451), possibility of having a greener pasture (M=3.12; s=1.366), future engagements (M=3.08; s=1.324), passion and satisfaction (M=2.95; s =1.455), the opportunity to visit places and meet new friend (M=2.62; s=1.525) and pressure from their peers (M=2.58; s=1.391). The faculty-respondents rated these as simply important. This implies that the faculty-respondents find as important factors the following: conduct research for remunerations and incentives, motivation from others (family, colleagues, supervisors, etc.), and personal prestige and growth in career and job as well as personal pleasure. The table clearly shows that the faculty-respondents still claimed that they were motivated to conduct research because they want to impress their friends and other professionals. However, they rated this factor as somewhat important. The findings in this current study were congruent to the findings of the study of Mendoza (2012) specifically on peer pressure, publication of research output in journals, research compensation, and promotion in work. The findings of this current study did not support the findings of the study of Mallari &



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Santiago (2013) wherein the factors on compliance to school requirements for accreditation, research compensation, publication of research output in journals, discovery of new knowledge, knowledge contribution to the discipline/field were rated as extremely important, and promotion in work as very important.

It can be inferred from the results that what motivates the faculty-respondents foremost are factors related to discovery of new knowledge which can be their contribution to their field of specialization or discipline and school management which will ultimately benefit their university. It can be inferred further that personal gains and prestige that the faculty-respondents can have from research projects are secondary motivations.

The findings of the present study was not congruent to the findings of the study of Mallari and Santiago (2013) for the reason that factors such as potential contribution to the improvement of school management, research compensation, potential for professional growth, discovery of new knowledge, promotion in work, and research incentives were extremely important factors that motivated SUC's accountancy faculty.

Table 10

Attitude of the Faculty- Participants Toward Research Engagement.

Statements	Mean	SD	Qualitative Description
Factor I – Research Orientation			
I view myself primarily as researcher.	2.69	0.618	Agree
I feel professional satisfaction by conducting research.	2.88	0.588	Agree
I believe that universities/schools should retain faculty members who exhibit research production.	3.27	0.724	Agree

I can contribute to my university's rank/school's performance by publishing research papers.	3.08	0.484	Agree
I feel that intellectual challenge of academic research inspires me to work harder.	3.12	0.653	Agree
Mean	3.0077	0.47827	Agree
Statements	Mean	SD	Qualitative Description
Factor II – Rewards Influence Research			
I think rewards are effective means of influencing faculty performance in research.	3.04	0.72	Agree
I think reward influences faculty for research activities.	3.12	0.588	Agree
I think faculty members must be productive researchers or lose their jobs.	2.42	0.857	Disagree
I think that if tenure/promotions were not binding on research, most faculty would devote less time and effort to research	3	0.566	Agree
I can become an effective professional if I am able to have an educated critique about the quality of research.	2.92	0.628	Agree
Mean	2.9	0.49396	Agree
Factor III – Personal Interests			
I think that personal interests are the most important factor in determining the allocation of time to research.	3	0.632	Agree
I feel free to pursue my academic interests (within the context of research).	2.96	0.599	Agree
I think sharing research results with colleagues is self-satisfying.	2.96	0.528	Agree
I want to build up my reputation as an academic scholar through research	2.69	0.736	Agree
Mean	2.9038	0.40048	Agree



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Statements	Mean	SD	Qualitative Description
Factor IV – Mission of University/School			
I think that research is a motivating factor to the mission of my university/school.	3	0.632	Agree
I believe that research and teaching are mutually supportive activities.	3.23	0.514	Agree
Mean	3.1154	0.53493	Agree
Factor V – Research Use			
In my opinion research should be mandatory for professional training.	2.85	0.732	Agree
I think research is useful to every professional.	3.27	0.452	Agree
I think research-oriented thinking plays an important role in everyday life	3.15	0.464	Agree
Mean	3.0897	0.50383	Agree
Overall Mean	2.9819	0.36705	Agree

Legend: Strongly Disagree (1.00 – 1.49), Disagree (1.50 – 2.49), Agree (2.50 – 3.49), Strongly Agree (3.50 – 4.49)

Table 10 presents the attitude of the faculty-respondents toward research engagement. The table clearly shows that the faculty-respondents simply agreed to the factors with an overall mean of 2.9819 and standard deviation of 0.36705. This implies that the faculty-respondents have a fairly positive attitude on research or toward research engagement.

In terms of research orientation factor, it is to be underscored that the faculty-respondents agreed that they believed that universities/schools should retain faculty members who exhibited research production (M=3.27; s=.724). This implies that they believe that, as educators of Higher Educational Institutions, they need and have to engage in the conduct of research. They believed too in what was usually said that if you are in the academe, do research or perish. Also, the faculty-respondents agreed that intellectual challenges of academic research inspired them to work harder (M=3.12;

s=.653). This means that they considered research as a stimulus as they performed their responsibilities and tasks better. It is to be noted also that the faculty respondents agreed that they viewed themselves primarily as researchers (M=2.69; s=.618), although it was the last from among the other specific factors. This means that the faculty-respondents have a fairly positive view of themselves in relation to research.

In terms of rewards influencing research factors, rewards and incentives were considered by the faculty-respondents as effective means to encourage faculty to engage in research. This was clearly seen in the table that they agreed that rewards influence faculty for research activities (M=3.12; s=.588) and were effective means of influencing faculty performance in research (M=3.04; s=.720). This implies that the faculty-respondents engage in research for remunerations, publication cash rewards, and points for performance evaluation and promotion. This was supported by the faculty-respondents' agreement to the statement that if tenure/promotions were not binding on research, most faculty would devote less time and effort to research (M=3.00; s=.566). It is to be underscored, however, in this factor that the faculty-respondents disagreed that faculty members would lose their jobs if they would not be productive researchers (M=2.42; s=.857).

In terms of personal interests, the faculty-respondents agreed that personal interests were the most important factor in determining the allocation of time to research (M=3.00; s=.632). This implies that the faculty-respondents believe fairly that their personal interests in the conduct of research affect the period of time they will involve themselves in doing research. The faculty-respondents moreover agreed that they felt free to pursue their academic interests within the context of research (M=2.96; s=.599) and they thought that sharing research results with their colleagues was self-satisfying (Mn=2.96; s=.528). Also, they agreed that they wanted to build up their reputation as an academic scholar through research (M=2.69; s=.736).



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In terms of the mission of the university or school factor, the faculty-respondents agreed that research and teaching were mutually supportive activities (M=3.23; s=.514). This shows that they fairly believe that in the academe, research and instructions are functions that are interrelated and that are supportive of each other. It is to be noted too that they agreed that research was a motivating factor to the mission of the university and of any school (M=3.00; s=.632).

Lastly, in terms of the research use factor, it is to be underscored that the faculty-respondents agreed that research was useful to every professional (M=3.27; s=.452). This implies that they fairly believe that research is an academic activity that benefits professionals. They agreed too that research-oriented thinking played an important role in one's daily life (M=3.15; s=.464) and that research should be mandatory for professional training (M=2.85; s=.732). This implies that they fairly believe that research is useful in their everyday life and that it must be a requirement for professional training.

Table 11

Problems Related to the Conduct of Research Among the Faculty- Participants.

Factors	Mean	SD	Qualitative Description
Limited research knowledge and skills	2.96	0.445	Agree
Limited research experience and exposure	3.04	0.445	Agree
Limited funding or financial support	3.15	0.613	Agree
Lack of available reference materials and other primary sources	2.81	0.694	Agree
Family roles and responsibilities	2.88	0.766	Agree
Heavy teaching/workload	3.38	0.496	Agree
Class schedule does not allow conduct of research	3.35	0.485	Agree

No trainings held for the conduct of research	2.62	0.804	Agree
The university does not have systems for the conduct of research	2.19	0.694	Disagree
Limited time to gather and interpret data	3.19	0.567	Agree
Unavailability of research mentors/advisers in our area/discipline	2.81	0.694	Agree
Lack of research mentors/advisers in our area/discipline	2.81	0.634	Agree
No confidence in own capacities	2.54	0.647	Agree
Incentives not attractive	2.81	0.801	Agree
Inadequate skill in concepts and interpretation	2.69	0.471	Agree
Overall Mean	2.8821	0.30481	Agree

Legend: Strongly Disagree (1.00 – 1.49), Disagree (1.50 – 2.49), Agree (2.50 – 3.49), Strongly Agree (3.50 – 4.49)

Table 11 summarizes the problems experienced or encountered by the faculty-respondents. It is to be underscored that heavy teaching load/workload (M=3.38; s=.496) and class schedule (M=3.35; s=.485) were the first two problems they agreed with. This implies that the very problem the faculty-respondents encounter in their engagement to research activities specially the conduct of research is the possibility that they have teaching loads more than the regular teaching loads that must be given to them other than workloads or other responsibilities. Also, this implies that with the teaching loads they have which are more than the regular loads, they do not have time to conduct research because of their hectic class schedules. This



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leads to their agreement to limited time to gather and interpret data (M=3.19; s=.567). Moreover, the faculty respondents agreed also that the limited research knowledge and skills they have, the inadequacy of skill in concepts and interpretation they have, the limited research experience and exposure, the lack of confidence in their own capacities, and the lack and/or unavailability of research mentors/advisers in their discipline were other impediments why they engaged themselves in doing research. In a formal interview conducted, one of the respondents asserted;

“Papaano naman kami mag-research e andaming trabaho. Andami-daming klase. Isa pa e hindi naman lahat ay inclined sa research. Hindi naman lahat marunong.” (How are we going to conduct research if we have so many work to do. We have so many classes to attend to. One thing more, we are not inclined to doing research. Not all are good at doing research).

It is to be underscored, however, that they disagreed that the university did not have systems for the conduct of research (M=2.19; s=.694). This implies that the university has mechanisms for the conduct of research. This is not supportive of their claim that there was no training held for the conduct of research and not attractive incentives. But one faculty-respondent posited;

“Nagpaseminar nga sila about research, sila lang naman sa kabila. Sila lang naman na may mga faculty researches. Paano naman matuto yung mga iba ay.” (They conducted seminar about research, however we were not invited. They invited only those who have faculty researches. How will others learn if that is the case).

To add, one of the faculty-respondent said;

“May faculty research nga, pero sila sila din lang naman magkakasama. Ang magkaka grupo sila din lang na mga doctors. Dapat

hiwahiwalay sila at yung mga hindi pa marunong kasama para matuto. Hindi yung sila sila. Paano matuto iba kung ganun.” (There is what we call this mechanism faculty research; however, members of the faculty research were always the same. All those who have Doctorate degree grouped themselves together. They should lead others so that they will learn. Those with Doctorate degree should not be grouped together. How will others learn if that is the case).

Table 12

Significant Difference on the Research Competency of the Faculty-Participants when Grouped According to Sex, Bachelor’s Degree, Highest Educational Attainment, Employment Status, and Number of Years in the Teaching Profession.

Research Competencies	Sex	Bachelor’s Degree	Highest Educational Attainment	Employment Status	Number of Years in the Teaching Profession
Technical Aspects	0.687	0.165	0.282	0.558	0.563
Introduction	0.391	0.296	0.098	0.341	0.887
Methods	0.329	0.74	.037*	0.374	0.843
Results and	0.353	0.718	0.161	0.379	0.936
Discussion	0.355	0.758	.041*	0.387	0.957
Conclusion and Recommendation	0.355	0.68	0.255	0.386	0.786
Abstract	0.533	0.538	.029*	0.261	0.629
References					

*no significant differences found in pairwise comparisons.

It can be gleaned from Table 12 that when the faculty-respondents were grouped according to highest educational attainment, they differed significantly in their research competency in writing the introduction (p=.037), conclusion (p=.041) and recommendation and reference (p=.029) parts of research. This means that those who finished a baccalaureate degree only have significantly lower competency in the said parts of research compared to those who have earned units in their master’s degree. It can be inferred from the table further that the faculty-respondents did not differ in their research competency when they were grouped as to their sex, bachelor’s degree finished, employment status, and number of years in teaching profession.



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This implies that sex, bachelor's degree finished, employment status and number of years in the teaching profession are not determinants of the faculty-respondents' research competency.

Table 13

Significant Difference on the Research Competency of the Faculty-Participants When Grouped According to Their Research Responsibilities.

Research Competencies	Research Adviser	Research Coordinator	Panel of Experts	Research Instructor	Research Promoter	None
Technical Aspects	.050*	0.103	0.166	0.287	0.293	0.226
Introduction	0.148	0.098	0.18	0.068	.032*	.037 ^b
Methods	0.136	0.124	0.139	0.064	.046*	.020 ^b
Results and Discussion	0.106	0.154	0.347	0.086	0.169	0.078
Conclusion and Recommendation	0.139	0.154	0.135	0.182	0.223	.016 ^b
References	0.336	0.077	0.461	0.064	0.172	0.139
Abstract	0.311	0.308	0.306	0.078	.039*	0.062
References						

^a Yes group is significantly higher than No group.

^b No group is significantly higher than the Yes group.

Table 13 clearly presents if the faculty-respondents significantly differed in their research competency when grouped according to research responsibilities held. It can be seen from the table that the faculty-respondents significantly differed in their research competency in the technical aspects of research when they were grouped as to whether they were research advisers or not (p=.050). This means that those who were advisers had significantly higher competency in technical aspects compared to non-advisers. The table clearly shows also that they significantly differed in research competency in the major parts of research namely introduction (p=.032) and methods (.046), and in presenting references (p=.039) when they were grouped as to whether they were research promoters or not. When the faculty-respondents were grouped as to no research responsibility held, they did not differ significantly in research competencies in the different parts of research. This implies that those who are research promoters have significantly higher competency in crafting and presenting the introduction and methodology parts of a research and in presenting the list of references using APA format.

Table 14

Significant Difference on the Research Competency of the Faculty-Participants When Grouped According to Their Sources of Research Competency.

Parts of Research	Undergraduate courses in research	Masters courses in research	Doctoral courses in research	Training and seminars (attended on your own initiative)	Training and seminars (sponsored by the school)	Self-study/reading of reference materials in research	Involvement in research activities (e.g. panel and adviser)
Technical Aspects	0.368	0.101	0.598	0.266	0.068	.015*	0.063
Introduction	0.115	.000*	0.209	.012*	.047*	.010*	.015*
Methods	0.076	.000*	0.127	.019*	.014*	.016*	.040*
Results and Discussion	.045*	.006*	.022 ^b	.017*	.039*	.017*	.043*
Conclusion and Recommendation	0.242	.001*	0.123	.036*	.013*	.016*	.041*
References	0.095	.000*	0.095	.027*	.047*	.011*	.250
Abstract	.041*	.000*	0.062	.004*	0.077	.006*	0.138
References							

^a Yes group is significantly greater than No group.

^b No group is significantly greater than the Yes group.

Table 14 clearly discloses the significant difference in the faculty-respondents' research competency when grouped as to their sources of research competency. It can be seen that the faculty-respondents differed in their research competency when they were grouped as to sources of their research competency, namely: undergraduate courses in research, master's courses in research, training and seminars both attended on their own and sponsored by the school, self-study/reading of reference materials in research, and involvement in research activities like being an adviser or panel of evaluators.

When they were grouped as undergraduate courses in research as a source of research competency, they differed significantly in research competency in the results and discussion (p=.045) part of a research and in references (p=.041). This shows that those who had undergraduate research are better in presenting and discussing the results of the study and in presenting the references used using the required format compared to those who had no undergraduate research course. The table also shows that the faculty respondents significantly differed in their research competency in the following parts of research: introduction (p=.000), methods (p=.000), results and discussion (p=.006), conclusion and recommendation (p=.001), abstract



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($p=.000$) and references ($p=.000$) when they were grouped in terms of master's courses in research. This clearly discloses that those who have master's degree or those who finished their master's courses had higher competencies in the aforementioned parts of research compared to those who did not have master's degree courses. When they were grouped as to training and seminars attended (attended on their own initiative), they differed significantly in their research competency in all the different parts of the research except for the technical aspects ($p=.012$, $p=.019$, $p=.017$, $p=.036$, $p=.027$ and $p=.004$, respectively). As to training and seminars attended (sponsored by the school), they differed significantly in their research competency in introduction (.047), methods ($p=.014$), results and discussion $p=(.039)$, conclusion and recommendation ($p=.013$), and abstract ($p=.047$). It can be inferred that those who attended research seminars and training had higher research competency compared to those who were not attending seminars and training on research. When they were grouped as to involvement in research activities like being adviser and panel of evaluators, they significantly differed in their research competency in introduction ($p=.015$), methods ($p=.040$), results and discussion ($p=.043$), and conclusion and recommendation ($p=.041$). This reveals that those faculty-respondents who acted as advisers and panel of evaluators are significantly higher in their research competency

It is to be underscored that when the faculty-respondents were grouped as to self-study/reading of reference materials of research, they significantly differed in their research competency in all parts of the research ($p=.015$, $p=.010$, $p=.016$, $p=.017$, $p=.016$, $p=.011$ and $p=.006$, respectively) and they did not differ in their research competency when grouped in terms of doctoral courses in research.

The result showed that the faculty-respondents had significantly higher research competency in specific parts of research because of their participation and engagement in specific sources of research competency. With regard to the result on the faculty-respondents research competency when grouped as

to involvement as advisers and/or panel of evaluators, the significant difference in their research competency in the different parts of research except for the technical aspects, abstract and references could be attributed to the reason that they focused only on the introduction, methodology, results and discussion, and conclusion and recommendation parts. They just scrutinized the reasons for the conduct of such study, determined if the problems or objectives were researchable, checked the methodology, the results and discussion part if the problems were answered, and if the conclusions made and recommendations forwarded were correct based on the results of the study. Moreover, with regard to the technical aspects, abstract and references, they entrusted these to the research instructors and language editors.

Table 15

Significant Difference on the Research Competency of the Faculty-Participants When Grouped According to Number of Researches Conducted, Number of Researches Published, and Number of Conferences Attended

Parts of Research	Number of Researches Conducted	Number of Researches Published	Number of Conferences Attended					
			Inst'l	Mun	Prov'l	Reg'l	Nat'l	Int'l
Technical Aspects	0.513	0.357	0.704	0.294	0.894	0.561	0.418	0.26
Introduction	0.293	0.169	0.098	0.06	0.517	0.092	0.088	0.083
Methods	0.314	0.163	0.097	.085*	0.284	.028**	.044**	0.285
Results and Discussion	0.369	0.146	0.15	0.135	0.268	.020**	.035**	0.272
Conclusion and Recommendation	0.648	0.284	0.13	0.11	0.278	.040**	0.109	0.246
Abstract	0.275	0.113	0.119	0.148	0.343	.085**	.042**	0.192
References	0.352	0.086	.030**	0.118	0.42	0.071	0.074	0.009

Parts of Research	Level	Sample 1	Sample 2	Test Statistic	Adj. Sig.
Methods	Municipal	1	2	-22.75	0.044
	Regional	1	5 or more	-20.25	0.042
Results and Discussion	National	0	5 or more	-12.421	0.047
	Regional	1	5 or more	-21	0.029
Abstract	National	0	5 or more	-12.482	0.042

*no significant differences found in pairwise comparisons
 Pairwise Comparison: When the test statistic is negative, those under sample 1 have significantly lower competency.

Table 15 presents the significant difference on the faculty-respondents' research competency when grouped as to number of researches conducted,



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number of researches published, and number of conferences attended. The results revealed that there was no significant difference in the research competency of the faculty-respondents when they were grouped as to the number of researches conducted and researches published. But when they were grouped as to number of research conferences attended, they significantly differed in their research competency, specifically when they were grouped as to number of research conferences attended in municipal and regional level. The table clearly shows that when they were grouped as to the number of research conferences in the municipal level, they significantly differed in their research competency in methods ($p=.035$, -22.750 , adj. sign. $-.044$). When they were grouped as to the number of research conferences attended in the regional level, they significantly differed in their research competency in results and discussion ($p=.020$, -20.250 , adj. sign. $-.042$) and abstract ($p=.035$, -21.000 , adj. sign. $-.029$). This implies that those faculty-respondents who attended research conferences in the municipal level once have lower research competency in methods and those who attended research conferences in the regional level once have lower research competency in results and discussion part of a research and in writing the abstract than those who attended five times and more.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Research is an academic exercise and undertaking with profound and deep implications when applied by academicians and educators in their schools, classrooms, and communities. This study attempted to determine the profile, research competencies, motivations, attitude, and problems of the accounting and business instructors of a higher educational institution. With the given results, the following conclusions were crafted:

1. The faculty of the School of Accountancy (SAB) is dominated by female faculty and

graduates of the accounting program. Majority are not master's degree and doctor's degree holders. In terms of employment status, the majority of them (SAB faculty) are part time instructors and in the academy for one-eight years. They are not engaged so much into research advisorship either regular-advisorship or adviser-promotership (lead researcher). The sources of their research competency are from their undergraduate studies and involvement in research activities as adviser (regular) and/or panel of evaluators. Moreover, they are not actively engaged in research production, research presentations, and research publications. Also, they are not active in attending research conferences.

2. The level of research competency of SAB faculty is described as practitioner; thus, they have average knowledge in conducting research and are capable and ready to use their average knowledge but they lack the flexibility and speed of a proficient researcher.
3. The faculty of SAB are motivated by both intrinsic and extrinsic factors in conducting research.
4. The SAB faculty have a fairly positive attitude toward research engagement and they moderately consider research as a necessary and important function of the university; thus, they have a fairly positive disposition, enthusiasm, and interest in conducting research.
5. The SAB faculty are held up by several problems in conducting research activities. It is to be underscored that SAB faculty have no time to conduct research because of heavy teaching load/workload and hectic class schedules. Also, they have limited knowledge and skills in doing research because of their limited research experience and exposure.
6. The SAB faculty research competency is influenced by their research involvement in



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research activities as adviser and panel of evaluators, their experience of conducting research during their undergraduate and masteral courses, their attendance to research trainings and seminars, their initiative in studying and reading research-related materials, and the number of their attendance to research conferences (municipal and regional).

Recommendations

The following are strongly recommended:

1. The Human Resource Development (HRDO) and Dean of SAB of Saint Mary's University should encourage the faculty of SAB to finish their masteral courses as the minimum requirement for a faculty in the Higher Education Institution and to finish their doctoral degree. Also, they should prepare a career development plan for the SAB faculty. This would not only meet the mandated CHED requirement but more so a good avenue that provides extensive research involvement.
2. The SAB Research Council in collaboration with the SMURC should organize a series of research capability and capacitation seminars/webinars for SAB faculty to enhance their research competency and improve their motivation and attitude toward research. The following research capability and capacitation seminars/webinars are recommended: (1) Orientation seminar/webinar on the technical aspects of a research specifically on the SMU's new research format, (2) Seminar/webinar workshop on conceptualizing and writing introduction and research problems, (3) Seminar/webinar workshops on data presentation, analysis and interpretation, (4) Training on the use of Statistical Packages and Service Solutions (SPSS), and (5) Seminar/webinar workshops on

writing references using APA format and research abstract.

3. The SAB faculty should engage themselves more in research activities or actual research experience like being an adviser-promoter for this could be the best way to enhance their research competency.
4. Seasoned academic SAB faculty-researchers should take a lead in conducting faculty research having the other SAB faculty as collaborators.
5. The SAB Research Council should spearhead the conduct of faculty research and should persuade the SAB faculty to involve themselves in the research undertakings of the school and of the university.
6. The university through the University Research Center (URC) should come up with a mechanism whereby full-time academic faculty members are given regular teaching loads/workloads of not more than 21 units like other universities so that they may have ample time to produce innovative and breakthrough research and engage themselves in research activities.

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Influence of Student Trust to Private Higher Educational Institution's Service Quality and Satisfaction during Covid-19 Pandemic

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Abstract

Purpose – This study would like to examine the influence of student trust as moderating variable on the service quality of private HEI and satisfaction during the Pandemic and its influence on Student Retention.

Design/methodology/approach – This study utilized quantitative research that specifically uses an explanatory-causal design that determines and explains the cause-and-effect relationship between variables. Participants in this study were undergraduate students in a private HEI in Baliuag, Bulacan. The total population is 1,079 from the three existing colleges in the HEI sample population (n) is 284 as computed using Slovin's Formula. A stratified sampling technique was employed to identify the number of qualified respondents per college. Data were gathered by administering a four-sectioned self-administered questionnaire.

Findings – The data revealed that during a crisis, the perceived trust may not moderate students' satisfaction and the service quality provided by the HEI. This contradicts various research that has proven the significance of trust as a predictor of satisfaction; Indeed, the setting and present situation as a result of Covid-19 contributes to the changes in the role of trust to student satisfaction. Furthermore, the finding revealed that during Covid-19, there is no strong evidence that satisfaction mediates the relationship between service quality and student retention.

Research limitations/implications – The participants of this study are undergraduate students who are currently enrolled in the selected HEI in Bulacan where the researcher is affiliated. Also, data collection will be limited online because of the pandemic. Through insights gained on how to maximize the experience of students to the service quality of HEI during the pandemic, key persons in the mentioned sector can develop specialized programs that will serve as their sustainable competitive advantage.

Practical and social implications – The result has an important implication for the decision-making of HEI owners and administrators. HEIs need to develop the means to satisfy their students at this level of education even during the pandemic and this is achieved by improving the service quality that they offer (Hurtado et al., 2021). In addition, students are becoming more critical when it comes to measuring their resiliency and capacity to respond to the pandemic's impacts, which is changing the competition in higher education institutions.



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Originality/value – While many studies have been conducted on the provision of service quality in private higher educational institutions, very few studies exist on the service quality of private HEIs during the pandemic. Also, this study utilized the Higher Education Performance (HEDPERF) model to assess both the academic and non-academic dimensions of the HEI. The use of the HEdPerf model is one of the distinguishing features of this paper as other studies utilized service quality models like SERVQUAL by Parasuraman (1985), and SERPERF by Taylor and Cronin (1992).

Key Words: Service Quality; Student Trust; Satisfaction; Student Retention; Higher Educational Institution

Relevant SDGs: SDG 4 Quality Education and SDG 9 Industry, Innovation and Infrastructure

Introduction

The global spread of the coronavirus disease (COVID-19) has negatively impacted the delivery of educational services to Higher Educational Institutions (HEIs) worldwide. Last December 2019, the first official case of COVID-19, a disease caused by the novel coronavirus SARS-CoV 2, was detected and confirmed in Wuhan City in the Hubei province of China (Hua & Shaw, 2020). A few months after the first infection, the number of COVID-19 cases outside China increased drastically. The pandemic in the 21st century is not entirely foreign to academia. The World Health Organization (2010) considered four global pandemics - defined as the worldwide spread of new diseases, are severe acute respiratory syndrome (SARS), Swine Flu (H1N1), Middle East Respiratory Syndrome (Mers) Ebola, and COVID-19. It is evident that among the mentioned global pandemics, COVID-19 created the most extensive disruption to education systems in history, affecting more than 190 countries and all continents (United Nations, 2020). As a result, the COVID-19 pandemic inevitably emphasized the necessity to evaluate and discuss the resiliency of HEIs. Educational systems around the globe were once again challenged to produce different measures to immediately sustain education efforts (UNESCO, 2020).

Furthermore, the virus revealed the vulnerabilities of HEIs. Ali (2020) argued that it is now clear that society needs flexible and resilient education systems due to unpredictable futures. The delivery of high-quality educational services is central to the mission of any HEI. For this reason, maintaining academic continuity must be a key aspect of their response to a major disruptive event like a pandemic. In response to the virus's rapid proliferation, HEIs immediately closed their doors during the initial wave of the pandemic in quarter one of 2020. This interfered with the school's day-to-day operations. They attempted to keep essential operations while putting in place major strategic decision-making systems to finish the academic year and deal with future disruptions. They have embraced the dynamics of digital technologies to provide their educational services (Burns, 2020).

Undeniably, in the time of COVID-19, distance learning became a necessity for learners and educators all over the world (Ali, 2020). Although it is said to be the most ideal response to protect all the stakeholders in the education sector, (Nedelcu, 2020) argued that the closure of campuses and the sudden switch from face-to-face education to disconnected instructions was an immature experiment in a lengthy process of offering online education that includes effective student engagement tools and teacher training. UNICEF (2020) reported that the closure as a response to halt



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the spread of the pandemic in 2020 is said to have adversely affected around 1.5 billion students. This situation has resulted in different problems for teachers and their students. In the case of teachers, they had to quickly learn how to use technologies to deliver instruction online. Meanwhile, over 28 million Filipino learners across academic levels had to stay at home and comply with the Philippine government's quarantine measures (UNESCO, 2020). In addition, the pandemic affected 3.5 million Filipino tertiary-level students enrolled in approximately 2,400 HEIs (Joaquin et al., 2021).

This pandemic challenged the capacities of HEIs to deliver quality education. Literature highlights certain deficiencies that must be addressed, such as the weakness of online teaching infrastructure, the inexperience of teachers, the information gap, the complex environment at home, and so forth (Murgatroid, 2020). With all these pressing problems, the Philippines' Commission on Higher Education (CHED) advised HEIs to continue the "deployment of available flexible learning and other alternative modes of delivery in lieu of on-campus learning" (Commission on Higher Education, 2020). The private higher education market has become increasingly competitive with the addition of distance and open education models (Cunha et al., 2020). It is noteworthy that even during the pandemic, students are constantly evaluating the quality of services provided by their HEI (Camilleri, 2019). Covid-19 resulted in students and their parents having safety concerns, and many are reevaluating their matriculation decision (Krishnamurthy, 2020) and other key educational services. Thus, retaining students has become even more critical to educational institutions than before the pandemic. This posed a threat to the business continuation of educational institutions, particularly private HEIs. In connection, the private higher education market has become increasingly competitive with the addition of distance and open education models (Cunha et al., 2020).

While many studies have been conducted on the provision of service quality in private higher

educational institutions, very few studies exist on the service quality of private HEIs during the pandemic, particularly, from the perspectives of the students as customers. Students' experiences are less often documented (UNICEF, 2020). Also, Delos Reyes et.al, (2021) confirmed that there were few studies focused on higher education during the 21st-century pandemics (SARS, H1N1, MERS, and Covid-19). Johnson et al (2020) argued that few published works of literature existed that specifically examined experiences in the higher education sector with Covid 19 (p.8). It was more often discussed in grey literature such as blog posts, editorials, and reports.

In addition, the study conducted by Kerzic (2020) about the impacts of the COVID-19 Pandemic on the Life of Higher Education Students showed that the Philippines ranked at the bottom in which almost 94% of students reported poor communication, which is consistent with a survey of the teaching staff satisfaction. Fitzpatrick (2016) suggested that satisfied students are a good source of recommendations for HEIs whereas, displeased students may create a negative environment that could earn a bad reputation. To compete as HEI, student satisfaction rates must remain high (Bashir et al, 2021). In addition, student trust in HEI becomes even more important in times of crisis, such as the Covid-19 pandemic, as the risks are greater and the stakes are higher (Myung & Kimner, 2020). Trust can be defined as the faith of a customer in any person or organization, in the context of HEIs, it is the confidence of the students in the institution's truthfulness (Singh, 2021). It is the belief in the integrity and reliability of the people working at HEI (Lukic & Lukic, 2018). Research on student trust in the context of the Covid-19 crisis does not yet exist. However, appeals for its establishment and maintenance, throughout school closure and especially during school reopening, have been noted (Zorkic, 2021).

In the context of the pandemic, trust is the confidence of the students that teaching and learning will not be disrupted due to Covid-19. For



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example, if students have high perceived trust in the HEI, they may tend to ignore small issues with the service quality of the HEI during the pandemic and their satisfaction may not be affected. Hence, a good retention rate is probable as well as recommendations for the institution to potential students who are preparing for admission (Hwang, 2019), repeat patronage by going back to HEI to take another course of further study (Khoo et al, 2017). Otherwise, with low perceived trust, they may tend to create issues related to small faults which can eventually impact their intention to continue and complete their degrees in the HEI. In other words, student retention would be the outcome of student satisfaction in HEI.

Research Problem

The main research questions of this study are as follows:

- R1: What is the extent of influence of HEI service quality using the HEDPERF model on students' satisfaction during the Covid-19 pandemic?
- R2: What is the moderating effect of student-perceived trust on the relationship between HEI service quality dimensions and student satisfaction during the pandemic?
- R3: What is the mediating effect of student satisfaction on the relationship between HEI service quality dimensions and student retention?

Research Objectives

To analyze the influence of the student perceived trust on the relationship between service quality dimensions and student satisfaction during the pandemic and its impact on student retention.

Significance of the Study

This study will benefit different stakeholders of academia, business, and management by adding relevant literature to the previous research on the influence of service quality of private higher

education institutions such as the National University (NU).

It aims to provide substantial insights into **private HEIs**, as this will investigate the different dimensions of service quality during the pandemic and its effect on student retention. This is very critical as private HEIs are facing survival issues during a crisis. Ali (2016) explained that satisfying the demands of students, especially during crises, should be the prime objective of any HEIs.

Academic Leaders of HEIs will positively benefit from this research by getting substantial data that can explain the causal relationship between service quality and student satisfaction. As academic leaders are accountable and responsible for the quality of the learning experience of the students and various stakeholders, understanding the influence of their leadership role on service quality and organizational resilience is critical.

Moreover, **employees of HEIs**, both teaching, and non-teaching, will significantly benefit from this study as it highlights their important role in the transformation and delivery of service quality. Employees of educational institutions are in the profession with a uniquely high level of stress and burnout. Their mental health condition may even suffer during a pandemic or crisis due to unfamiliarity with new systems and changes in the work environment. Studies that give importance to the role of employees during times of crisis must be conducted to ensure their work commitment, which leads to consistent job performance and productivity.

Students, as the principal recipients of HEI services, will gain immensely from this study by obtaining the expected service from HEIs, particularly in terms of ensuring that teaching and learning are not disrupted due to Covid-19. It is important to measure student feedback on service quality. It is valuable for performance, and enhancement, including the teaching aspect and curriculum design (Nair et.al, 2011 as cited by Hasaan, 2021).



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Future researchers will benefit from this research as this is one of the few studies that seek to investigate the service quality of HEIs during a pandemic and its effect on organizational resilience.

Scope and delimitations

The study focuses on the seven parameters of HEDPERF (*general teaching skills, generic skills of teachers, service attitudes of staff, staff competence, reputation, and access*) to measure the service quality of HEI. The participants of this study are undergraduate students who are currently enrolled in the selected HEI in Bulacan where the researcher is affiliated. Also, data collection will be limited online because of the pandemic.

Literature Review

The purpose of the study is to validate the developed theoretical model, which depicts the interactions between various SQ parameters and SS when perceived trust is present as a moderator. This section contains a brief synopsis and arguments related to the main concepts and their relationships.

Service Quality

In a service organization, quality is defined as the extent to which the service satisfies the customer's expectations. Research on service quality (SQ) gained a significant push forward in the early 1980s (Parahoo, 2013). Initially, the focus was on defining service quality. It has gained the attention of scholars since then and has grown into a recognized idea as a result of intense business commitments all over the world. Despite being researched for decades, service quality remains an important subject of research for a variety of reasons, including its dynamic and contextual nature.

Yousapronpaiboon (2014) explained that service attributes include intangibility, heterogeneity, and inseparability. These features are so important that they may have an impact on the quality of service provided by the business. Moreover, due to severe

competition in the marketplace, measuring service quality has become the focus of attention for many scholarly scientists and has been recognized as the key to preserving excellent profit and trustworthy links to attain customer satisfaction (Kiran & Diljit, 2016).

Lewis & Booms (1983) argued that service quality is a measure of how well the service level delivered matches customer expectations. Gronroos (1984) as cited by Singh and Jasial (2021) identified two dimensions of service quality. These are functional quality, which involves the performance in which the service is delivered, and technical quality, which is the actual outcome of the service. This was further developed by Parasuraman et al., (1985), who used various quantitative and qualitative research methods to produce the SERVQUAL scale, which represents the most-used operationalization of service quality. Research by Parasuraman et al. (1985) into the service quality concept has focused on three issues: (1) what is service quality, (2) what causes service quality problems, and (3) what can service organizations do to improve quality (Khodayari, & Khodayari, 2011).

The original SERVQUAL scale is comprised of ten (10) dimensions. It was reduced to 5 key dimensions following further testing by Parasuraman et al. (1988). These key dimensions, reliability, responsiveness, assurance, empathy, and tangibles, are frequently used models for evaluating customer expectations and their perceptions of service quality. The usefulness of SERVQUAL is apparent as it has been used in several studies conducted in different service settings. Despite its enormous application, this model has attracted criticism on operational grounds. Some objections to the scale concern the gap in performance and expectation scores, length of the scale, and validity of the five-constructs structure (Cronin & Taylor, 1992; Teas, 1994) as cited by Singh & Jasial (2021). The major concerns raised toward the model are the use of gap scores, the predictive power of the measurement items, the length of the questionnaire, and the legitimacy of



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the five-dimension structure (Sohail, & Hasan, M. (2021).

Later, Cronin & Taylor (1992) proposed the SERVPERF scale as a variant of SERVQUAL to measure service quality. SERVPERF only measures the perception of customers about service quality based on performance. Though several researchers (Boulding et al., 1993; Cronin & Taylor, 1992; Parasuraman et al., 1994; Quester & Romaniuk, 1997) believe that customers assess the sequence of services and not just one performance, they suggested that performance explains more variance in service quality. This endorses that SERVPERF is more reliable since it explains a greater amount of variability and is not biased as SERVQUAL (Llusar & Zornoza, 2000; Carrillat et al., 2007) as cited by Singh & Jasial (2021). This led to considerable support over time in favor of the SERVPERF model and practitioners have increasingly been using this performance-only measure of service quality (Sohail & Hasan, 2021).

Service Quality in Higher Education Institutions (HEIs)

Applied to the higher educational context, service quality can thus be defined as the difference between what students expect to receive and their perceptions of the actual delivery (Wong et al., 2012). Service quality can lead to excellence in the educational industry and lasting effects on the institution and the students it serves. HEIs have faced severe competition as new public and private HEIs have entered the market, resulting in stiff competition (Pencarelli et al., 2013). Given the severe competition among HEIs, institutions must not be complacent about improving the student experience. The extensive research on service quality can be partly attributed to the importance of service quality to the sustainability of organizations, including HEIs. Tari & Dick (2016) pointed out that educational institutions will continue to feel increasing pressure and demands, from both their customers and the stakeholders of higher education, to close the widening gap between expectations of

institutional performance and actual performance. The service quality of higher education institutions is a critical driver for Heis' performance and competitiveness (Stimac & Simic, 2012 as cited by Darawong, 2019).

SERVQUAL and SERVPERF are well-grounded models imported to higher education. However, an important issue to be considered is that these models take into account only the element of functional quality and neglect the technical quality aspect of HEIs (Kang, 2006) as cited by Teeroovengadum et al (2016). The extant literature suggests that there are primarily two key issues to be addressed when attempting to develop an instrument for measuring service quality in HEIs: the operationalization of the service quality construct (Abdullah, 2006 as cited by Teeroovengadum et al., 2016) and the identification of appropriate service quality dimensions (Kang & James, 2004 as cited by Teeroovengadum et al., 2016).

It is in this context that Abdullah (2005) developed the Higher Education Performance (HEdPERF), which includes six (6) parameters: general teaching skills, generic teaching skills, service attitude of the staff, staff competence, reputation, and access. Various researchers compared the previous service quality models (SERVQUAL and SERVPERF) to HEdPERF and discovered that the latter is the best in terms of consistency, strength, explained variance, and uni-dimensionality, as far as HEIs are concerned.

Student Satisfaction

When a person's actual performance meets their expectations, they feel satisfied (Kotler & Clarke, 1987 as cited by Jasial and Singh, 2020). Satisfaction is an emotion of a person when actual performance meets expectations. Although numerous studies have looked into student satisfaction, researchers have no idea how to standardize the definition. Defining higher education student satisfaction remains a challenge.



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There is no firm agreement on the definition of satisfaction within the higher education context, meaning there is no single tool to "measure" satisfaction (Melissa Et al, 2018). As a result, student satisfaction theory must be chosen and revised to meet the need for a precise definition of student satisfaction. (Hom, 2002 as cited by Jasial and Singh, 2020). Students' positive experience with an HEI's service and their perceived quality can lead to their satisfaction. Students are satisfied when they receive what they paid for, e.g. good service quality and a valued credential in the labor market (Mark, 2013 as cited by Kruha, 2021).

Furthermore, student satisfaction largely depends upon the atmosphere provided by the HEI to gain knowledge and assists students to meet their educational goals (Lo, 2010 as cited by Jasial and Singh, 2020). Customer (student) satisfaction is a global phenomenon for predicting customer (student) behavior (Parahoo et al., 2013). Letcher and Neves (2011) pose satisfaction as a provision for students to revise their confidence, which eventually leads to improvement of the needed expertise and acquiring logical abilities. Student satisfaction most commonly refers to their subjective assessments related to individual outcomes and educational experience. Students' overall satisfaction is positively correlated with perceived quality.

Wiers - Jenssen et al. for example, see student satisfaction as encompassing several subcategories, including quality of teaching, quality of supervision, content, and relevance of curriculum, the balance between teaching and self-tuition, quality of support facilities and quality of physical infrastructure, while Elliott and Healy discern academic advising effectiveness, campus climate, campus life, campus support services, concern for the individual, instructional effectiveness, recruitment and financial aid effectiveness, registration effectiveness, campus safety, and security, service excellence and student-centeredness.

All efforts aimed at implementing, monitoring, and raising educational delivery standards to empower students to get the most out of their learning experience are referred to as ensuring quality in higher education (Garwe, 2015). Alves and Raposo (2007 as cited by Helena et.al, 2017), finding reliable ways to measure student satisfaction is necessary because it is the only way for higher education institutions (HEIs) to determine their status, compare it to their competitors, and assess their progress. In addition, students' satisfaction has a direct effect on loyalty which is their (students) continuous commitment to the HEIs. In an attempt to capture and retain the market share with the increase in study options for students, particularly in higher education, institutes all over the world are in a constant struggle to provide a unique learning experience to their students.

Service Quality and Student Satisfaction

Service Quality is a strong precursor to satisfaction (Arambewela & Hall, 2013; Spreng & Mackoy, 1996 as cited by Jasial and Singh, 2020). As a result, a thorough understanding of the factors that influence customer satisfaction, as well as their history, is essential for any service organization to achieve high financial value in today's competitive environment (Lassar et al., 2000). According to Binge et al. (2003 as cited by Jasial and Singh, 2020), there is a strong link between customer satisfaction and service quality. Whether satisfaction is seen as a valuable outcome in its own right or as a correlate of learning when it becomes both a component of external accountability and an internal driver of university policy it becomes important to look at what factors may influence it. Key questions here are whether and what HEI characteristics influence student satisfaction, which can provide HEIs and policymakers with policy-relevant information educational effectiveness research in other phases of education has pointed to the importance of student intake and background in determining outcomes, though the impact of schools and colleges remains significant and important (Chapman, 2017).



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Furthermore, satisfaction may influence a student's desire to remain with or leave the college, and their inclination to provide word-of-mouth recommendations. Higher education institutions should therefore assess service quality to improve the service quality and ensure higher retention rates (Chih et al., 2012 as cited by Khoo, 2015). As a result, many of these institutions have made providing high-quality educational services a top priority. To provide high-quality services to students, institutions must first comprehend their needs and determine how cognitive factors influence student satisfaction and behavioral intention. Positive perceptions of service quality among current students may lead to positive perceptions of institutions, as well as overall satisfaction and positive behavioral intentions. Students' positive perceptions of service quality have been shown to aid in the recruitment of new students by previous researchers (Narang, 2012; Sultan & Wong, 2013 as cited by Hwang and Choi, 2019).

Student Trust

No organization can endure without trust. Trust is a complex construct that comprises a cognitive element, which is based on the consumer's knowledge of the organization and its capabilities, and an affective component, which is the emotional bond between the individual and the organization that develops over time (Dowell, 2015). Trust is defined as a customer's belief in the ability of a person or organization to keep their promises and work in the consumer's best interests (Singh & Sirdeshmukh, 2000). Trust is studied and used in several disciplines, such as sociology, psychology, economics, and computer science. As a result, there are many definitions of trust and no consensus has been achieved so far on one common statement of meaning (Dzimirka, 2018).

In the context of HEIs, trust can be defined as students' belief in the institute's honesty. Students may develop trust in an institute based on the institution's efficiency and attention to them, as well as their interactions with instructors and other

facilities within the institute. According to Andaleeb (1994 as cited by Jasial and Singh, 2020), a lack of trust can harm a company's long-term relationship with its customers. Perceived trust was found to be an important ingredient in developing long-term relationships between students and institutes by Ghosh et al. (2001). Perceived trust is a positive and significant predictor of Student Satisfaction in numerous studies (Aritonang & Lerbin, 2014; Kim & Sax, 2009; Mohamad, 2009 as cited by Jasial and Singh, 2020). Trust is an important factor that affects commitment to a university. It is essential to emphasize that HEIs can be proactive to improve the trust of students. The recent COVID-19 pandemic provided a momentous opportunity for higher education institutions to increase confidence by demonstrating their commitment to serving their students' best interests (Calderon, 2021). However, the failure of HEIs to innovatively assist with the needs of the students during the pandemic resulted in a decrease in their confidence and trust in the school.

Student Retention

According to Albert (2010) as cited by Matti (2020) the variables related to retention have been changing because of environmental factors and generational differences. Educational institutions must satisfy the needs of students, faculty, staff, alumni, donors, and the community as well as other stakeholders. Higher education institutions have long been concerned with ensuring that students, once enrolled, stay and complete their studies and that they get the most out of them. Consequently, a reduction in the number of students without an increase in enrollment and entry of students will have an adverse effect on the stakeholders of the institution. Thus, the need to manage the college retention process from student entrance to graduation is increasingly important.

The terms "student retention" and "student engagement" are used to describe these two related concerns. Student retention is the older of the two concerns, at least in terms of research, and was



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previously referred to by other, more negative terms like student withdrawal, attrition, and drop out. Though a more recent concern, student engagement, in which the student is as deeply involved in the higher education (HE) experience as possible, represents an obvious positive response to the problem of student retention. To put it another way, the more engaged a student is with their HE and the institution from which they are receiving it, the less likely they are to drop out before completing their studies (Tight, 2019).

Tinto, one of the most important (American, as most of them have been) student retention researchers, traces the research interest back to the 1960s and notes how the underlying assumptions have changed since then: Student retraction was typically viewed through the lens of psychology when the issue of student retention first appeared on the higher educational radar screen, some 40 years ago. Several reasons affect student retention, these are: Poor academic performance has been strongly linked with student retention (Hagedorn, 2015). Some students with career indecision change institutions thereby lowering the retention rate. Across the educational spectrum, career indecision and anxiety has been identified as common variable affecting student retention intentions, some students may have issues in their personal or family life and this may affect their decision to continue their studies.

More than half of students in the Philippines consider temporarily dropping out of school until the coronavirus pandemic ends (Anago, 2021). Among the four countries, the Philippines showed the highest percentage of students who want to postpone their schooling, with only 33% in Australia, 47% in India, and 21% in Singapore. Retention of distance, online students have been estimated to be at least 20% poorer than on-campus students, with 40% fewer completing their degrees over nine years (DESE, 2017a). Retaining students has become even more critical to educational institutions than before the pandemic, the low engagement of the students leads to a decrease in their confidence and trust resulted to increase in student dropped out rates.

Higher Educational Institutions (HEIs) During COVID-19 Pandemic

While the world was facing up to the outbreak of the COVID-19 pandemic, higher education institutions and their main stakeholders – students – were severely affected. Due to the COVID-19 pandemic, more than 1.5 billion students in 190 countries were not able to attend school physically (UNICEF, 2020). For HEIs, the period was undoubtedly unprecedented and very stressful as onsite classes and other educational activities were moved online, semesters were postponed, and examinations were adjusted (Kerzic, 2020). COVID-19 magnified several disruptive trends related to higher education.

The World Health Organization (WHO) recommended physical distancing as a concrete safety precaution, as outbreaks have occurred in restaurants, offices, and schools (WHO, 2021). Moreover, closing educational institutions (schools, universities) proved to be an efficient way of minimizing the spread of the virus. Universities around the world moved rapidly to transfer various courses from onsite to online with online learning (e-learning), thereby becoming a mandatory teaching and learning process of educational institutions (Sahu, 2021). The blended online learning strategy was deemed to be the most practical method to adapt as this combines the advantages of synchronous and asynchronous strategies.

While many institutions shifted to an emergency-based online system, it did not mean they were prepared for an 'online pedagogy' in the long run. Pedagogy refers to the best way to achieve learning. Bao (2017) explained that successful pedagogy needs teachers to comprehend and decide the optimized way of delivering the course lectures to help students learn appropriately. Some instructors demonstrated a lack of "pedagogical digital competence," which is defined as "the ability to facilitate students' learning in the best possible way by regularly applying the knowledge and skills in



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preparing and implementing ICT-supported teaching and best-validated experiences".

Research Gaps

This present study is relevant as it will address gaps in research. Despite the previous pandemics that caused emotional, social, and economic shocks and, at times, even threatened the survival of educational institutions, there is an abundance of grey literature that has focused on the resilient service quality of HEIs during crises (Delos Reyes et al., 2021). Grey literature is debatable and published information is found in blogs, videos, and articles on the internet without authors. The dearth of literature that focuses on HEI resilience has resulted in a knowledge gap that limits comprehensive discussion in terms of the role and contributions of academic leaders in the survival of HEIs.

Similarly, Johnson et al. (2020) argued that few published works of literature existed that specifically examined the experiences of the higher education sector with COVID-19 (p.8). Furthermore, while many studies had been conducted on provisions of service quality and satisfaction of customers in different business organizations, very few researches exist on understanding service quality. Empirical research into the full perceptual map of students' perceptions of service quality in higher education is still needed.

Research Philosophy, Framework, Design, and Methodology

Research Philosophy

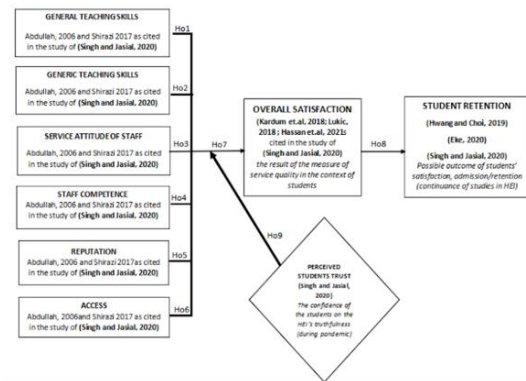
This paper utilized the positivist approach to address the research question: What is the condition of service quality in selected Private Higher Educational Institutions (HEI) using the HEDPERF model and its influence on students' satisfaction during the Covid-19 pandemic?

Positivism relates to the philosophical stance of the natural scientist and entails working with an

observable social reality to produce law-like generalizations (Saunders et.al, 2019). It describes an approach to the study of society that specifically utilizes scientific evidence such as experiments, statistics, and qualitative results to reveal the truth about the way society functions. (Crossman, 2019). It emphasizes the positivist focus on a strictly scientific empiricist method designed to yield pure data and facts uninfluenced by human interpretation or bias. This study will employ a questionnaire whose contents will enable the author to methodically collect, measure, evaluate, and compare the variables under consideration. Finally, positivism is distinguished by the use of existing theories or models to construct hypotheses that will address the phenomenon being examined.

Figure 1

The Operational Framework of the Study



As shown in the operational framework, the left column pertains to the independent variable utilizing the HEDPERF Framework developed by Abdullah (2005). It is a scale to comprehensively measure the service quality of HEI through various dimensions namely: general teaching skills, generic teaching skills of teachers, service attitude of staff, staff competence, reputation, and access. Many service-based businesses use SERVQUAL, a common service quality framework that was developed by Parasuraman et al, to measure service quality and customer satisfaction. Despite



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SERVQUAL and SERVPERF's undeniable contribution to service quality, it is too generic to be used to assess service quality in HEIs, particularly during times of disruption like Covid-19.

Abdullah (2005) proposed the Higher Education Performance (HEdPERF) scale as a way to assess all aspects of service quality in HEIs. Several researchers later compared these scales (SERVQUAL and SERVPERF) to HEdPERF and found that, in terms of HEIs, HEdPERF was the best in terms of consistency, strength, and explained variance. Perceived Trust is the moderating variable, this study will test whether it can enhance the relationship of service quality and satisfaction. Students may engage in trust choices (to trust or not to trust) based on their assessment of the quality of a given relationship. In a trusting relationship, there is a degree of dependability among parties (Shayo, 2021).

On the other hand, mediating variable placed in the middle of the framework is overall satisfaction. It is the result of students' evaluations regarding the business and the key factor of their decision to stay and continue their degree in the HEI. Finally, student retention is the outcome which is the dependent variable of this study.

Hypotheses

The formulated null and alternative hypotheses for this research are the following:

General Teaching Skills, Generic Teaching Skills, and Student Satisfaction

Satisfaction of students with Higher Educational Institutions is linked primarily to their academic experience. Many kinds of research have been undertaken in this regard, and it has been discovered that the most important indicator of teacher satisfaction is the instructor's competency (Elliot & Shin, 2002; Parahoo et.al, 2013 as cited by Singh & Jasial, 2021). Teachers' expertise on the subject, strategies in managing their class, and the

way they deal with their students are very critical to the overall satisfaction of the students, this may influence the discussion of the students to re-enroll or choose another HEI that can fulfill their expectations. Moreover, the modifications in course delivery during Covid-19 in the digital interface can be a challenge for teachers, as they can either advance or jeopardize the students' learning process. The changes also brought with them increased workloads, which amounted to a rise in stress for instructors, posing a threat to their mental health. Hence, the researcher proposed:

- *Ho1: General Teaching Skills do not significantly influence the overall satisfaction of students during the Covid-19 pandemic.*
- *Hn1: General Teaching Skills significantly influence the overall satisfaction of students during the Covid-19 pandemic.*
- *Ho2: Generic Teaching Skills do not significantly influence the overall satisfaction of students during the Covid-19 pandemic.*
- *Hn2: Generic Teaching Skills significantly influence the overall satisfaction of students during the Covid-19 pandemic.*

Service Attitude, Staff Competence, and Student Satisfaction

It is important to understand that the satisfaction of the students with the HEI is not only shaped by their academic experience, administrative services play a pivotal role to meet the needs of the students by assisting to ensure a quality learning process, these are registration process, library, and laboratory, career, guidance and counseling services. Anantha & Ghani (2012) as cited by Singh & Jasial, 2021, explained that student satisfaction is related to infrastructure, student support activities, and the ability of the non-teaching staff to deal with the students. Along with the competence of the teaching staff, the staff competence and service attitude also make a difference in the satisfaction of students (Rombe et al, 2016). Furthermore, maintaining high employee engagement, especially with non-teaching staff during Covid-19 is very crucial for HEIs to attain



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their mission and/or achieve a significant milestone for the institution. Just like teaching staff, Covid-19 disrupts the normal operation of the support services department, the new work systems and high unfamiliarity with digitalization can affect their engagement and performance. Well-engaged employees perform excellently by providing exhibiting excellent competence and unwavering attitude towards work which may lead to their high productivity in the workplace. Hence, the researcher proposed:

- *Ho3: Service Attitude of the Staff does not significantly influence the overall satisfaction of students during the Covid-19 pandemic.*
- *Hn3: Service Attitude of the Staff significantly influences the overall satisfaction of students during the Covid-19 pandemic.*
- *Ho4: Staff Competence does not significantly influence the overall satisfaction of students during the Covid-19 pandemic.*
- *Hn4: Staff Competence significantly influence the overall satisfaction of students during the Covid-19 pandemic.*

Reputation and Student Satisfaction

When it comes to their decision to enroll in a school, prospective students are impacted by the reputation of the HEI. It has been provided that reputation is critical in the decision-making process of both students and parents (Merchant et.al, 2015) even employees are perceptive concerning the reputation of the HEI as it also affects their morale and works engagement. Several other researchers have examined the relationship between reputation to satisfaction and affirmed that reputation is a key driver of satisfaction (Sohail & Shaik, 2004 as cited by Singh & Jasial, 2021) under normal conditions of school operation. Failure to fulfill the needs of the students and the expectations of the parents can blemish the reputation of HEI. During times of crisis, the school's reputation is even more crucial since it sends a strong message about its dependability and integrity as an educational provider. Hence, the researcher proposed:

- *Ho5: Reputation does not significantly influence the overall satisfaction of students during the Covid-19 pandemic.*
- *Hn5: Reputation significantly influences the overall satisfaction of students during the Covid-19 pandemic.*

Access and Student Satisfaction

Singh and Jasial (2021) cited Parasuraman et al (1985) to emphasize the crucial role of access to student satisfaction. Access established a positive effect on satisfaction. Covid-19 results in students and parents being price sensitive when it comes to the tuition fees and matriculation of HEIs; some are even questioning the computation of miscellaneous fees; thus, access to both tangible and intangible HEI services can be one of the top determinants of their satisfaction. Hence, the researcher proposed:

- *Ho6: Access does not significantly influence the overall satisfaction of students during the Covid-19 pandemic.*
- *Hn6: Access significantly influences the overall satisfaction of students during the Covid-19 pandemic.*

Service Quality and Student Satisfaction

Undoubtedly, service quality can have influenced the satisfaction of students. Many researchers examined and confirmed the direct relationship between the two (2) constructs under normal circumstances. However, situations like the pandemic can cause disruptions in service quality. When disturbances arise with little warning or preparation time, responses are heavily influenced by the pre-existing characteristics of the affected system (Carpenter et al., 2012 as cited by Baumber et al.,2021). HEIs must address concerns related to the delivery of their education services during Covid-19 such as the weakness of online teaching infrastructure, the inexperience of teachers, and the information gap. Hence, the researcher proposed:

- *Ho7: All dimensions of service quality do not significantly influence the overall satisfaction of students during the Covid-19 pandemic.*
- *Hn7: All dimensions of service quality*



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significantly influence the overall satisfaction of students during the Covid-19 pandemic.

Mediating Effect of Student Satisfaction on the Relationship of Service Quality and Student Retention

Satisfaction plays a significant role which directly and indirectly generating favorable intention to reuse the product or revisit the service location (Hwang & Choi, 2019) in the context of the HEIs, this is to re-enroll and stay at HEI until the student finishes his/her degree. Conversely, when students are dissatisfied with the service quality of HEI during Covid-19, their positive behavioral intentions are likely to be decreased whereas satisfied students will become good promoters recommending the HEI to prospective students. Hence, the researcher proposed:

- *Ho8: Overall satisfaction does not significantly influence the relationship between all dimensions of service quality and student retention during the Covid-19 pandemic.*
- *Hn8: Overall satisfaction significantly influences the relationship between all dimensions of service quality and student retention during the Covid-19 pandemic.*

Moderating Effect of Student Perceived Trust on the Relationship between Service Quality and Student Satisfaction

Trust is not automatically established between students and HEIs. Several factors can contribute to the increase or decline of student trust in the school. If students have high perceived trust in the HEI, they may tend to ignore small issues with the service quality of the HEI during the pandemic and their satisfaction may not be affected. Otherwise, with low perceived trust, they may tend to create issues related to small faults which can eventually impact their intention to continue and complete their degrees in the HEI (retention). Singh and Jasial (2021) explained that students may develop trust in an institute based on the efficiency and attention the institution displays towards them, and their

experiences with instructors and staff, and other facilities within the HEI. Hence, the researcher proposed:

- *Ho9: Perceived trust has no significant positive influence on the relationship between all dimensions of service quality and overall satisfaction during the Covid-19 pandemic.*
- *Hn9: Perceived trust has a significant positive influence on the relationship between all dimensions of service quality and overall satisfaction during the Covid-19 pandemic.*

Research Design

This study utilized quantitative research that specifically uses an explanatory-causal design which determines and explains the cause-and-effect relationship between variables. This research utilized causal modeling such as direct, indirect, and moderated causality to explain the different relationships of the constructs identified in this paper (Jacard & Jacoby, 2010). According to Creswell (2014), Quantitative research is an approach to testing objective theories by examining the relationship among variables. These variables, in turn, can be measured, typically on the instrument, so the numbered data can be analyzed using statistical procedures. A survey method was used in this study to gauge service quality, student satisfaction, student trust, and student retention- the four constructs of this research.

Methodology

Participants in this study were undergraduate students in a private HEI in Baliuag, Bulacan. The total population is 1,079 from the three existing colleges in the HEI sample population (n) is 284 as computed using Slovin's Formula. A stratified sampling technique was employed to identify the number of qualified respondents per college.

Data were gathered by administering a four-sectioned self-administered questionnaire. The questionnaire was posted online, through Google



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form. A web page linkage allowed the target population to access the online survey via e-mail and personal messages. The Likert scales used ranged from 1 (strongly disagree) to 5 (strongly agree). The first part of the questionnaire is based on the HEdPERF framework or Abdullah with 37 items scale. The second part is intended to measure Satisfaction which was adopted from Athiyaman (2007) with 6 items scale. The third part is about the student trust developed by Jarvenpaa et al (1998) with 3 items scale. The last part is for student retention, a 4 items scale from Chukuakadibia (2020). The scale of the reliability of the survey questionnaire with overall Cronbach alpha of 0.983 or 98%. The said value is interpreted as excellent, giving an impression that the scale holds exceptional internal reliability and consistency.

The data obtained were analyzed with the statistical software program Jamovi, a statistical platform used to provide statistical analysis for reliability, correlation, and regression. For the Descriptive Statistics, the data were summarized by getting the measures of central tendency (mean, median, mode), the test of normality (skewness, kurtosis, and shapiro wilk), standard deviation (dispersion), and sample standard errors. It provides the basic features that describe the data. Moreover, for the Inferential Statistics, which test the hypotheses proposed in the study, Linear Regression was employed for moderation and mediation analysis which examines the influence of perceived trust on the relationship between service quality and satisfaction and its influence on student retention during the pandemic.

Data Results and Analysis

Table 2.

Descriptive Analysis per College

	CET		CABM		CAS	
	Mean	SD	Mean	SD	Mean	SD
General Teaching Skills (GTS)	4.41	0.546	4.48	0.626	4.20	0.557
Generic Teaching Skills (GS)	4.37	0.585	4.48	0.616	4.13	0.566
Service Attitude of the Staff (SAS)	4.25	0.623	4.38	0.708	4.03	0.631
Staff Competence (SC)	4.28	0.617	4.35	0.709	4.28	0.547
Reputation (R)	4.45	0.526	4.55	0.626	4.20	0.592
Access (A)	4.41	0.537	4.52	0.658	4.30	0.505
Satisfaction (SS)	4.35	0.569	4.44	0.594	4.21	0.642

Table 2 is about the descriptive analysis of the result. It describes the basic features of the data by employing several tests. Mean is the average in the data set while the mode is the most common number in the data set. For the measure of dispersion, among the eight constructs, it appears that SAS had the most dispersed data with a Standard Deviation of 0.623 for CET, 0.750 for CABM and 0.631 for CAS. It is used to measure the spread of values in the sample.

Table 3.

Durbin-Watson Test for Autocorrelation

Durbin-Watson Test for Autocorrelation		
Autocorrelation	DW Statistic	p
0.0378	1.92	0.480

Durbin Watson score is 1.92, the score is within the acceptable range of 1.5 to 2.5 while no multicollinearity is found since VIF in all variables are less than 10 while all tolerance score is greater than .10. DW is a test that detects autocorrelation in the residuals from a regression analysis.



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Table 4.

Result of Hypothesis Testing

	Estimate	SE	t	p	Decision
H1 GTS	-0.1867	0.110	-1.699	0.090	cannot reject Ho
H2 GST	-0.0121	0.112	-0.108	0.914	cannot reject Ho
H3 SAS	-0.0356	0.120	-0.297	0.767	cannot reject Ho
H4 SC	0.3030	0.116	2.604	0.010	reject Ho
H5 R	0.4543	0.110	4.118	<.001	reject Ho
H6 A	0.2617	0.128	2.051	0.041	reject Ho

Based on the result of hypothesis testing in Table 4, it shows that Staff Competence ($\beta= 0.3030$), ($p 0.010$) Reputation ($\beta= 0.4543$) ($p <.001$), and Access ($\beta= 0.2617$) ($p 0.041$) have a significant influence to student satisfaction during the pandemic with a p-value that is less than 0.05 results to reject the null. On the other hand, General Teaching skills ($\beta= -0.1867$) ($p 0.90$), Generic Teaching Skills ($\beta= -0.0121$) (0.914), and Service Attitude of Staff ($\beta= -0.0356$) ($p 0.767$) got a p-value that is greater than 0.05 which means that H_0 cannot be rejected.

It is worth mentioning that the predominant factors affecting the satisfaction of students during the pandemic are all under the non-academic dimension of the HEI. Singh (2021) emphasized the importance of administrative services along with academic services which are very integral for students today as they face different challenges concerning online education. Satisfaction of students is not restricted to academic experience but is also related to infrastructure, student support activities, and dealing with non-academic staff (Rombe et al, 2016).

Similarly, the result of the student satisfaction survey of National University, Baliuag Campus conducted during the First term of the Academic Year 2021-2022, two (2) months before this research was conducted revealed that students are more satisfied with the services of the non-teaching and student support departments with 6.05 overall weighted mean while teaching staff got 5.75. Despite the difference, both weighted mean scores of the two (2) units were interpreted as excellent.

Among the eleven (11) specific units under the non-teaching and student support department (*registrar's office, admission office, accounting office, IT resource office, health services, physical facilities, student development and activities, purchasing office, discipline office, learning resource center and guidance services office*), The accounting office had the highest weighted mean score of 6.15, which was assessed as excellent. This gives the impression that the accounting office staff were able to adequately explain the matriculation schedules to the students, as well as answer concerns and questions about their tuition fees. As parents deal with economic shock due to the pandemic, it is expected that they will be price sensitive to all fees that will be collected by the HEIs. The result demonstrates that the office provided excellent student-accounting services. This finding was corroborated by (Krishnamurthy, 2020)'s claim that Covid-19 caused students and their parents to reassess tuition fees and reconsider their matriculation decision.

Registrar's office ranks second with a weighted mean of 6.15 while admission ranks third with a weighted mean of 6.14. Certainly, these offices have direct dealings and transactions with students in terms of their documents and records; any delay in transaction, if not justified by valid reasons, can be attributed to staff incompetence. The attitude of the employees in these offices toward students is critical; how these employees transact and communicate with the students is a significant aspect that shapes their satisfaction. These offices used a student-centered approach to provide the services that were expected from them. On the other hand, purchasing office got the lowest weighted mean score of 5.95 but was still interpreted as excellent.

In the study by Aristovnik et al (2020) about the impacts of Covid-19 on the life of Higher Education students, the Philippines ranked at the bottom of satisfaction with the teaching staff, which is consistent with a survey in which almost 94% of students reported poor communication with the teaching staff. Students appreciate teachers who



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provide quick, permanent, and open feedback, who provide prompt responses, who know the curricula content and the teaching methods in detail, who constantly assist the students in the preparation stages, and who have a positive behavior in the instructional/educational act (Cross, 2018).

Table 5.

Summary of Moderating Effect of Perceived Trust

	Estimates	SE	95% Confidence Level				Decision
			Lower	Upper	Z	p	
GTS*PT	-0.02083	0.0418	-0.103	0.0612	-0.4980	0.618	cannot reject Ho
GST*PT	-0.0190	0.0416	-0.1005	0.0625	-0.457	0.648	cannot reject Ho
SAS*PT	-0.0224	0.0369	-0.0947	0.0498	-0.609	0.543	cannot reject Ho
SC*PT	-0.0136	0.0365	-0.0851	0.0579	-0.373	0.709	cannot reject Ho
A*PT	-0.00263	0.0397	-0.0804	0.0751	-0.0663	0.947	cannot reject Ho
R*PT	-0.00113	0.0381	-0.0758	0.0735	-0.0296	0.976	cannot reject Ho

Table 5 is the summary of the moderating effect of perceived trust on the dimensions of service quality. The result shows that all variables moderated by perceived trust got a p-value that is greater than 0.05, hence, Ho cannot be rejected. It gives the impression that during the pandemic, there is no strong evidence that the perceived trust of students will enhance the relationship between service quality and satisfaction. Interestingly, the findings of this study contradict the previous literature which emphasized the importance of trust as a factor that improves student satisfaction. The pandemic's effects on the educational setting, on the other hand, may have an impact on the influence of student trust to their satisfaction. Students may engage in trust choices (to trust or not to trust) based on their assessment of the quality of a given relationship. In a trusting relationship, there is a degree of dependability among parties (Shayo, 2021). Student trust in HEI is fundamentally contingent and in constant negotiation and re-negotiation (Fosnacht & Calderon, 2020).

Table 6.

Summary of the Mediation Effect of Satisfaction

	Estimates	SE	95% Confidence Level			p	% Mediation
			Lower	Upper	Z		
H7a GTS							
Indirect	0.00143	0.00617	-0.0107	0.0135	0.231	0.817	0.252
Direct	0.56533	0.06589	0.4362	0.6945	8.580	<.001	99.748
H7b GST							
Indirect	0.00398	0.00568	-0.00715	0.0151	0.700	0.484	0.702
Direct	0.56174	0.06363	0.43702	0.6865	8.828	<.001	99.928
H7c SAS							
Indirect	0.00395	0.00586	-0.00753	0.0154	0.675	0.500	0.676
Direct	0.58078	0.05535	0.47231	0.6828	10.493	<.001	99.324
H7d SC							
Indirect	0.00387	0.00536	-0.00663	0.0144	0.722	0.470	0.605
Direct	0.63557	0.05509	0.52760	0.7436	11.537	<.001	99.395
H7e R							
Indirect	0.00338	0.00535	-0.00711	0.0139	0.631	0.528	0.456
Direct	0.73867	0.05983	0.62140	0.8559	12.346	<.001	99.544
H7f A							
Indirect	0.00244	0.00557	-0.00847	0.0134	0.439	0.661	0.339
Direct	0.71768	0.05939	0.60127	0.8341	12.084	<.001	99.661

Table 6 highlights the mediating effect of satisfaction on service quality and student retention. Generally, all variables exhibit partial mediation where the p-value of all the dimensions of service quality is below 0.05. while the indirect effect is insignificant as the p-value of all the variables is higher than 0.05. Hence, Ho cannot be rejected. There is no evidence that satisfaction mediates the relationship between service quality and student retention during the pandemic.

Moreover, the stress of students can also affect the way they assessed the dimension of service quality of the HEI that influences their satisfaction. In addition, Araujo et al, (2020) explained that students' isolation could have had the potential to unsettle them or could have contributed to their lack of self-esteem (Bao, 2020).

Discussion, Conclusions, Recommendations

The objective of the study is to examine the moderating effect of perceived trust on the relationship between HEI service quality and satisfaction during the pandemic and its influence on student retention. Remarkably, the result of this present study provides a clear picture of the perception of students concerning the service quality of HEIs during Covid-19.



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Firstly, the data revealed that during a crisis, the perceived trust may not moderate students' satisfaction and the service quality provided by the HEI. This contradicts various research that has proven the significance of trust as a predictor of satisfaction; Indeed, the setting and present situation as a result of Covid-19 contributes to the changes in the role of trust in student satisfaction. For instance, students who have high perceived trust in HEI can be dissatisfied with the service quality of the school during Covid-19, this can be due to a lack of teachers' training and mastery of the learning management system, a lack of responsiveness of the staff to students queries and concerns, unexplained matriculation schedules and tuition fee and even delayed access to health care assistance provided by the school. A student with low perceived trust, on the other hand, may be satisfied if the HEI provided all the assistance related to the fulfillment of learning during Covid-19. Furthermore, the finding revealed that during Covid-19, there is no strong evidence that satisfaction mediates the relationship between service quality and student retention.

Indeed, the result has an important implication for the decision-making of HEI owners and administrators. HEIs need to develop the means to satisfy their students at this level of education even during the pandemic and this is achieved by improving the service quality that they offer (Hurtado et al., 2021). In addition, students are becoming more critical when it comes to measuring their resiliency and capacity to respond to the pandemic's impacts, which is changing the competition in higher education institutions.

Furthermore, academic leaders' crisis leadership approaches must be examined, as employee motivation is critical to building a resilient education institution. Recent studies have pointed out that during the lockdown, teachers have suffered stress from online classes. This stress has often been accompanied by symptoms of anxiety, depression, and sleep disturbance as a consequence of the increased workload (Ng, 2007). (Besser et al., 2020).

Higher education employees are the true, first responders in the transition to remote learning during the pandemic. Unfortunately, as Donnelly et al. (2020) argue, they are 'often more resilient than they are given credit for. The results of this study can be used as a basis in terms of amplifying the important educational services that influence the satisfaction of students.

The following recommendations are drawn from the result of the study:

Since the result of this study suggest that the non-academic dimension of HEI influences the satisfaction of students during the pandemic, it is strongly recommended that HEI academic leaders and administrators prioritize the welfare of the employees as it can directly affect their work engagement and productivity. This also entails providing them with the necessary training for their function and responsibilities. Pandemic-induced work transformations have compelled educational institutions to reconsider their leadership practices toward staff (Wolor et al. 2020).

HEI academic leaders and administrators must innovate ways to engage their employees during difficult times like the pandemic. Gentry (2010) revealed that during tough times, additional benefit packages and fair and comparable pay structures should be given to employees to keep them engaged and motivated.

In addition, HEIs, particularly private institutions, are concerned about business continuity and survival, therefore it is recommended that HEIs should review their student support services to ensure that these are aligned with the needs of students during a pandemic, this can greatly impact their competitiveness as an educational provider. Future researchers are recommended to undertake another study with a larger sample size to corroborate the findings of this study. They may also choose to incorporate other moderating and mediating variables in addition to the perceived trust that was used in this paper.



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Leadership in 21st Century Organizations and Disruptive Covid-19: The Case of Educational Leadership in Higher Education Thailand

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Abstract

Purpose – The study aims to identify educational leadership practices and influential leadership traits in 21st-century organizations during the COVID-19 pandemic. This qualitative research will also propose an educational leadership model in the 21st-century organization based on the identified practices and traits during disruptive COVID-19 that focuses on higher education in Thailand.

Design/methodology/approach – This study utilized the qualitative instrumental case study; the participants were ten leaders (deans and directors) at Kasetsart University. The data were gathered using a semi-structured questionnaire and interview to determine the leadership practices and leaders' traits.

Findings – The study found out that the educational leadership practices during COVID-19 comprised adaptive, communication, crisis, innovative, collaborative, digital, technological, transformational, and visionary leadership; the traits of educational leaders such as accountable, compassionate, flexible, transparent, have integrity, and build teamwork was interrelated to the educational leadership practices to surpass the challenge of the 21st-century organizational change successfully.

Research limitations/implications – The study is limited to determining leaders' leadership practices and traits during COVID-19.

Practical and social implications – serves as guide understanding to improve the quality of education by appropriate leadership styles and traits to help higher education make choices, prioritize objectives, and engage with people; the right leadership style can handle complicated issues, manage disagreements swiftly, alter a school's trajectory, and reform educational institutions.

Originality/value – the developed sunflower model of educational leadership of the 21st century, illustrated the essential interrelation of leadership practices and traits of a leader amidst crisis; the model can be modified based on the additional leadership style and traits in any organizational context.

Key Words: Educational leadership, leadership style, leadership traits, and 21st-century leadership

Relevant SDGs: SDG 4 Quality Education



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Introduction

Leadership and management in today's firms are transforming owing to the new global economy, new technology, and accelerated globalization brought on by the internet (Dike et al., 2015). According to Austin, Nolan, and O'Donnell (2012), 21st-century organizations face challenges such as super transparency, leading collaboration, motivating and inspiring, effective governance, leading change, managing talent, leading in crisis, leading innovation, leading execution and vision, and the role of culture. 21st-century leaders know change is crucial and must adapt swiftly (Gomez, 2008). 21st-century leaders are change agents (Shenhav & Reichel, 2022). Time may bring changes.

Effective leadership and management in 21st-century enterprises is a challenging problem since they must execute tough things well (Drucker, 1996; Drucker, 2001). In the 21st century, leaders and managers must create and execute suitable solutions to challenges as they emerge (Parsons, 2015). The leader should have kindness and social intelligence to connect with followers, build enduring connections, and improve the working environment (Goleman, 2007). 21st-century leaders create a contemporary approach to meet 21st-century problems. This strategy requires studying and training leadership behavior, talents, and attributes (Krauthammer, 2022). With the instability and uncertainty that occurred at COVID-19, educational leadership is crucial. Fernandez and Shaw (2020) suggested three effective practices for academic leadership during the pandemic: creating mutual trust, dispersing leadership within the organization, and communicating openly and often with all stakeholders while prioritizing tasks. University leaders should address research and innovation, teaching and learning, decision-making frameworks, and their role in presenting a solid vision by adopting a test-and-learn approach during an emergency (Samoilovich, 2020). They must offer clear guidance, collaborate, communicate effectively, and be adaptable to new situations. Their leadership

will be challenged during these difficult times, but their success and educational legacies will depend on how they handle the crisis (Marshall, Roache, & Moody-Marshall, 2020).

In Thailand, Kasetsart University is a state research university in Bangkok, Thailand, comprising four campuses with an excess of 70 000 undergraduate and graduate students and more than 9 000 employees. Because it is such a vast organization, a university is administered by various structures and management bodies. These include the Rector, Vice-Rectors, Deans, academic councils, department heads, and administrative boards. As a result of these specifics, the term educational leadership may apply to various management jobs and titles, ranging from strategic management and administrative duties to transformational and visionary roles (Settles et al., 2019). Even when things are running somewhat well, getting everyone who makes decisions to work together toward a shared objective may be challenging.

Many scholars studying educational leadership in higher education developed models to explain academic leadership. Academic leadership during COVID-19 has been studied. Sá and Serpa (2020) researched educational leadership, addressing the importance of leadership in digital growth and academic organizational culture change. They suggested rethinking educational techniques, leadership models, communication channels, and other ways to overcome challenges and seize opportunities. Dumulescu and Muțiu (2021) evaluated academic leaders' perspectives and experiences during COVID-19. They concentrated on leadership processes in the second part of 2019–2020. The leaders' strengths were decentralization and university reinvention.

Nevertheless, this study focuses on educational leadership practices and traits, particularly the leaders at Kasetsart University. Therefore, the educational appropriate leadership styles practiced were explored, and the leaders' traits were



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determined during COVID-19. Accepting the appropriate leadership style is vital to ensure the firm's success (Paracha et al., 2012).

Statement of the problem

1. What are 21st-century educational leadership practices during the COVID-19 pandemic?
2. What are the effective leadership traits of educational leaders during COVID-19?
3. What educational leadership in the 21st-century organization model can be proposed during the disruptive COVID-19?

Objectives

The study aims to identify educational leadership practices and influential leadership traits in 21st-century organizations during the COVID-19 pandemic. This qualitative research will also propose an educational leadership model in the 21st-century organization during the disruptive COVID-19 that focuses on higher education in Thailand.

Significance

This study can contribute to the practical awareness of the importance of leadership style and traits in difficult times and the need for leadership training initiatives to foster change, innovation, and adaptation to find the best ways to address local, national, and global challenges. The results may also be used as a reference for creating tools for leadership and management, as well as suggestions for academics, and they can give exciting viewpoints on the issue. The future is already here, and for universities to adapt to the new environment and make the most of the knowledge and skills acquired during the COVID-19 period, they will need to adopt new ways of thinking, attitudes, and practices.

Scope and limitations

This study is limited to determining leaders' educational leadership practices and traits during

the COVID-19 pandemic. Thus, the participants are former or recent deans and directors of Kasetsart University, who are in positions during the COVID-19 pandemic.

Literature Review

The leadership in the 21st-century organization

According to Martin (2006), the 21st century is a period that has transformed the whole thing we do, including how we communicate and work. It is a time in the evolution of technology characterized by a concentration on computer technology and information, communication, and multimedia technologies. It is understood as the age of knowledge or the information age, which has brought tremendous challenges, such as extreme poverty, social violence, the pandemic of AIDS, and water shortages, amongst others. A 21st-century organization is described as being on social media to see what is happening and know how to respond; you have got to respond reasonably and correctly, you have got to respond quickly, and your responses have to come from suitable sources, which are credible and correct. 21st-Century leadership is a multidimensional and integrative view of leadership based on relationships; a 21st-century organization is described as being on social media to see what is happening and know how to respond; you have got to respond (Krishnamurthy, 2020).

Challenges of leadership in the 21st-century organization

The apparent unpredictability of today's organizations puts excessive pressure on leaders and managers to adopt a pragmatic approach to leadership and management to motivate their followers to improve their performance and segment the visions and missions of the administrations so they can accomplish their goals. Leaders and management must accomplish their aims. It also suggests that leadership and management in today's enterprises are transforming due to causes such as increased rivalry in the new global economy, the



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development of new technology, and the internet's growth (Dike et al., 2015). Austin, Nolan, and O'Donnell (2012) describe the challenges of 21st-century organizations as leading in the age of super transparency, leading collaboration, motivating, and inspiring, effective governance, leading change, managing talent, leading in crisis, leading innovation, leading execution, and vision and the role of culture.

Leading in the age of super transparency

As a 21st-century organization, people generate massive amounts of data by using the internet and social media; social media to monitor current events and choose how to react by answering appropriately, correctly, rapidly, and from reputable and accurate sources (Dwivedi et al., 2021). Austin and Upton (2016) suggested how leaders of the 21st-century organization responded to the super transparency world: (1) Review your company's inadvertent transparency approach based on what it can accomplish, not what it knows. Many companies can lessen susceptibility. (2) Examine your company's operations for potential problems. Find problematic supervisors and procedures. Instead of seeking prospective leakers, which might make others think you have something to conceal, uncover dubious habits or procedures that could inspire leaking. (3) Managing your image requires a rapid response, particularly to erroneous information. You cannot stop social media from spreading nasty lies. (4) New knowledge changes perceptions of fairness. When previously inaccessible knowledge becomes freely available, people believe it should be accessible. Information flows influence how individuals see corporate activity.

Leading collaboration

Collaboration, according to Wood and Gray (1991), is a perspective that consists of five key dimensions (governance, administration, organizational autonomy, mutuality, and norms) that, when properly applied, will open up new ways for decision-makers to efficiently and effectively manage

organizations. However, it was suggested that managing partnerships is difficult since collaborations are complex entities that need the management of collective decision-making, administration, agreement, and trust that flows from all collaborators. Thinking of cooperation as the be-all and end-all is a significant error. A key lesson from the collaboration process is that top executives and decision-makers must recognize that they should not participate in any partnership until the complete process has been evaluated (Donahue 2004, Duit & Galaz 2008). Decisions and information are made in a spirit of cooperation and consultation under such leadership. It makes it easier to form organizations, formulate policies, and engage in the necessary campaigning to alter inefficient institutional setups (Weeks, 2003). Leadership characterized by collaboration breaks down barriers between groups and fosters joint effort; people from different backgrounds create an engaging classroom setting (Burns and Mooney, 2018).

Motivating and inspiring people

This difficulty is stated as inspiring or encouraging people to guarantee that they are content with their current positions; the issue is how to encourage a workforce to work smarter. To be an efficient leader, you must inspire, invigorate, and engage your team members in pursuing shared objectives. According to Horwitch and Whipple (2014), individualism is essential to inspirational leadership. Unfortunately, the majority of leadership development programs in existence today take an all-encompassing approach. There is no proper approach to inspiring or motivating someone else; this may make sense for specific performance skills, but there is no such thing as a single ideal way. Every person is motivated by a unique amalgamation of capabilities, and every person has a distinct collection of talents and competencies. Discovering and developing the hidden abilities of each individual is the first step in developing your ability to inspire others.



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Effective governance

Governance is not about the line items in the budget, personal difficulties, or permissions for pieces of equipment. It is about having values, vision, and strategic leadership (Carver, 2011). Effective corporate governance is more complicated to achieve than ever before. Companies need boards to assist them in meeting the fundamental requirements of regulatory compliance. Nevertheless, the most successful boards can swiftly check that box and provide sound strategic guidance and direction. The key to wholly actualizing a high-performing board lies in the recruitment and development of directors that go above minimum requirements. Langa (2022) says organizational structure and processes are crucial to good governance. Effective boards should implement the Nolan Principles, named after the committee's first chair. Selflessness, Integrity, Objectivity, Accountability, Openness, Honesty, and Leadership (Gwyon & Langa, 2022).

Managing talent

It is not always simple to handle talent. Many issues might arise, such as supervisors that are uninterested in assisting workers, unmotivated staff, and an employee who is not a suitable match for the organization. Poor recruiting tactics, inexperience with technology, ineffective leadership, and employee turnover are some of the most common personnel management concerns and challenges that a company may face (Ghosh, 2021). According to research conducted by Amabile et al. (2005), the pursuit of creative or inventive behavior is more likely to be led by the pursuit of intrinsic goals than it is to be prompted by the anticipation of receiving an extrinsic reward. For example, when people see a task as being fascinating, entertaining, or pleasantly challenging, they experience a kind of motivation known as intrinsic motivation. Likewise, when people find the labor intellectually gratifying, they discover that they like working just as much as the product, if not more. As a result, they improve their abilities, get a deeper comprehension of the subject matter, practice their judgment, and maybe

have an experience similar to flow, characterized by peak performance.

Leading change

Leading sustainable transformation in any company is challenging. The workplace is increasingly digital, diverse, and tech-dependent. Austin, Nolan, and O'Donnell (2012) say 21st-century leaders should examine these insights. (1) Culture leads to change; leaders who can assess their culture may alter it. (2) Change requires trust; high-performing staff trust their bosses, and trust influences corporate performance like accountability. Responsible companies outperform competitors. (3) Without motivated leaders, change visions fail. (4) A data-driven mission plan including as many people as possible offers the leader access to crucial information and majority buy-in. Vision should be shared formally (meetings, newsletters, digital tools) and informally (storytelling). (5) Transformation is successful when most workers pull in the same direction. Acceptance and participation empower. (6) Quick wins, honesty and storytelling Leaders alleviate team fatigue and worry by emphasizing progress and sharing experiences. Disciplined teams need disciplined leaders. Without disciplined teams, people lose sight of transformation visions. Leaders who do not remove roadblocks and emphasize change-inducing efforts will be dissatisfied. (8) Transformation in the twenty-first century is about planning for tomorrow's events, not just responding to today's. Leaders who foster resilience in their organizations and cultures will be more effective with change.

Leading in crisis

According to Austin, Nolan, and O'Donnell (2012), 21st-century organizations should consider the following in leading in crisis. (1) Leaders must confront reality; before solving difficulties, reality must be acknowledged. Everyone must be honest to comprehend the problem's fundamental causes for the leadership team. Unaware leaders cannot fix issues. (2) The situation will only worsen; leaders



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should plan for the worst. Reorganizing their cost base for the worst-case situation might help them achieve a turnaround and seize opportunities. (3) Build a cash mountain. In good times, CEOs focus on earnings per share and sales growth above financial statements. Cash rules a crisis. Forget about stock market measures like EPS. (4) Unburden yourself; leaders must recruit their staff to create and implement solutions in a crisis. It involves gaining people's confidence, seeking their help and ideas, and ensuring their commitment to challenging corrective actions. (5) Volunteer before asking others too; sacrifices must be made, and the leaders must make the most. Everyone watches leaders and never wastes a crisis. A crisis offers a leader the platform and urgency to finish activities that would have been done anyhow. (7) Advertise aggressively; it might gain market share in a crisis by providing new products or services.

Leading innovation

Innovation is one of the critical components in creating and sustaining a competitive advantage in today's more globalized world. Innovation is the initial introduction of a new concept, product, method, or system via a complicated process in which companies' knowledge is focused on meeting the stakeholders' expectations (Baporikar, 2014). The innovations in management establish the goals, principles, and policies that will direct the innovations and innovative culture that will be fostered to do miracles for the workers. When everything inside is prepared for the innovations, the creative leader engages in conversation with the stakeholders to solicit their ideas and get their comments (Sultana & Rahman, 2012). Innovative leaders may find solutions to present challenges while keeping an eye on the future. Innovative leaders share several attributes, including knowledge, abilities, attitudes, and talents in the areas of leadership, as well as the ability to perceive the risk posed by existing issues and forecast the negative repercussions they will have in the future. They are forward-thinking and dedicated to improving people's economic, political, and social

well-being and protecting the environment and the planet to establish a fair society (Şen, & Eren, 2012).

Leading execution

Most of the challenging difficulties that leaders encounter, including poorly executed strategy, a lack of organizational agility, disengaged personnel, and so forth, result from broken or poorly drafted promises. Executives may handle some of their most challenging difficulties in the near term while also cultivating productive, dependable workforces in the long run by cultivating and coordinating commitments methodically (Sull & Spinosa, 2007). Knowing your people and your company through and out, insisting on reality, setting clear objectives and priorities, following through, rewarding the doers, expanding people's talents, and knowing yourself are the fundamentals of playing to win in terms of the execution of the strategy (Martin, 2002). Like everyone else, those in positions of authority need to be held responsible for their acts. They should be judged according to the same criteria as everyone else. Moral expectations are placed on leaders, who are expected to fulfill those responsibilities. People in positions of authority who fail to meet their moral commitments must bear the consequences of their actions.

The importance of the vision of culture

These difficulties are often encountered when a leader is in charge of a department or organization composed of people from several cultures or an international team. All sides must work together to make the situation as manageable as feasible. According to Nold and Michel (2021), in the 21st century, one of the most critical factors contributing to a company's success is its organizational culture's effect on its employees' performance. On the other hand, good company culture may be a key source of genuine drive and devotion. The essential principles of a business are deeply held and broadly shared in a strong and coherent culture. This high intensity of shared values makes it comparatively simpler to reach employee agreement, concentrate on critical



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goals and objectives, limit possible disputes, foster a learning environment, and reduce staff turnover. In addition, a robust culture has a particular absorptive potential to bring people together. Employees are no longer forced to work hard but rather do so gladly. They identify with their company, like their families and communities (Mobley, Wang, & Fang, 2005).

Educational leadership in the 21st-century organizations

The organization known as educational leadership in the twenty-first century has been responsible for bringing about change in schools by training and assisting school administrators, assisting teachers in adjusting to new professional development models, personalized and blended learning, utilizing resources, and, more recently, forging community partnerships. Educational leaders are being subjected to unprecedented levels of accountability pressure. As a result of the growth of these environmental pressures, the leaders and managers of these institutions will require an increased level of understanding, skills, and resilience (OECD, 2015). The 21st-century organization requires a 21st-century education program, and education leaders at all levels need the knowledge and abilities to assist stakeholders in adopting teaching and learning approaches that equip students with 21st-century knowledge and skills. No matter where they live, students are linked via the internet, social media, and other technology (Trilling & Fadel, 2009). Those holding these positions expect to become knowledgeable in the various leadership and management theories, principles, and practices because these are integral parts of social and economic development (Drucker, 2006).

Educational leadership in the 21st century during the disruptive COVID-19

The COVID-19 pandemic disruption is one of the problematic scenarios. An unexpected pause or stoppage is referred to as a disruption. The term "disruptive education" refers to shaking up the

status quo to make the current model more effective. According to Carter & White (2018), disruption refers to any innovation or social upheaval that causes the school's operations to be modified over time. Therefore, an occurrence based on the disruption that abruptly affects how schools run is a disruptive event.

Technological leadership

Technology leadership can be considered an essential dimension of leadership for schools in the 21st century, where schools are being turned into technology-supported learning labs (Gocen, Eral, & Bucuk, 2020). The foremost objective for school administrators is to give practical education in hybrid and online learning. The hybrid learning strategy is blended learning, blends online educational resources with conventional in-person classroom techniques (Finegan, 2021). As a result, school administrators should be more conscious of the consequences of disturbance on school administration and the need to balance the overall welfare of the school community (Tharnpanya, Sinjindawong, & Thaima, 2021). Technology leadership initiatives are essential to an administrator's job in today's schools. Those in charge of schools must live up to their obligations and become pioneers in technological innovation. Both instructors and students need their leadership and direction to successfully apply ICT in the classroom (Okeke, 2019).

Digital leadership

Digital Leadership conducts digital transformation inside a company and digitizes the work environment and learning cultures. A digital leader has unique ideas on the digital ground, encourages his colleagues in the digital environment, and can build sustained connections with his employees (Sağbaşı & Erdoğan, 2022). In this setting, it is essential to exhibit the digital skills that set a leader apart from the pack. Skills essential for digital leadership encompass all of the knowledge and talents required for a person to initiate and guide



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innovation connected to information technology at all levels of an organization, from the smallest to the biggest, both privately and publicly owned and operated (Antonopoulou et al., 2021). In addition, Sainger (2018) proved that digital transformation is about change, which needs leadership since leadership is all about changes rather than stability.

Collaborative leadership

Leadership via collaboration is leadership through collaboration. Taking on a leadership position in a coalition, organization, or another business where everyone is on an equivalent foundation and works together to solve a problem, develop something new, or operate an organization or project is what this description means (Wang et al., 2008). According to the findings of Shu and Wang (2021), collaborative leadership has the potential to facilitate effective community government in the face of the COVID-19 public health catastrophe. In the face of such a danger, all organizations, particularly institutions of higher education and individuals within the community, must actively participate in collective action through cooperation. Whether we are talking about the global, national, or regional level is accurate. For example, school leaders can establish the framework for cooperation, strengthen connections, and inspire ownership and creativity via communal problem-solving when they delegate leadership roles to various members of the school community (Raelin, 2016). Sharing information, perspectives, and ideas is at the heart of collaborative leadership. It creates opportunities for individuals from all walks of life to learn from one another in a group setting (Koeslag- Kreunen et al., 2018).

Transformational leadership

Transformational leaders play an essential part in the fight against the COVID-19 pandemic, according to Santoso, Sulistyanningtyas, and Pratama (2022). These leaders are accountable for inspiring employees to be innovative and creative, taking active actions, and bolstering employee engagement

through internal communication. Thus, higher education executives may be able to boost employee engagement by adding spiritual values via internal communication to combat the epidemic caused by the COVID-19 virus. In addition, according to many studies, transformational leadership can improve employee engagement and happiness in their relationships with coworkers and boost productivity and internal communication (Mozammel & Haan, 2016).

Crisis leadership

Boin et al. (2013) built one of the most thorough crisis leadership models and outlined ten essential executive duties. Early duties include crisis awareness, sensemaking under uncertainty, and critical decision-making. Other duties include vertical and horizontal coordination inside and across enterprises and coupling and decoupling systems. Other significant roles include strong communication, helping people make meaning, and reflecting on the crises to understand what worked and did not. Bagwell (2020) stated that the pandemic was fast altering schools and leadership and urged leaders to adaptively, establish organizational and individual resilience, and construct dispersed leadership frameworks. Netolicky (2020) noticed school leaders' tensions during the epidemic. These conflicts include leading quickly and slowly, balancing fairness, excellence, and accountability, and recognizing human needs and organizational goals. Lacerda (2019) claims that leaders who can predict and create future views of the organization are influential during financial crises.

Innovative leadership

Disruptive innovations provide a problem for the educational system in the 21st century, but they make high-quality education more accessible to people. In addition, the mechanism will bring about a more individualized approach to the educational system. The secret to finding what is brand-new, what is superior, and what is next is to apply



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creative thinking and the leadership that supports it. Innovative leadership is the application of innovative thinking and the leadership that supports it (Horth & Buchner, 2014).

Visionary leadership

According to Ahmad and Oranye (2010), visionary leadership is a type of leadership in which empowerment refers to building self-efficacy, promoting helplessness, and strengthening intrinsic forces within organizational members to achieve successful aims and outcomes. The dynamic and engaging nature of visionary leadership stands in contrast to the direct method and the assumptions accompanying it. Leaders that exhibit the characteristic of visionary leadership can see what will happen in the future and plan how they will accomplish their objectives. According to Buluc (2009), the capacity to generate an impact on people to participate in specific aims and impart this skill to followers is the definition of visionary leadership. Visionary leadership and its features are essential for bolstering organizational capacity in times of high uncertainty, complexity, and ambiguity, such as the current COVID-19 pandemic. These characteristics can be seen in several competencies the leader applies, namely business, leadership, interpersonal and intrapersonal domains (Widodo, 2022).

Communication leadership

Communication must be crystal clear and constant while remaining open to change (Kaul, Shah, & El-Serag, 2020). Communication technology during COVID-19, mainly the internet, enabled continued communication and a limited continuance of higher education feasible as the Crisis unfolded. HEIs depended mainly on new technologies and platforms, such as broadband internet access and dependable video conferencing systems, to enable remote learning, teaching, and work. Emails and institutional websites were the primary online communication methods for HEIs (O'Shea, 2022). Leaders need to make the time to cultivate open and

empathetic interactions and communication that is crystal clear and motivating leads to communication leadership.

Adaptive leadership

Because the coronavirus pandemic is still reshaping education, schools have been forced to adjust to a teaching environment that is becoming more complicated and unpredictable. School leaders that adopt an adaptable leadership style and use essential leadership practices can assist their institutions in effectively navigating the obstacles posed by unpredictable educational settings (Bagwell, 2020). In addition, the adaptive leadership style enables leaders to rally their followers to take on complex tasks and succeed (Heifetz, Linsky, & Grashow, 2009). Furthermore, adaptive leaders comprehend how reliance, tractability, and self-sufficiency inspire the growth of organic expertise, which can motivate others to take creative approaches to address unanticipated challenges and needs as they arise. Finally, leaders who adapt to changing circumstances can inspire their teams to think outside the box to meet the demands of their organizations (Kuntz et al., 2017).

Traits of educational leaders during COVID-19

Leadership in an institution of higher education requires particular traits. First, it can be seen as being in alignment with theoretical approaches that include: shaping and imparting a vision, encouraging learning and collaboration, building meaning, imparting knowledge, providing opportunities for creativity, disseminating viewpoints and values, enabling ongoing dialogue, and maintaining and managing reflective processes in a collaborative and current climate (Schneider & Monsonego, 2010). According to Yokus (2022), educators and students learn to be flexible, resilient, and adaptable. Those in leadership roles learned to connect with their colleagues and stakeholders remotely, lead differently in the crisis, and ensure learning and teaching continued (Harris & Jones, 2022). New 'normal' educational leadership includes



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networking, improving educational methods, tranquility & compassion, analytical & strategic thinking, and openness. Encourage online communities, promote social interaction, create a secure and inclusive learning environment, provide learning tools, lead under pressure, emphasize positivity, and make data-driven choices (Yokus, 2022).

Research gap

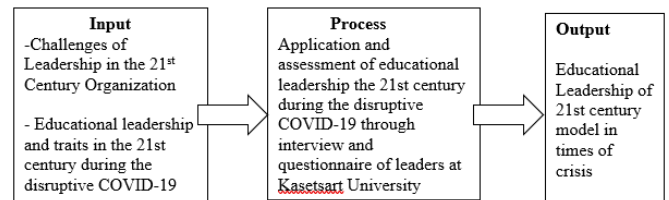
The literature reviewed discussed the complex challenges of leadership in the 21st-century organization. Based on the study review literature, challenges of leadership in the 21st-century organization are: leading in the age of super transparency, leading collaboration, motivating and inspiring people, effective governance, managing talent, leading change, leading in crisis, leading innovation, leading execution, and importance of the vision of culture which cannot be found in other research articles. Besides, the educational leadership practices in the 21st century during the disruptive COVID-19 were deliberated, focusing on the kinds of leadership employed and the traits of leaders by higher education leaders during disruptive COVID-19. The study identified the following educational leadership practices during COVID-19 technological leadership, digital leadership, collaborative leadership, transformational leadership, crisis leadership, innovative leadership, visionary leadership, communication leadership, and adaptive leadership. Furthermore, the complex challenges of leadership in the 21st-century organization were linked to educational leadership in the 21st century during the disruptive COVID-19 to form an educational leadership model in times of organizational change. The interrelation was noted as a research gap in this study that the researcher believes cannot be found in other research endeavors and is seldom found in the Thailand context.

Conceptual framework

The study utilized the input-process-output (IPO) model to illustrate the study's conceptual framework. As reflected in Figure 1, the input of the study was the challenges of leadership in the 21st-century organization and linked to 21st-century educational leadership and traits during disruptive COVID-19. The researcher processed, assessed, and applied the input to the public university in Thailand, notably Kasetsart University, through interviews and observation. The output was to identify the educational leadership model in times of Crisis.

Figure 1

Conceptual framework



Methodology

Research design

This study utilized qualitative instrumental case study; an instrumental case study is the study of a case (such as a person, particular group, vocation, department, or organization) to provide insight into a particular situation, redrawing generalizations, or building theory. In instrumental case research, the case is used to assist the researcher's comprehension of another topic (Mills, Durepos, & Wiebe, 2009). In this study, the educational leadership practices in the 21st century during the disruptive COVID-19 have deliberated that focus on the kinds of leadership employed by higher education leaders during the disruptive COVID-19 and building the educational leadership model in times of Crisis. The study's participants were ten leaders (deans and



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directors) at Kasetsart University. The data were gathered using a semi-structured questionnaire and interview based on the statement of the problem of this study. The semi-structured questionnaire utilized the Likert scale from 1 to 5, wherein one is less critical, and 5 is the critical educational leadership identified practices of leaders during COVID-19.

Data collection and analysis

The steps for gathering data for this qualitative instrumental case study research are as follows: (1) the selected leaders were informed about the study's objectives through chat or phone calls. Once the participants were comfortable participating in this study, a scheduled interview was set. The semi-structured questionnaire was sent via google form concerning the statement of problem number one of the study. (2) A phone call or face-to-face interview was set, asking for the statement of the problem of this study. (3) Lastly, the answers to the questionnaire were checked for descriptive analysis, and the interviewed data were written and analyzed. The interviews were conducted from 20 September to 8 October 2022. The participants were framed to respond by referring to their educational leadership experiences during the COVID-19 pandemic. Interviews were taken between 20 and 30 minutes and were conducted and moderated by the investigator. The discussions were transcribed verbatim and checked to ensure accuracy.

Data Results and Analysis

Educational leadership practices during COVID-19 based on the level of importance

Table 1 shows the descriptive educational leadership practices during COVID-19 based on the level of importance. It was reflected that during COVID-19, the leaders practiced adaptive, communication, crisis, innovative, collaborative, and digital leadership, wherein all (100%) were considered extremely important. In contrast, technological, transformational, and visionary leadership was

considered very important (90%). The results indicate that the researcher identified educational leadership practices during COVID-19 as significant and realistic, wherein leaders at Kasetsart University, Thailand, found it extremely and very important.

The educational leadership practices during COVID-19 based on the level of importance results of this study were validated by some authors; for instance, COVID-19 has raised the importance of adaptive leadership as well because of the increasing importance of an increase in the usage of technological advances (Ahern & Loh, 2020). Digital transformational leadership helped them maintain their and their organization's performance during the Covid-19 pandemic (Baroudi, 2022). A leader's communication leadership develops effective multi-directional communication to mediate and respond to actual needs and changes, mainly involving parties impacted or affected by policy changes (Nugroho et al. 2021). A call to action has demonstrated the ability to innovate, adapt and overcome an online, remote workforce or the accelerated use of new technological advances in education; embrace transformation through innovative leadership beyond COVID -19 (Wilson, 2022). Geroche and Yang (2022) found that collaborative actions lead Kasetsart University administrators to combat COVID-19 and act in collaborative leadership. Finally, digital leadership among school principals positively impacted teachers' technology integration during the COVID-19 pandemic (AlAjmi, 2022).



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Table 1

Descriptive Educational Leadership Practices during COVID-19 based on level of importance

Educational Leadership Practices during COVID-19	Extremely Critical		Very Critical	
	Frequency	Percentage	Frequency	Percentage
Adaptive leadership	10	100		
Communication leadership	10	100		
Crisis leadership	10	100		
Innovative leadership	10	100		
Collaborative leadership	10	100		
Digital leadership	10	100		
Technological leadership	9	90	1	10
Transformational leadership	9	90	1	10
Visionary leadership	9	90	1	10

Traits of educational leadership during COVID-19

The researcher believes in times of crisis, these traits need to be expressed more strongly so that the leader operates under the framework and is suited to the situation. All participants noted that leaders should possess the following educational leadership traits during COVID-19: accountability, compassion, flexibility, transparency, integrity, and teamwork. This revelation indicates that the mentioned traits of leaders are crucial during crisis management, particularly in COVID-19. Accountable leaders explain their teams' goals, objectives, and critical results, foster alignment and team focus, and take responsibility when things go wrong. Accountable leaders assess subordinates' responsibilities. Accountability of executives is crucial for keeping firms on track, especially during COVID-19. Ejere (2013) says encouraging worker responsibility creates a trusting, transparent company atmosphere. Compassionate leaders lead through crises, perform better, develop loyalty, and interact with workers during the business. COVID-19 stresses empathetic leadership.

Regarding flexibility, the planned leadership during the Covid-19 epidemic made the organization leader more transparent and flexible (Norrman, Järplind, & Schölin, 2022). Transparency is leaders'

preciseness, truthfulness, and open actions wherein people must figure out why they are being asked to do something. If you leave them wondering, people will be more vulnerable to disinformation and conspiracy theories. Telling people to calm down implies that some individuals are in a panic, which might lead to even more worry during the pandemic (Ecker & MacFarlane, 2020). Leaders must exemplify integrity via consistent procedures, compliance, accountability, and ethical conduct. People appreciate even the slightest actions of thoughtfulness and respect a leader takes. They perceive every blunder and insult, so be humble and apologize. Leaders want excellence, not perfection (Becerra, 2022). Teamwork is the coordination of knowledge and communication, as well as examining how leaders may stimulate them through techniques such as structuring the job, using communication structures, and participating in leader inclusivity throughout the epidemic (Mayo, 2020).

Discussions

The researcher analyzed the data, and the results of that study led to the model development for educational leadership in the 21st century, which the researcher calls the sunflower model. Figure 2 shows the sunflower model of educational leadership of the 21st century in times of crisis. In this sunflower model, the short petals represented the educational leadership practices during COVID-19 and comprised adaptive, communication, crisis, and innovative collaborative, digital, technological, transformational, and visionary leadership. The long petals represented a leader's survival traits in times of crisis. It was noticeable that in a sunflower model, there is a link between the educational leadership practice and leaders' traits; the link between them was interrelated to each other, and it signifies that effective leadership relies upon certain traits held by the leader. The traits of a leader must be suitable to the context in which the leader operates. A leader's success depends on the group's dynamic and the leader's compatibility with the group members (Mashele & Alagidede, 2022).



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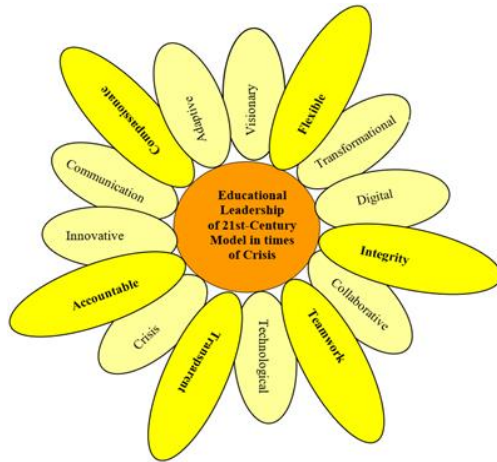
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Similarly, in this study, the traits of leaders suited to the disruptive COVID-19 pandemic wherein educational leaders were accountable, compassionate, flexible, and transparent, have integrity, and build teamwork to handle the challenges of the 21st-century organizational challenges. Besides, the effectiveness of their leadership practices depends on collaborative work among university stakeholders to survive the disruptive effect of COVID-19. During the crisis of the COVID-19 pandemic, the scenario was seen as the seat of connection between leadership practices (style) and leadership traits, forming a bridge between the two. The leadership in the 21st-century organization challenges amidst the COVID-19 pandemic urges educational leadership to develop leadership practices and traits to remain steadfast in times of crisis.

adopt via in-depth research and extensive preparation. Therefore, educational leadership was challenged and transformed leaders to adopt leadership styles and traits appropriate to the settings of these challenges. This study identified the educational leadership practices and traits of 21st-century organizations during disrupted COVID-19, particularly in the educational leadership in higher education in Thailand, the case of Kasetsart University as a public university. The study concluded that the developed sunflower model illustrated the ideal leadership style and traits to survive the 21st-century leadership organization challenges that can improve the quality of education. Understanding great leaders' leadership styles and traits help higher education match the appropriate leader with the exemplary scenario and develop the best leaders possible.

Figure 2:

Sunflower Model of Educational Leadership of the 21st Century in times of Crisis



Conclusions

The concept of leadership in the 21st century refers to how leaders cultivate a more contemporary mindset to prepare themselves better to meet the specific difficulties posed by the 21st century. This idea is predicated on a leader's actions, capabilities, and characteristics that one can only obtain and

Recommendations

Based on the findings, the following are the recommendations: For educational institutions and other organizations; the developed sunflower model of educational leadership of the 21st century can serve as a guide understanding to improve the quality of education by appropriate leadership styles and traits to help higher education make choices, prioritize objectives, and engage with people; the right leadership style can handle complicated issues, manage disagreements swiftly, alter a school's trajectory, and reform educational institutions. Furthermore, for future researchers, this research can be converted into quantitative methods to validate the relationship between leadership styles and traits in higher education and other organizations, such as private and public organizations worldwide.

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Satisfaction in Hybrid Learning and Technology Acceptance Model during and after the COVID-19 of Filipino Teachers in Thailand

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Abstract

Purpose – This study explored the Technology Acceptance Model and satisfaction with the hybrid learning modality

Design/methodology/approach – The study utilized the final version of TAM with the following variables: perceived usefulness, perceived ease to use, intention to use, and usage behavior. The sample size was computed using G*Power, and data were collected from 129 OFW Teachers in Thailand via a Google Form questionnaire and utilized non-probability sampling: purposive, convenience, and snowball. The statistical tools used were descriptive and inferential: multiple linear regression for hypothesis testing at a 0.95 level of significance using the SPSS program.

Findings – Results showed that the demographics of the respondents are the following: Gen X age group with the highest mean rating scores; females made up more than males; married marital status was utmost, and the most used platform is Google Meeting. The mean rating of the TAM factors was very satisfactory. The mean rating of TAM factors to demographic found that the Gen X age group, females, married status, and Google Meet got the highest rating on perceived usefulness. Finally, the study found that the TAM factors affecting teachers' satisfaction are the intention to use and usage behavior.

Research limitations/implications – the respondents of this study were strictly OFW Teachers in Thailand with Overseas Employment Certificates OEC and focused on exploring respondents' perceptions using the final version of the TAM. Therefore, future researchers could add more variables not undertaken in this study.

Practical and social implications – the study results are significant to SDG 4: Quality education. It will mainly benefit academic institutions to improve hybrid learning modalities in designing and delivering their study programs to help their students use the TAM.

Originality/value – this study adds to the teachers' opinions on their satisfaction with using the TAM in hybrid learning. No study has simultaneously measured teachers' satisfaction during and after the COVID-19 pandemic.

Key Words: Hybrid learning modality, the intention to use, perceived usefulness, perceived ease of use, satisfaction, Technology Acceptance Model



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Relevant SDGs: SDG 4 Quality Education

Introduction

Throughout the peak of the COVID-19 pandemic, the educational modality of learning converted into pure online learning to stop spreading the virus. However, recently, with the COVID-19 vaccine, some countries returned to the new normal and adopted hybrid learning. Hybrid learning, or blended learning, is a mixed mode of instruction, formally combining traditional face-to-face and pure online learning. These terms (hybrid and blended learning) are used alternatively but refer to the same concept. Hybrid learning is teaching at a distance using technology combined with traditional education. In Thailand, hybrid learning was also being used, and teachers needed to adjust how to manage their classrooms on the online platform and moderate or mentor with online learning during the COVID-19 pandemic (Lampong, 2021). Thus, Overseas Filipino Teachers in Thailand should adopt hybrid learning as a new modality.

The Technology Acceptance Model is a prominent postmodern concept that helps explain how people accept and use new technologies (Măță et al., 2020). In addition, TAM can indicate the successful implementation and adoption of online learning (Mehta, 2014). The TAM was developed by Davis (1989) with subsequent adaptations (Scherer, Siddiq, & Tondeur, 2019; Fathema, Shannon, & Ross, 2015) and is the most widely cited and validated model of determinants to acceptance and subsequent successful adoption of technology in the field of education. Furthermore, TAM is a theoretical framework now considered appropriate for researchers to predict satisfaction (Arbaugh et al., 2009); and was used to investigate attitudes toward blended learning (Tselios et al., 2011).

Statement of the problem

This study responded to the subsequent questions as follows:

1. What is the OFW Teachers in Thailand demographic profile in terms of the following?
 - 1.1. Age.
 - 1.2. Gender;
 - 1.3. Marital status; and
 - 1.4. Platform used?
2. What is the mean rating of the respondent's perception of the Technological Acceptance Model in terms of:
 - 2.1. Perceived Usefulness;
 - 2.2. Perceived Ease of Use;
 - 2.3. Intention to Use; and
 - 2.4. Usage Behavior?
3. What is the respondent's perception of the Technology Acceptance Model, such as perceived usefulness, perceived use, intention to use, and usage behavior according to the respondents' profile?
4. Is there a significant relationship among respondents' perception of the Technology Acceptance Model, such as perceived usefulness, perceived use, intention to use, usage behavior, and users' satisfaction with hybrid learning?
5. Based on this study, what programs can be proposed to improve the users' satisfaction with hybrid learning?

Objectives

This study determined the significant factors that affected the teachers' satisfaction with hybrid learning exhausting the Technology Acceptance Model, such as perceived usefulness, perceived use, the intention to use, and usage behavior, and compared respondents' perceptions according to



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their profiles in Thailand.

Significance of the Study

The study results are significant to SDG number 4: Quality education. It will mainly benefit academic institutions to improve hybrid learning modalities in designing and delivering their study programs to help their students use the Technology Acceptance Model. In addition, for policymakers, particularly the educational institution, to modify or initiate policies that can improve the teachers' satisfaction in using hybrid learning, the results will serve as assessment guides to improve sustainable learning for students using the hybrid modality.

Scope and limitations

This study contains several limitations that need to be pointed out. First, the respondents of this study were OFW Teachers in Thailand with Overseas Employment Certificate OEC. Also, to be qualified as respondents, the OFW stayed in Thailand during the pandemic up to the present. Second, this research focused on exploring respondents' perceptions using the final version of the Technology Acceptance Model developed by Venkatesh and Davis (1996), such as perceived usefulness, perceived ease of use, the intention of use, and usage behavior according to the respondents' demographic profile and the mean rating of the level of respondent's perceptions towards TAM factors.

Literature Review

Perceived usefulness influence satisfaction

Perceived usefulness is a crucial determinant of intention, encouraging 21st-century IS users to accept more advanced and comprehensible technologies that give them greater autonomy (Pikkarainen, Pikkarainen, & Karjaluoto, 2004). Liaw & Huang (2013) stated that increasing learners' perceived usefulness can enhance learners' self-regulation toward e-learning. Perceived satisfaction can be defined as user acceptance of

information systems and the degree of comfort involved in using them. Kim & Lee (2014) found that perceived usefulness and user satisfaction significantly positively impact the intention to use a personal robot service). Thus, perceived usefulness is significantly related to each other.

Perceived ease of use influence satisfaction

Perceived ease of use is well-defined as the mark to which a person trusts that exhausting a precise system would be free of effort (Davis, 1989), which is an imminent acceptance driver of new technology-based applications (Venkatesh, 2000). Furthermore, ease of use refers to the user's perception of the extent to which the use (adoption) of a given system is likely to be effortless, a determining factor in the acceptance of new technological applications (Mohammadi, 2015). According to Cigdem and Ozturk (2016), it is also likely that users will join in, use the system more and spend longer on it. Thus, perceived ease of use influences satisfaction.

Intention to use influence satisfaction

Teachers' intention to use online learning is also influenced by teachers' readiness to apply online learning. The more unprepared a teacher is, the more reluctant he will be to apply it. Previous findings prove that online learning readiness influences the intention to use online learning (Brahmasrene & Lee, 2012). Nevertheless, teachers' experiences in online learning will also affect teachers' intention to use online learning. Satisfaction has originated to have a significant positive effect on actual use. For example, Hassanzadeh et al. (2012) uncovered the positive effect of satisfaction on the actual use of e-learning systems. Therefore, in this study, satisfaction is assumed to positively impact the intention to use.

Usage behavior influences satisfaction

Behavioral intention can be defined as an immediate predecessor of usage behavior and indicates when a user is prepared to execute a particular behavior



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(Tarhini, Hone, & Liu, 2013). The measurement of behavioral intention is suggested as effective for predicting actual usage (Chu & Chen, 2016; Tarhini et al., 2013). User satisfaction can be conceptualized as the cumulative behavior or attitude toward the many factors that upset a given situation and is envisaged as the manifestation of affection gained from an interaction (Shee & Wang, 2008). Yin & Lertbuasin (2022) found that it positively impacts behavioral intentions to satisfaction as an intermediary component in the relationship between perceived value and customer behavioral intentions. Thus, usage behavior influences satisfaction.

Research gap

Myriad research on students' experiences and satisfaction with blended learning, as well as practical courses about teachers' understanding of development and teaching in blended learning courses; though, there is less research about teachers' satisfaction. Teacher satisfaction is critical to institutions and organizations (Stearns et al., 2015). Consequently, this study adds to the teachers' opinions on their satisfaction with using the TAM in hybrid learning. No study has simultaneously measured teachers' satisfaction during and after the COVID-19 pandemic. Therefore, this study determined the significant factors that affected the teachers' satisfaction with hybrid learning exhausting the TAM, such as perceived usefulness, perceived use, intention to use, and usage behavior, and compared respondents' perceptions according to their profiles in Thailand. Moreover, this is rare in the literature in Thailand; this was noted as a potential study gap. The researcher believed that this study's result is significant in improving the hybrid learning modality for both teachers and students.

Theoretical and conceptual framework

Theoretical framework: Technology Acceptance Model

Technology Acceptance Model TAM explains the

general determinants of computer acceptance that explain users' behavior through a wide-ranging range of end-user computing technologies and user populations (Davis, 1989). The final version of TAM has the following variables: perceived usefulness, perceived ease to use, intention to use, and usage behavior, adapted in this study. According to Jogiyanto (2007), perceived usefulness is a belief that using technology will improve individual performance so that it affects the decision-making process; and perceived ease of use is a situation where a person or individual uses information that will not require a large amount of effort and also not be a bother at the time of use. An intention to use reflects a user's desire to use technology in the future (Teo & Zhou, 2014). Usage behavior is measured from the actual frequency of particular technology use (Venkatesh et al., 2003). The TAM is a valued tool for predicting attitudes, satisfaction, and usage from beliefs and external variables (Al-Gahtani & King, 1999). TAM can be applied to technology-assisted learning: perceived ease of use and usefulness (Rad et al., 2022).

Users satisfaction

The definition of satisfaction in online learning is multifaceted that includes many factors, such as communication, student contribution in online discussions, flexibility, workload, technology support, instructor pedagogical skills, and feedback (Öztürk, Karamete, & Çetin, 2020). Satisfaction with online learning is founded on three learning concepts: social cognitive theory, interaction equivalency theorem, and social integration theory (Tian et al., 2011). Influences affecting student and faculty satisfaction with online learning can be categorized into three main categories: faculty, interactivity, and technology (Kurucay & Inan, 2017). Oliver (1980) certified that the accumulation of interactive feelings reflects satisfaction. Wang (2015) considered user expectation, quality awareness, convenience, and maintainability as the main contents of user satisfaction. With the improvement in satisfaction, users' trust in products or services would be enhanced. In the study, the



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users were the OFW Teachers in Thailand as a user of hybrid learning modalities.

Demographic variables

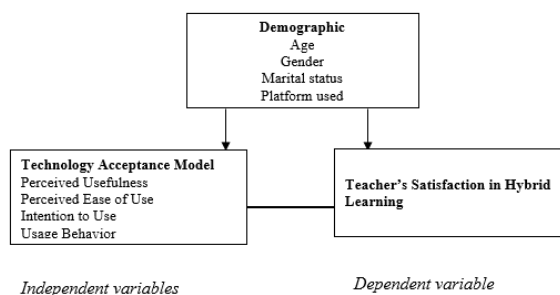
Researchers collect a demographic variable to describe the nature and distribution of the sample used and into multivariate models for controlling and confounding effects. Therefore, understanding demographics as a decisive factor in shaping the current socio economic reality is critical for governments, economists, researchers, and politicians (Western Cape Government, 2016). This study's relevant demographic variables are age, gender, marital status, and platform.

Conceptual framework

As reflected in Figure 1, the respondents' demographic, such as age, gender, marital status, and platform used, was described. In addition, the independent variables are the final version of the Technology Acceptance Model developed by Venkatesh and Davis (1996), with the following variables: perceived usefulness, perceived use, intention to use, and usage behavior. In contrast, teachers' satisfaction with hybrid learning is the dependent variable in this study. Consequently, this study explored the relationship between the respondents' perception of the Technology Acceptance Model and their satisfaction with hybrid learning.

Figure 1

Conceptual framework



Hypothesis

Based on the conceptual framework, the study's hypothesis is: that the respondent's perceptions of the Technology Acceptance Model, such as perceived usefulness, perceived ease of use, the intention to use, and usage behavior, are significantly related to Teachers' satisfaction with hybrid learning.

Methodology

Research design

This study utilized the quantitative type of research, which utilized the descriptive-correlational method. A descriptive correlational study is a study in which the researcher is principally involved in labeling relationships among variables without looking to establish a causal connection (Kane & Nelson, 2022). For instance, in this study, the respondents' profiles were correlated to the respondent's perceptions of the Technology Acceptance Model, such as perceived usefulness, perceived ease of use, intention to use, and usage behavior. In addition, the descriptive-correlational method is a statistical procedure used to measure and describe the relationship or the association of the two given variables that are given and clearly defined (Kupahu, 2017). The correlation coefficient was used to identify the relationship between the under-consideration variables in this study. Further, it measures any linear relationship between the given data set and how well they could be related. Respondent's perceptions of the Technology Acceptance Model, such as perceived usefulness, perceived ease of use, the intention to use, and usage behavior, are significantly related to Teachers' satisfaction with hybrid learning.

Respondents of the study

The respondents of this study were Filipino Teachers in Thailand. The qualified respondents, the OFW, stayed in Thailand up to the present during the pandemic.



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Sampling design

This study utilized purposive sampling to collect information from the available respondents to accommodate the researcher. The study purpose included the target population that met specific practical criteria, such as easy accessibility, accessibility at a given time, or the willingness to participate. Therefore, purposive sampling was employed in this study, wherein the researcher set a particular criterion or judgment in selecting the study's respondents. For example, the respondents of this study were Filipino Teachers in Thailand. Also, the qualified respondents, the OFW, stayed in Thailand until the present during the pandemic. The purposive sampling method, also called judgment sampling, is the respondents' deliberate choice due to their qualities. The researcher chooses what desires to be known and finds people who can and are willing to provide the information under knowledge or experience (Etikan, Musa, Alkassim, 2016).

Sample size

The G*Power 3.1 was utilized to compute the required sample size of this study using the following tests: Test Family: F-test; Statistical test: Linear Multiple regression: Fixed model, R² deviation from zero; and type of power analysis: Priori: Compute required sample size-given α , power, and effect size (Faul et al., 2020). The study also used the following input parameters to compute the G*Power sample size: Effect size f, 0.02 (small 0.02; medium 0.15; and large 0.35); α err prob, 0.05; Power (1- β err prob), 0.95; and the number of predictors four (number of independent variables in the study). Table 1 shows the sample size calculation using G*Power. As reflected, each effect sample size convention was calculated: Small ($f^2=0.02$), Medium ($f^2=0.15$), and Large ($f^2 =0.35$). The small effect size resulted in a 95 percent chance that the R² value will be significantly from zero, with 934 respondents. The medium effect resulted in a 95 percent chance that the R² value would be significantly from zero with 129 respondents. Finally, the large effect size

resulted in a 95 percent chance that the R² value would be significantly from zero with 59 respondents.

Table 1

Sample Size Calculation using G*Power

Effect Sizes		Small	Medium	Large
Input Parameters:	Effect size f	0.02	0.15	0.35
	α err prob	0.05	0.05	0.05
	Power (1- β err prob)	0.95	0.95	0.95
	Number of predictors	4	4	4
Output Parameters:	Noncentrality parameter Δ	18.68	19.35	20.65
	Critical F	2.38	2.44	2.54
	Numerator df	4	4	4
	Denominator df	928	124	54
	Total sample size	934	129	59
	Actual power	0.95	0.95	0.95

This study utilized a medium effect size because the 129 respondents with the actual power result were 95%, identical to the 95% Power (1- β error probability). This study utilized this sample size because of the limitations of the study, like time constraints.

Research instrument

The questions in the questionnaire were obtained from various previous studies and academic articles, wherein the researcher adapted and modified them based on the context of this study. Then, content validity was verified by three experts in the research. The following are the adapted questionnaire used with the following variables and their authors: Independent variables that comprise perceived usefulness and perceived ease of use (Wibowo, 2019); Intention to use (Venkatesh & Bala, 2008); usage behavior (Xiaofei et al., 2017). In addition, the dependent variables were adapted from (Hahm et al. (2022) satisfaction levels. This adapted questionnaire was tested in validity and reliability in their previous study, and Cronbach's alpha value was higher than 0.70, which is



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acceptable.

Meanwhile, the questionnaire in this study was modified and subject to a validity and reliability test. The questionnaire of this study comprises three parts: Part one is the demographics of the respondents, Part two: is the technology acceptance factors of hybrid learning modality, and Part three is the respondents' satisfaction with hybrid learning. Part two and three questionnaires utilized the five-point Likert Scale, from (1 -"strongly disagree" to 5- "strongly agree") as follows: (1) strongly disagree, (2) disagree, (3) undecided, (4) agree, and (5) Strongly agree.

Reliability and validity of the questionnaire

Furthermore, the questionnaire underwent validity and reliability testing. Validity involves "measuring what is intended to be measured" (Field, 2005). At the same time, reliability is the questionnaire's ability to produce similar results when administered at two different time points. Finally, content validity suggests the degree to which elements effectively determine or signify the property's content or peculiarity that the researcher wishes to measure. Subject matter expert review is often an excellent first step in instrument development to assess the area or ground you are studying (Li, 2016).

Validity

The study questionnaire was submitted to three experts to review the content validity. The first expert is the person familiar with the topic and can evaluate the questions and understand the topic. Next, an expert academician on question construction did the second and third reviews to ensure that the questionnaire did not contain common errors such as leading and confusing questions. Finally, all experts measured the readability, clarity, and comprehensiveness and agreed on which items comprised the final questionnaire.

Reliability

After determining the questionnaire, it was pre-tested on thirty (30) samples of the target population (OFW Teachers in Thailand) to assess the survey instrument's reliability and validity before their final questionnaire distribution. Cronbach's alpha index was utilized to measure the internal consistency of questions. Internal consistency means that some questions have been considered to measure a familiar concept. Cronbach's alpha is a statistic commonly quoted by authors to demonstrate that tests and scales constructed or adapted for research projects are fit for purpose, usually as a measure of reliability (Taber, 2018). This analysis was performed using the SPSS Program. The reliability test statistics of Cronbach's alpha value for the studied questionnaire equals 0.881, and the items' total statistics are above 0.70. Therefore, Cronbach's alpha value should be more prominent than 0.70; the obtained Cronbach's alpha value of the questionnaire is higher than 0.70; hence, the questionnaire's items are acceptable.

Data collection

For this research, the primary or direct data were collected through an online survey using the google form with the following: (1) The permission letter was written and addressed to the respondents clarifying the objective and purpose of the study, (2) respondents were selected and identified according to the criteria set by the researchers OFW Teachers in Thailand and to be qualified as respondents, the OFW stayed in Thailand during the pandemic up to the present), (3) the Google form document was sent to 129 (required number of a sample size of this study) qualified respondents wherein they can access the questionnaire and the permission letter, (4) the responses of the respondents were checked and upon reaching the required sample size, the researcher stopped sending the link of the Google form document, and (5) lastly, the answers and the data received were checked for statistical analysis.

In addition, the research relied upon numerous



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secondary sources to get a clear framework of the study, primarily reflected in the literature review. The literature review is a comprehensive background of the literature within the attractive topic area (O'Gorman & MacIntosh, 2015). It helps identify, select, evaluate, and interpret the literature related to the research area. Primary and secondary sources were previous study reports, journals, magazines, newspapers, and books. In addition, the comprehensive scope of the World Wide Web was used to collect detailed information about the topic.

Data analysis

The SPSS Program was utilized to assess the data gathered, and the statistical analyses were divided into three parts and are the following:

Analysis of demographic and TAM variables

Descriptive statistics were used to analyze the TAM factors and demographic variables, including frequency, percentage, mean, and standard deviation. In addition, the mean rating of respondents' perceptions of the TAM, such as perceived usefulness, perceived ease of use, the intention to use, and usage behavior according to the respondents' demographic profile, and the mean rating of the level of respondent's perceptions towards TAM factors was computed.

Analysis of respondent's mean rating of the level of TAM

This section analyzed the respondent's mean rating of the level of TAM. First, the mean, frequency, and standard deviation were computed. Then, the mean results were interpreted from a score of the answers, and it was divided into five levels on the Likert scale as follows:

$$\frac{\text{Higher score} - \text{Lower score}}{\text{Number of levels}} = \frac{5 - 1}{5} = 0.80$$

Therefore, Table 2 illustrates the criteria for understanding the mean rating level on

respondents' perception of TAM

Table 2

The Criteria for Interpreting the Mean Scores of Levels of Agreement

	Mean Scores	Level of Agreement
1	1.00 – 1.80	Not satisfied
2	1.81 – 2.60	Slightly satisfied
3	2.61 – 3.40	Satisfied
4	3.41 – 4.20	Very satisfied
5	4.21 – 5.00	Extremely satisfied

Hypothesis testing using multiple regression analysis

This study has one dependent variable (respondent's satisfaction) and four independent variables: perceptions of the Technology Acceptance Model, such as perceived usefulness, perceived ease of use, the intention to use, and usage behavior. Thus, the appropriate test was Multiple Linear Regression MRA. Multiple regression analysis permits the researcher to assess the strength of the relationship between an outcome (the dependent variable) and numerous predictor variables and the position of each predictor in the relationship, often with the result of other predictors statistically eliminated (Petchko, 2018). Therefore, a Multiple Regression Analysis was performed to test the study's hypothesis. In addition, the MRA assumptions were performed to check that there is no violation in the assumptions of multiple regression analysis. Normality, linearity, homogeneity of variance, uncorrelated predictors, residuals, and outliers.

MLR normality assumptions

This study found that the data was not normally distributed based on the Kolmogorov-Smirnov and Shapiro-Wilk tests and was transformed using arithmetic log 10. George & Mallery's (2010) declared that the values for asymmetry and kurtosis



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between -2 and +2 are acceptable to prove normal univariate distribution. Hair et al. (2010) & Bryne (2010) argued that data is considered normal if skewness is between -2 to +2 and kurtosis is between -7 to +7. Thus, the transformed data in all variables in this study was not violated because the highest skewness result was a perceived use (.90), and the lowest was usage behavior (.31) between -2 to +2. For the kurtosis, the highest was perceived ease of use (-.56), and the lowest was usage behavior (-1.30), between -7 to +7.

Test of homogeneity of variance

Further, Levene's equality of error variances tests the null hypothesis that the dependent variable's error variance was equal across groups. From the outcome, $F(28, 100) = 2.38, p = 0.1.49 > 0.05$. Since the p-value was more significant than 0.05, there was enough statistical evidence to suggest different error variances. In this regard, the equality of error variances was not violated. Besides, the tests of between-subjects effects were also significant in all independent variables.

Outliers

Outliers are anomalous values in the data. Values may not be similarly distributed because of outliers (Dung, Trung, & Abed-Meraim, 2021). The outliers were tested, and this was done using box plots. As a result, all variables have no outliers.

Multicollinearity

The condition index and the value inflated factor (VIF) were computed in testing for multicollinearity. According to Belhekar (2016), the maximum threshold for the condition index is 30, while the VIF is 5.0, and a VIF above 10 indicates a high correlation and is cause for concern. However, the findings of the study of multicollinearity were none of the statistics above the thresholds (VIF<5.0 and the condition index less than 30). This result, therefore, confirms that the multicollinearity assumption for the independent variables was not

violated.

Finally, the mentioned assumptions and MRA were run in the SPSS program. Based on the study's hypotheses, Multiple Linear Regression (MLR) analysis was performed between all variables. To measure the relationships below is the hypotheses equation tested at a 95% level of significance:

The equation for the hypothesis

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon_i$$

where Y is the level of Life Satisfaction (Satisfaction),

$\beta_0, \beta_1, \dots, \beta_4$ are parameters,

X1 is the Technological Acceptance Model (Perceived Usefulness),

X2 is the Technological Acceptance Model (Perceived ease of use),

X3 is the Technological Acceptance Model (Intention to use), and

X4 is the Technological Acceptance Model (Usage behavior),

Moreover, ϵ_i is an independent statistical error.

Data Results and Analysis

Demographic profile of the respondents

Table 3 shows the demographic profile of OFW Teachers in Thailand. The highest age group was between 41 to 56 Gen X years old (41.1%), followed by (Millennials) 25 – 40 years old (33.3%), (Gen Z) 18 – 24 years old (15.5%), and (Boomers II) 57 – 66 years old (10.1%), respectively. The more significant part of the respondents' gender was female, which accounted for 53.5%. The results indicate that women empowered the OFW Teachers in Thailand, with a 46.5% difference between males and females. Most marital statuses were married (47.3%), followed by a single (41.1%), widowed (7.8%), and divorced (3.9%), respectively. Furthermore, the hybrid learning online meeting platforms primarily used were Google Meeting (50.4%), followed by Microsoft Team (31%), Zoom (17.8%), and Schoology Big Blue Button (0.08%), respectively.



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Table 3

Demographic profile of the respondents

Factors and Group	N	%
AGE		
(Gen X) 41 – 56 years old	53	41.1%
(Millennials) 25 – 40 years old	43	33.3%
(Gen Z) 18 – 24 years old	20	15.5%
(Boomers II) 57 – 66 years old	13	10.1%
GENDER		
Female	69	53.5%
Male	60	46.5%
MARITAL STATUS		
Married	61	47.3%
Single	53	41.1%
Widow	10	7.8%
Divorced	5	3.9%
Hybrid Learning online meeting		
Google meet	65	50.4%
Microsoft Team	40	31.0%
Zoom	23	17.8%
Schoology Big Blue Button	1	0.8%

Mean rating on respondent's perception of the TAM

Table 4 shows the mean rating of the respondent's TAM perception. It was revealed that according to the criteria for understanding the mean rating scores of levels of agreement. All TAM variables' perceived usefulness (3.63), intention to use (3.55), usage behavior (3.53), and perceived ease of use (3.41) mean rating was very satisfactory.

Table 4

Mean Rating of the Respondent's Perception of the Technological Acceptance Model

TAM Variables	Mean	Standard deviation	Descriptive rating
Perceived Usefulness	3.63	0.67	Very satisfied
Intention to Use	3.55	0.61	Very satisfied
Usage Behavior	3.53	0.57	Very satisfied
Perceived Ease of Use	3.41	0.58	Very satisfied

Mean rating on the TAM factors according to the demographic of respondents

Table 5 shows the mean rating on the TAM Factors according to the respondents' demographic. Gen X (41 – 56 years old) got the highest mean rating (3.82) on perceived usefulness, while Boomers II (57 – 66 years old) got the lowest (3.33) on perceived ease of use. The results implied that Gen X was more on the perceived usefulness, while Boomers II was less on the perceived ease of use. Regarding gender, females got the highest mean rating (3.79) on perceived usefulness, and males got the lowest mean rating on perceived ease of use. The result indicates gender differences in the TAM variables. The married marital status got the highest mean rating (3.78) for perceived usefulness, while the divorced got the lowest (3.02) for perceived ease of use. It indicates that married marital status is more concerned with perceived usefulness, while divorce is less concerned with perceived ease of use. The most used platform for hybrid online learning, Google Meet got the highest mean rating (4.33) on perceived usefulness, while Zoom is the lowest (3.32) on perceived ease of use.



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Table 5

Mean rating on the TAM Factors according to the Demographic of Respondents

AGE	Boomers II	Gen X	Gen Z	Millennials	Mean Average
Perceived Usefulness	3.67	3.82	3.32	3.5	3.58
Perceived Ease of Use	3.33	3.47	3.4	3.37	3.39
Intention to Use	3.67	3.74	3.58	3.52	3.63
Usage Behavior	3.62	3.63	3.52	3.47	3.56
Mean Average	3.57	3.67	3.46	3.47	3.54
GENDER	Female	Male			Mean Average
Perceived Usefulness	3.79	3.42			3.61
Perceived Ease of Use	3.42	3.41			3.42
Intention to Use	3.77	3.48			3.63
Usage Behavior	3.68	3.42			3.55
Mean Average	3.67	3.43			3.55
MARITAL STATUS	Divorced	Married	Single	Widowed	Mean Average
Perceived Usefulness	3.05	3.78	3.51	3.57	3.47
Perceived Ease of Use	3.02	3.45	3.41	3.37	3.31
Intention to Use	3.33	3.71	3.57	3.67	3.57
Usage Behavior	3.13	3.63	3.48	3.73	3.49
Mean Average	3.12	3.64	3.49	3.59	3.46
PLATFORMS	Google meet	Microsoft Team	Schoology Big Blue Button	Zoom	Mean Average
Perceived Usefulness	4.33	3.52	3.64	3.72	3.72
Perceived Ease of Use	3.57	3.34	3.53	3.28	3.45
Intention to Use	4.1	3.58	3.65	3.65	3.8
Usage Behavior	4	3.63	3.54	3.48	3.66
Mean Average	4	3.52	3.58	3.53	3.66

Hypothesis testing

This research explores if respondents' perceptions of the Technology Acceptance Model, such as perceived usefulness, perceived ease of use, the intention to use, and usage behavior, influence satisfaction. It is hypothesized that the four predictors are significantly related to satisfaction. Results showed that 51.10 % of the variance is explained by the four predictors $F(4, 124) = 13.98, <.000$. Table 6 shows the Technological Acceptance Model to satisfaction influence. It was revealed that intention to use ($\beta = 0.22, t = 2.12, p < 0.04$) and usage behavior ($\beta = 0.26, t = 2.45, p < 0.02$) were significantly related to satisfaction. On the other hand, perceived usefulness ($\beta = -0.06, t = 0.62, p > 0.53$) and perceived ease of use ($\beta = -0.13, t = 1.44, p > 0.15$) is not significantly related to satisfaction.

Table 6

Technological Acceptance Model Influence on Satisfaction

Predictor	Estimate	SE	β	t	p
Intercept	0.51	0.14		3.66	0.00
Perceived Usefulness	0.05	0.09	0.06	0.62	0.53
Perceived Ease of Use	0.13	0.09	0.13	1.44	0.15
Intention to Use	0.21	0.10	0.22	2.12	0.04
Usage Behavior	0.26	0.11	0.26	2.45	0.02

Discussion, Conclusions, Recommendations

Discussions

The study analyzed the demographic profile of OFW Teachers in Thailand. The age group of OFW Teachers in Thailand was spread; the result is similar to Geroche (2021) that OFWs in Thailand have an irregular distribution of age groups. Regarding gender, women empowered the OFW Teachers in Thailand; females dominated males among the OFWs in Thailand and other countries (Hasnan, 2019). Most marital statuses were



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married; the results indicate that married individuals are thinking about their family members' financial aspects to sustain the entire family; that is why more married OFWs went abroad to Thailand and other countries. There are billions of OFWs overseas, most of whom are married, to provide for their family needs (Isavta, 2019). It also indicates that most academic institutions prefer married teachers in Thailand because married individuals are more responsible than single individual. The married teachers had higher job satisfaction and extra responsible than the single (Mocheche et al., 2019). Furthermore, the hybrid learning online meeting platform primarily used was Google Meeting; the results indicate that Google meets is more comfortable and friendly to users (Saidi et al., 2021).

The Respondent's Perception of the Technological Acceptance Model satisfaction level was analyzed, and the OFW Teachers in Thailand agreed or were satisfied that TAM model variables were beneficial and necessary during and after COVID-19. Besides, Technology acceptance research in teaching and learning contexts has become an attractive trend and has the fundamental model for understanding predictors of human behavior toward potential acceptance or rejection of the technology (Granić & Marangunić, 2019).

The TAM Factors according to the demographic of respondents were analyzed, and it found that in terms of age, Gen X was more on the perceived usefulness, while Boomers II was less on the perceived ease of use. Besides, Gen X teachers are not ready to produce this learning system. For a blended-learning system to succeed in school settings, it is essential to overcome challenges that Gen X teachers may have. In addition, a smooth transition is needed to make blended learning more effective and sustainable (Maleesut, Piyawattanaviroj, & Yasri, 2019). Although the Boomers II needed more training in terms of perceived ease of use since this age was not technosavvy (Jone, 2016).

Regarding gender, females got the highest mean rating on perceived usefulness, and males got the lowest mean rating on perceived ease of use. The result indicates gender differences in the TAM variables. Therefore, ease of use and perceived usefulness provide evidence of gender differences in blended learning (Padilla-Meléndez, del Aguila & Garrido-Moreno, 2013).

The married marital status got the highest mean rating for perceived usefulness, while the divorced got the lowest for perceived ease of use. It indicates that married marital status is more concerned with perceived usefulness, while divorce is less concerned with perceived ease of use. In addition, the results indicate that married marital status was more motivated and excellently performed in hybrid learning; the married group was observed more favorably than the unmarried regarding academic and job performance (Duke et al., 2015).

Regarding the most used platform for hybrid online learning, Google Meet got the highest mean rating on perceived usefulness, while Zoom is the lowest on perceived ease of use. The results indicate that Teachers in Thailand can perform well on a hybrid learning modality with the Google Meet platform. Therefore, Google Meet is an effective and efficient digital tool for teaching and learning online (Hussaini et al., 2020).

The TAM to satisfaction on hybrid learning modality perceived by OFW Teachers in Thailand was influenced by two variables based on the study results: intention to use and usage behavior. The results indicate that OFW teachers in Thailand intended to use the hybrid learning modality due to precautions against spreading the virus during and after COVID-19. The results were similar to the study of Al-Busaidi, & Al-Shihi (2012), that instructors' satisfaction is a significant determinant of their continuous intention to use blended learning and their intention to use Learning Management Systems for distance education purely. According to Davis (1986), a user's intention to use is the primary determinant of his or her ultimate usage of



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technology. However, such intention is hypothesized to influence a user's attitude toward technology use positively; facilitating conditions of COVID-19 had positive relationships with usage behavior (Aziz et al., 2022). In addition, Yin & Lertbuasin (2022) found that it positively impacts behavioral intentions to satisfaction as an intermediary component in the relationship between perceived value and customer behavioral intentions. Thus, satisfaction relied on these two significant variables: intention to use and user behavior because of the external factor, COVID-19.

Conclusions

The study analysis and results of the mean rating on the TAM factors according to the respondents' demographic, mean rating on respondents' perception of the TAM, and the TAM to satisfaction influence is radical in the assessment of hybrid learning modality. For instance, in the analysis of the mean rating on the TAM factors and demographic, the prevalent variables are perceived usefulness and perceived ease of use in all demographic factors; the results will serve as a basis for which factors to be improved in the demographic variable groups. Furthermore, in the analysis of the mean rating on respondents' perception of the TAM, all variables were very satisfactory, and the results can be guidelines for improving the teachers' satisfaction. Finally, the analysis of TAM to satisfaction influence, intention to use, and usage behavior were variables that influence satisfaction; results provide an insight into which factors to be prioritized for future reference. The study concluded that study findings are essential for the improvement and development, and guidance of the educational institution on the current and future implementation of hybrid learning modalities that can improve OFW Teacher satisfaction based on TAM factors.

Recommendations

Based on the study outcomes, the study recommends that policymakers and administrators, particularly

the educational institution, modify or initiate policies that can improve the teachers' satisfaction in using hybrid learning; the results will serve as assessment guides to improve sustainable learning for students using the hybrid modality. For future researchers, the study results can serve as the basis for other researchers to understand better TAM factors influencing user satisfaction. In addition, they can address this study's limitations on future research endeavors.

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The Value of Experiential Lessons in Event Marketing Education

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Abstract

Purpose – This study aims to explore how experiential lessons contribute to student learning and engagement in event marketing taught in an online classroom.

Design/methodology/approach – Using qualitative action research, it examined the expectations and experience of learners who participated in an online event marketing undergraduate course for a term.

Findings – This study finds that experiential lessons, such as storytelling lectures and collaborative project requirements help achieve the goals of transformative teaching; specifically, where learners master concepts, enhance skills and develop positive attitudes, values, and beliefs toward learning. Specifically, storytelling lectures provide opportunities for learning concepts through modeling, while individual and collaborative project requirements provide opportunities for learning through the practical and relevant experience of concepts.

Research limitations/implications – This study contributes to the discussion on event marketing and management pedagogy, transformational teaching, and transformative learning experience.

Practical and social implications – This study provides examples of experiential lessons.

Originality/value – This research contributes to the growing but limited pedagogical discussion on event marketing and management education offers teaching strategies that apply to event marketing and management education and online learning in general and contributes to the discussion of experiential learning.

Key Words: event marketing education, experiential learning, lessons

Relevant SDGs: SDG 3 Good Health and Well-Being, SDG 4 Quality Education,

Background

The study aims to understand the challenges that participants experience and the gaps between learning experiences and learning expectations. Experiences are at the core of marketing literature. Holbrook and Hirschman (1992) proposed the

experiential aspects of consumption.

Pine and Gilmore (1998), on the other hand, proposed that as economies grow and progress, so should the economic offerings of firms. Instead of merely producing goods and delivering services, firms should be staging experiences because they provide a higher consumer value— experiences are “inherently personal,” making them unique and



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memorable to each consumer (Pine and Gilmore, 1998). Put simply, firms are in the business of delivering experiences.

The value of experiences becomes more pronounced in the study of event marketing and management because, as Berridge (2020) claims, it is in the business of experience delivery.

Perhaps more accurately, event marketing and management are in the business of conceptualizing, designing, producing, and delivering experiences. It becomes important then for event marketing and management students to learn and understand how to design, deliver, and co-create experiences.

When covid-19 restrictions forced classes to move online, marketing educators had to adapt to the new teaching modality quickly. The early iterations of classroom management techniques and teaching approaches left many learners suffering negative experiences, such as poor social interaction, poor concept proficiency, and poor understanding of the subject matter's relevance to the real world (Finlay et al., 2022). It becomes essential for educators to understand which lessons and strategies appeal to and engage learners. Extant education literature posits that experiential lessons help learners engage, master concepts, and develop positive learning attitudes.

This research contributes to the growing but limited pedagogical discussion on event marketing and management education offers teaching strategies that apply to event marketing and management education and online learning in general and contributes to the discussion of experiential learning.

Literature Review

Learning Perspectives

Kolb's (1994) experiential learning proposed that knowledge is created through the transformation of experience. This means that learning occurs through

experience or by going through experiences. Kolb (1994) further explains that learners move through different stages, alternating between being an involved actor, one that acquires or is involved in an experience, and a thoughtful observer, where the learner detaches from the experience to dissect, analyze, and synthesize the experience to create meaning—essentially, learning. This is the process of transforming experience into knowledge.

The experiential learning approach is complemented by collaborative inquiry. The collaborative learning approach supports the notion that learning occurs best in group settings because of group dynamics that afford better motivation than working alone (McKeachie & Svinicki, 2013). York and Marsick (2000) explain that action learning, an example of the collaborative learning approach, entails organizing learners according to teams and asking them to solve a problem or issue. This strategy is very similar to challenge-based learning.

The challenge-based learning approach, as defined by Nichols and Cator (2008), and as affirmed by real-world examples (Baloian et al, Conde et al 2019, Leijon et al, 2021), is a collaborative approach that involves not just the students but also teachers, parents, peers, and other relevant parties in finding a solution to real-world problems. Challenge-based learning experiences tap into the student's desire for meaningful learning experiences while developing various skills in the process (Malmqvist et al, 2015).

Slavich and Zimbardo (2012), through their study of similarities among contemporary learning approaches, particularly the transformation of learners' disposition toward learning, proposed a teaching approach they call transformational teaching. Their approach is founded on Mezirow's transformative learning theory (Mezirow 1978a, 1978b, 1991, & 1997). The goal of transformational teaching is to enhance mastery of key course concepts while transforming learner skills, beliefs, values, and attitudes about learning. Slavich and Zimbardo (2012) identified six core methods or strategies that teachers employ in transformational



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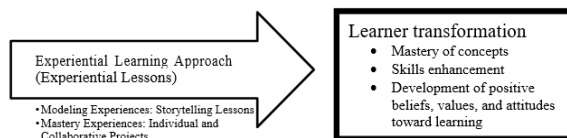
teaching, two of which find root in the experiential learning approach: (1) provide modeling and mastery experiences and (2) create experiential lessons.

Framework and Methodology

Kolb (1994) posits that learning occurs in and through the transformation of experiences. Slavich and Zimbardo (2012), on the other hand, posit that transformational teaching leads to the mastery of concepts, skills enhancement, and development of positive beliefs, values, and attitudes towards learning. These goals, in turn, are what Mezirow (1978a, 1978b, 1991, & 1997) refers to as learner transformation. Slavich and Zimbardo (2012) further propose that transformation may result from modeling and mastery experiences, and experiential lessons. In this study, modeling experiences may come from storytelling lectures where teachers share relevant experiences that model concepts being taught. Individual and collaborative project requirements provide mastery of concepts through experiences. Both storytelling lessons and hands-on project requirements are examples of experiential lessons.

Figure 1

Learner Transformation Through Experiential Learning



Methodology

The study aims to understand the challenges that participants experience and the gaps between learning experiences and learning expectations. Given the nature of the research problem, a qualitative action research method is employed (Burns, 2015). As experience is the focus of the research, which Palmer (2010) describes as non-linear, multi-dimensional, and context-specific

(Palmer, 2010), and given the nature of action research (Burns, 2005), this study employs qualitative methods and used an online survey questionnaire. A survey questionnaire is the most used instrument in the study of experience in the marketing literature (Becker, 2018).

In this study, students were asked to accomplish two survey questionnaires: a pre-course survey questionnaire at the beginning of the term and a post-course survey questionnaire towards the end of the term. In the pre-course survey questionnaire, students were asked to express their expectations of the course and define what success in the course means for them. In the post-course survey questionnaire, students were asked to describe their learning experience, and assess their experience and performance in the course. A total of 27 students responded to each survey.

Questions on the survey were open-ended to allow the students to express themselves freely. These responses were then coded and categorized for analysis.

Discussion

Teaching methods

I used the learning-by-doing approach in teaching events marketing courses in previous in-person classes and continued to do so in the online distance learning setup in accordance with Kolb's (1984) learning theory to provide learners with opportunities to gain practical experience. Each project was designed to be incrementally more challenging to allow students to learn and master specific concepts as they go through the course, a core method of Slavich and Zimbardo's (2012) transformational teaching approach. Previous projects serve as models for succeeding projects. Furthermore, succeeding projects provide opportunities to master concepts learned in previous projects.



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Table 1

Summary of Course Requirements

Project and description	Challenge to address	Pedagogical approach
<p>Individual Experience Vlog</p> <p>Description: Students choose a virtual event, based on specified criteria. Students then shoot and edit a video log (vlog) describing and evaluating their experience.</p>	To understand the guest experience.	Experiential Challenge-based
<p>Midterm Group Project: Classroom Event</p> <p>Description: Students organize into groups of their choosing, and activate an online event based on a teacher-determined theme. These events are carried out during class hours and attendance is limited to the learner cohort.</p>	To learn how to activate an event concept.	Experiential Challenge-based Collaborative
<p>Finals Group Project: Online Fundraising Event</p> <p>Description: Students, in the same group as their midterm project, conceptualize and activate an online event to help support a cause-based organization or individual beneficiary of their choosing. Students conceptualize the event, plan and organize around this concept, promote an event, and execute event plans.</p>	To learn how to conceptualize and activate an event.	Experiential Challenge-based Collaborative

Lectures are delivered in storytelling style, loosely using two experience frameworks: Disney’s delivery systems framework (Kinni, 2011) and Rossman and Duerden’s (2019) experience scape framework. Each lecture is used to explore and explain event marketing concepts such as guest experience, event design, event marketing, and planning and logistics. These lectures draw from the teacher’s experiences in attending events as a guest and activating events as an event professional.

Each lecture is designed to provide learning support for each project requirement. It also serves as a model for students as each lecture mimics the experience of attending an online event. All lectures

incorporate elements found in events, such as but not limited to program planning and flow, costumes, props, videos, and other multimedia learning aids to enhance the storytelling delivery.

Learner transformation: mastery of concepts, skills enhancement, and development of positive attitudes toward learning

In the pre-class survey, students claimed that they enrolled in the class because they wanted to learn how to activate events (63%) and develop relevant skills (22%), which they claim they will need for future endeavors (41%). These motivations align with how they define succeeding in the course: acquiring new knowledge (37%), developing skills (37%), and applying what they learned in class (33%).

In the post-course survey, students claimed that they acquired new knowledge (33%) and developed important skills (33%), including communication, collaboration, creativity, adaptability, and decision-making skills, through their participation in the course.

Many students believed that they succeeded in the course (85%), while the rest believed that they performed better than expected (15%). Some have also expressed enjoying the learning experience (11%). They also expressed that their success in the course was a result of developing the right skills (44%), developing the right attitude (56%), and applying themselves and behaving accordingly (56%).

Students also demonstrated desired results of transformational teaching: subject matter mastery, enhanced skills and learning strategies, and positive learning-related attitudes, values, and beliefs (Slavich & Zimbardo, 2012). Some examples of responses that demonstrate these are the following:

“This course has allowed me to be a better leader. The skills that I have learned in this class have helped me become more



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organized and creative in any type of situation.”

“Online courses can be fun and, in my opinion, I can learn so much more through experience than tests or quizzes.”

Storytelling lessons: observational learning through modeling

I focused the storytelling lectures on experience contexts that I assumed students would relate to or events that they have experienced themselves, such as visiting amusement parks and attending concerts. Concepts, problems, and questions are framed appropriately to the student's level of knowledge and skill. One student said that the lectures were “... *easily relatable*,” while another said, “... *it was easy to digest*.”

Cercone (2008) asserts teaching strategies should allow learners to connect their past experiences with concepts they are learning in the present so that they may see possible future implications. While learner experiences differ, these lectures focus on similar or comparable experiences so that learners may explore new concepts using contexts that they can relate to and understand. These lectures were also meant to help students call into question preconceived beliefs and explore alternative perspectives. For example, some students noted that my previous experiences allowed them to learn what they needed to keep in mind when attending or activating events:

“It (helped me understand) that not everything will go as planned ... so (I should) be prepared and (learn how) to (respond to) these situations.”

Furthermore, the experiential elements of lectures, such as content programming and the use of various media, provided models for how to entertain and engage the audience in the virtual setting. My experiences and storytelling methods served as models on how to accomplish their events project

requirements. Students considered these storytelling lectures as lessons that provided a creative, fun, engaging, and impactful learning experience, which helped them develop healthier attitudes toward learning.

“(By) discussing his experiences, we (were given) standards to follow on how to activate events.”

“It’s good to know that learning doesn’t have to be so serious ... to be able to get the message that the professor is trying to deliver.”

Experiential projects: concept mastery through experiences

Event projects, on the other hand, provided students with opportunities to apply what they have learned through lectures by allowing them to do hands-on experiments to test out their preconceived ideas on how to activate events. Each project, designed to be incrementally more challenging than the previous one, provided students the opportunity to focus on learning and mastering a specific concept at a time. This strategy helped them in succeeding projects as the concepts they mastered in previous projects provided them with a foundation for the next projects. Specifically, the first project aimed to teach students to understand the virtual guest experience as an active observer—that is, to understand how customers feel when they attend and participate in events, what experience or sets of experiences guests expect from attending the event, and how they feel when these experiences are met or not met. The second event project required students to become active agents and aimed at teaching students to create an experience based on a preconceived event theme or concept to allow students to focus on learning how to provide an experience without the pressure of conceptualizing an entire event. It is in the final project that students are required to conceptualize an event theme, design the experience based on this theme, and execute the event experience plan, which closely mimics what most



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events professionals do.

Students found these event projects challenging for different reasons. Some were challenged because it required them to do something new and different, while others were challenged to work with available resources, which students felt were limited in a virtual learning environment.

“There were several opportunities for me to try new things in taking up this course.”

“I was challenged because this was my first time planning an event ... (I had no idea) how hard it (was) ... I had fun because I learned a lot.”

“(It was challenging) to find the resources to make (the online event) fun and engaging.”

Many students felt online communication to be problematic, which made collaborating difficult. Learners experienced problems with their Internet connection, and it impacted their ability to participate in class, activate events projects, and communicate and engage with fellow learners. However, these challenges encouraged students to adapt, be creative, and develop better communication and collaboration skills.

“We had to think of ways to innovate and be creative with what was given to us.”

“I (learned how) to communicate our goals and objectives (clearly) to get everyone (in the group) on the same page.”

A disadvantage of online distance learning is its socially isolated nature (Finlay et al, 2022), which made collaboration a crucial aspect of the course's learning experience. The event projects provided multiple opportunities for students to engage and interact not just with their project groups but also with the rest of the class. Many students acknowledged that they found the events projects fun and entertaining because of the interaction.

These interactions were learning opportunities as students were able to observe and experience how other groups executed their events projects.

“(I found the classroom events enjoyable because of) how the students were able to execute the different activities and the participation of everyone as well.”

“The interactive aspect of the class events and being able to see each of the groups' creative ideas (made it enjoyable).”

Overall, students found these experiential lessons to be enjoyable, challenging, and impactful. Students enjoyed these lessons because they were collaborative and engaging (33%), fun (30%), and creative and unique (15%). Following the flow theory in positive psychology, students are more likely to develop new skills, increase self-confidence, and improve self-complexity when they are not only challenged but also enjoy the learning experience (Csikszentmihayli 1975). Enjoying the learning experience positively impacts learning outcomes because it enhances learner engagement (Armstrong et al, 2009), motivates learners to perform better (D'Mello, 2013), and results in greater retention of learning (Lucardie, 2014).

Self-reflection

The physical classroom democratizes the learning experience because it allows students equal access to the teacher and their peers within the same four walls. A distinct disadvantage of the online classroom is that the learning experience is dependent on the learner's access to technology and the quality of their physical learning space. The size of the screen, the quality of the microphone and speakers, and the ambiance of the physical learning space, among other external factors, impact the learner experience, particularly how they engage in the online classroom.

It is difficult to make the learning experience gadget neutral and doing so reduces engagement. For



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example, because many learners in this cohort complained about unstable Internet connectivity, it has become a practice for students to keep their cameras off unless otherwise asked. This means that I often deliver lectures to what looks like an empty classroom, which felt discouraging and impacted my motivation to teach. To counter this, I encouraged students to ask questions through chat, participate in polls, or use Zoom's engagement features. Despite these measures, engagement in the online classroom remains low compared to in-person classes. Some students have expressed that it was easy to "mentally check out" and disengage in online learning.

As such, there is a need to focus on improving engagement in the online classroom, because the lack of engagement impacts learner motivation and performance. The focus of learning literature has been on developing a learner's competence and autonomy in the classroom. However, through this experience, I found that students need the most help in nurturing the psychological need for relatedness to keep them engaged and motivated throughout the course.

Conclusion

This study highlights how to deliver a transformational learning experience to a cohort of undergraduate students taking an events marketing course delivered in the online learning modality. The experience shows that experiential lessons promote learning transformation by helping students master concepts, enhance skills, develop strategies for learning and discovery, and reinforce positive learning-related attitudes, values, and beliefs. Experiential lessons include storytelling lectures that mimic an event activation and collaborative project-based requirements that call for students to activate events. Storytelling lectures provide opportunities for learning concepts through modeling, while individual and collaborative project requirements provide opportunities for learning through the practical and relevant experience of concepts. These lessons provide opportunities for

students to engage with both the subject matter and fellow learners. These teaching strategies keep students engaged and motivated to perform and persist despite challenges in the online learning setup.

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The Mediating Role of Training Infrastructure in the Relationship Between Teaching Methodologies and Effective Implementation: Virtual Training Environment

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Abstract

Purpose – The objective is to examine the effect of training infrastructure as mediating variable on teaching methodologies as the predictor of effective implementation as the outcome. This is an exploratory study to know if the training infrastructure has an effect and if so, how much.

Design/methodology/approach – The survey research design was applied to meet the objective of this study with 81 questionnaires sent to the participants. The Baron and Kenny model was adopted to test the hypotheses developed in the study.

Findings – The study finds that both the teaching methodologies and training infrastructure affect the effective implementation, with training infrastructure having the greater effect, in a virtual training environment.

Research limitations/implications – The limitation is that the participants were all graduate school students. It implies that for college graduate participants who constitute mostly the Philippine office workforce, a confirmatory study should be conducted.

Practical and social implications – Since the hybrid working condition is already acceptable in the business environment, companies should invest in virtual training infrastructure to make sure that training can be effective.

Originality/value – This study is relevant to the current business environment particularly now that work-from-home, even just on a part-time basis, is becoming the new normal.

Key Words: Teaching methodologies, Virtual training infrastructure, Effective implementation, Baron and Kenny four-step analysis, Virtual training environment.

Relevant SDGs: SDG 4 Quality Education, SDG 8 Decent Work and Economic Growth SDG 9 Industry, Innovation, and Infrastructure



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Introduction

Training is about improving individual and group performance and in turn influencing the overall performance of the business. It is, therefore, important to evaluate the effective implementation of the training and ensure that the original learning goals are achieved. The effectiveness of training is measured along the levels of reaction, learning, behavior, and results; which is the Kirkpatrick Evaluation Model for training. (Verna, 2021).

Background of the Study

Training in a face-to-face environment involves having an excellent objective over which the training methodology was designed. During this period, the communication between the trainer and the trainees is not difficult. Aside from the verbal exchange of ideas, the body language of the participants as well as the resource person can add to the vocal presentation. If there is a disconnect between what the participants are saying and their body language, the resource person can notice them and can therefore adjust the methodology suited to the environment.

There is a training design process that is based on the principles of Instructional System Design which refers to a process for designing and developing training programs, which is sometimes referred to as the ADDIE, which stands for Analysis, Design, Development, Implementation, and Evaluation model (Noe, 2010).

Singh (2017), in his article entitled Employee Motivation: A Study on Modern Workplace Motivation, stated that there are two ways to look for motivating in the workplace: (a) develop short-term motivation which is essentially a quick boost to morale, and (b) build a sustainable employee motivation which is a constant work in progress.

In the Philippines, employee training is an important aspect of productivity. Companies hire

training resources that are good at designing teaching methodologies which hopefully will result in an effective implementation of knowledge gained. However, during the pandemic, virtual trainings become the new normal. Virtual training infrastructure becomes an indispensable part of the training. The question to be asked is how this infrastructure affects virtual training.

Statement of the Problem

This study aims to determine how the training infrastructure mediates the effect of teaching methodologies on effective implementation as perceived by the respondents.

Specifically, the study seeks answers to the following:

1. Do teaching methodologies significantly affect effective implementation?
2. Do teaching methodologies significantly affect the virtual training infrastructure?
3. Does training infrastructure significantly affect effective implementation?
4. How does training infrastructure mediates the effect of teaching methodologies to effective implementation?

Hypotheses

1. The following are the null hypotheses of the study:
Teaching methodologies have no significant effect on effective implementation.
2. Teaching methodologies have no significant effect on virtual training infrastructure.
3. Training infrastructure has no significant effect on effective implementation.

Objective

This study is undertaken to provide possible reasons why virtual trainings, at times, do not



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result in higher productivity or implementation of the required skills. Perhaps, there are other variables, mediating/intervening variables that hinder getting the required goal or objective of a training program.

Significance of the Study

On the sustainable development goals (SDGs), this study addressed SDG 4 Quality Education – since the norm of education can be hybrid in nature and education should be done in such a way as to consider not only the teaching methodologies but also the virtual infrastructures needed; SDG 8 Decent Work and Economic Growth- considering that training employees is an important factor in making them productive and thereby contribute to the economic growth; and SDG 9 Industry, Innovation, and Infrastructure - since the effective implementation of acquired learnings can result to more creative and innovative employees and make them practice critical thinking.

The conduct of this study is beneficial to (a) The Industry – since the results served as a guide on how to adopt their training environment and infrastructure to better attain the goals of its trainings, (b) The employees – to better acquire the qualifications and skills that the industry would be needing from them, (c) The Academe – to prepare for changes and innovations it undergoes in order to meet the requirements of virtual hybrid teaching.

Scope and Limitation of the Study

The study was limited to the perceptions of the selected students of the MBA and MSIEM students of PUP. The research period is from January to June 2022. Hence, the findings of the study are limited only to the sample and population of the study.

Literature Review

The review of related literature is presented in Table 1 utilizing the thematic form.

Table 1

Themes related to the research work

Theme	Research themes of literature published
Mediating Factors Related to Training	<p>Two key criteria—the industry and the size of the workplace and enterprise—appeared to be significantly associated to training, according to an industry survey, whereas seven other characteristics were found to be very weakly to moderately related to training (Hayton et al. 1996). Workplace change, industrial awards with training clauses, employee coverage under industrial awards, business strategies that include training, the percentage of managers and professionals in the workforce, quality management, and new technology and product innovation were these seven elements.</p> <p>Training infrastructure is among the mediating factors which include the size of an organization, the industry to which the training is conducted, the occupational structure of the organization, the level of training decision making</p>
Teaching Methodologies	<p>and perhaps most important is the top-level management commitment to the training program and even to the conduct of training.</p> <p>In his book <i>Teaching in Digital Age: Guidelines for Designing Teaching and Learning</i>, Bates (2019) mentioned that the software known as a Learning Management System (LMS) enables teachers and students to log in and work in a password-protected online learning environment. In reality, the majority of learning management systems, including Moodle, Blackboard, and Desire2Learn, are utilized to imitate a classroom design paradigm.</p> <p>There are various types of LMSs which can be used for designing teaching methodologies. These “proforma” teaching tools make it much easier for teachers and trainers to design their methods of teaching. LMSs are like a framework, which basically a fill-in-the-blank system. These are trainer-based and can be used for different platforms, including zoom, MS teams and google meet. In the Polytechnic University of the Philippines, the LMS used is the “eMabini” and teachers must undergo training to use this tool. It was firstly widely used in the open-university system. Both teachers and students must log-in with their password for security. Even group dynamics, quizzes, and major exams can be incorporated in this system.</p> <p>In the conference paper presented by Djenic and Mitic (2017) entitled <i>Teaching Strategies and Methods in Modern Environments for Learning of Programming</i>, they concluded that in the application and further development of teaching methods, teachers must investigate, prepare, and recommend to students: web-based learning environments and tools, as much interactive multimedia content as possible, animations, and simulations; tried-and-true methods of communicating with students about the teaching material and tasks; and the mechanisms required for the evaluation of employed teaching strategies.</p> <p>It is therefore very important that the teaching methodologies are suited for the environment, in this case a virtual one, in order for the participants to appreciate the different methodologies, make things more interesting and thereby imprinting in their minds the importance of the training activity as part of this research work.</p> <p>The training, particularly a virtual one, should have lots of interactive activities because the subject matter expert need to monitor how well the participants are in the training. This is particularly true if the participants are in the far-flung areas where even the internet connectivity alone is already a challenge. It is therefore the role of the training organizers that the participants have to have this connectivity because is it the number one requisite in such training. It should be noted that no amount of quality teaching methodology can be imparted to participants if they cannot even hear or see the trainer and the screen he is sharing.</p> <p>The good news is that the Starlink internet company, owned by Mr. Elon Musk, has already started activities designed to have the internet-based satellite operate in our country. With this, even the remote and far-flung areas of the country can have good internet connectivity.</p>
Virtual Training Infrastructure	<p>When looking for virtual training infrastructure, a number of important factors should be “deal breakers,” according to Ravello Community (2016).</p> <p>There are instances where the subject matter expert, better known as trainer, will just employ any platform which does not conform to the type of training methodologies to be used. Platforms have different “specialties” which can be suited for different methodologies. For instance, the researcher who is a trainer for several years, have found out that Zoom platform is best for breakout</p>



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	<p>room activities, while Microsoft Teams can be best if there is a need to retrieve lots of documents and records while discussing the training.</p> <p>This is particularly true if the service provider for the training is asked to have several sessions. Having a repeatable deployment will not only ease the burden for the service provider but it will make the training relatively easy for the subject matter expert. It will also be more convenient for the group within the organization who is handling the training because it will be easier for them, not only to monitor, for to assess the value of the training.</p> <p>This means that the infrastructure should be flexible enough to accommodate the training requirements. Lots of platform can have this flexibility, but again, the nature of the business of the organization can dictate that. The IT group of that organization can definitely recommend the right platform. That is why, it is very important for trainers to be familiar not only with various online platforms like Zoom, MS teams and Google meet, but also with various Learning Management System. The researcher found out that if a trainer is very familiar with a certain learning management system, it will not be difficult of him to learn and use a similar system. These may vary in operation, but basically the same configuration.</p> <p>In their article titled "E-training and Its Role in Human Resources Development," Amara and Atia (2016) came to the conclusion that institutions need to put a strong emphasis on creating information technology departments in order to deal with flexibility, provide training programs with the necessary support through electronic networks, and meet the growing demand for this type of training.</p> <p>The virtual training infrastructure can be very dependent on the teaching methodologies. There is actually a relationship between the two, since teaching methodologies are constrained by the training infrastructure. For instance, creation of breakout room activities is relatively very easy using the zoom platform compared to Microsoft teams platform. On the other hand, retrieving of company records to be used in the training can be easier using the MS Team compared to Zoom platform.</p> <p>For online trainings particularly if the participants are working from home, or in the neighborhood where internet are slow particularly in the Philippines, this is a main concern. Sometimes, the internet connections are not only unstable but also unreliable. Needless to say, it does not matter how good the teaching methodologies are, if the training participants cannot understand what the subject matter expert is trying to impart, the training can be useless and consequently the knowledge for effective implementation.</p>
<p>Effective Implementation of Training</p>	<p>Authors Sandfort and Moulton (2015) wrote in their book <i>Effective Implementation in Practice</i> that it is helpful to first consider the original aim of the program before digging into the core program specifics and the dynamics of the implementation system.</p> <p>In training, one of the most important sections is to identify, not only to the subject matter expert, but more importantly to the trainees, on the objectives of the training. That is why, it is a must for the training to conclude with a concept paper indicating how the training will be used in the implementation of a program or project of the company. Without this concept paper, the training knowledge as well as its objectives can easily be forgotten. Also, it is important for the supervisors and managers of the trainees to learn the concept paper of the trainees because they will serve as a yardstick in measuring how the training becomes a contributing factor in the implementation. This yardstick can serve</p>
	<p>whether the training should continue, continue with revisions, or totally dropped.</p> <p>Considering that various companies have various requirements, it is not possible to develop teaching methodologies and adopt virtual training infrastructure as "one-fits-all" in order to have an effective implementation. It is basically up to the training group of the company to at least suggest the training methodologies and the infrastructure to use. With the collaboration of the training service provider, the most appropriate methodologies and infrastructure can be determined. There might be some variations and minor changes but at least this will have the best chance in order to meet the objectives of the training.</p>

From the research on related literature, it appears that there are no sufficient studies about the role of virtual training infrastructure insofar as the relationship between the training methodologies (as predictor) and the effective implementation (outcome) is concerned in the Philippine setting. In the Philippines where the training infrastructure, in general, is considered below average, to say the least, it gives a very important role in the effectiveness of training, whether in corporate trainings or even in the academe. The knowledge of top management on this virtual training infrastructure is also wanting, considering that the resources are directed to a more priority objective rather than training which takes a backseat in the meantime. And lastly, the training infrastructure

may be the reason why, despite a good training methodology, training does not result in an effective transfer of knowledge.

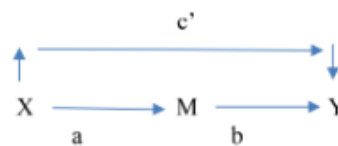
Research Philosophy, Framework, Design, and Methodology

Theoretical Framework

Baron and Kenny (1986) proposed a four-step approach in which several regression analyses are conducted and the significance of the coefficients is examined at each step. The figure below follows the description (note that c' could also be called a direct effect).

Figure 1

Theoretical Framework



Steps 1-3, of Table 2 below, are used to prove the existence of zero-order correlations among the variables, according to Baron and Kenny. Researchers typically conclude that mediation is not possible if one or more of these associations are nonsignificant. Step 4 is followed if there are important relationships from Steps 1 through 3. If the effect of M (route b) is still significant after adjusting for X, the Step 4 model suggests that mediation may have occurred in some way. If full mediation is supported, then X is no longer meaningful when M is controlled. The result supports partial mediation if X is still significant (that is, if X and M both significantly predict Y).



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Table 2

Baron and Kenny Four-step Analysis

	Analysis	Visual Depiction
Step 1	Conduct a simple regression analysis with X predicting Y to test for path c alone, $Y = B_0 + B_1X + e$	$X \xrightarrow{c} Y$
Step 2	Conduct a simple regression analysis with X predicting M to test For path a, $M = B_0 + B_1X + e$	$X \xrightarrow{a} M$
Step 3	Conduct a simple regression analysis with M predicting Y to test the significance of path b alone, $Y = B_0 + B_1M + e$	$M \xrightarrow{b} Y$
Step 4	Conduct a multiple regression analysis with X and M predicting Y, $Y = B_0 + B_1X + B_2M + e$	$X \xrightarrow{c'} Y$ $M \xrightarrow{b} Y$

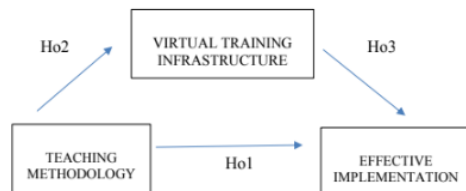
(Source: Baron and Kenny, 1986)

Conceptual Framework

Figure 2 shows the conceptual framework of the study.

Figure 2

The Framework of the Study



The study conceptualizes the mediating influence of virtual training infrastructure on the effect of teaching methodology on effective implementation. With the help of new technology, it is now possible to lower the price of providing employees with training, improve the learning environment, and support training's contribution to organizational objectives. Online e-learning, simulations, virtual reality, expert systems, electronic support systems, and learning management systems are some of the new technologies for delivering teaching and training. (Noe, 2010).

The virtual training infrastructure includes three basic things: (1) Hardware, (2) Software, and (3) a Support team (Hussain, 2020). The hardware consists of the server type, user database, concurrent users, bandwidth, and other server configurations. For the software, it is the learning

management system as well as the platform to deliver the training, eg. Zoom, MS Teams, Google Meet, etc. And lastly, the support consists of team selection, administration training, team size, activities, and reports. The training effectiveness is how the trainee was able to convert the knowledge into action. It is basically outcome-based.

Methodology

This is an empirical research based on observed and measured phenomena and derives knowledge from experience and theory or belief (Pownor, 2014). The key characteristics of an empirical study: (1) Specific research questions to be answered, (2) Definition of the population, behavior, or phenomena being studied, and (3) Description of the process used to study this population or phenomena, including selection criteria, controls, and testing instruments (such as surveys). My research philosophy in doing this work is that it is natural for people to make sure that the knowledge they would want to impart is taken well, that knowledge is something that people crave for and that it is part of trainers' nature to impart values and ethics, whether implicitly or explicitly, in their methodologies.

This study looks into the role of the mediating variable or a mediator. A mediator is something that is (1) caused by the independent variable, (2) affects the dependent variable, and (3) when it is taken into account, the independent and dependent variables have a higher statistical connection than when it is not taken into account. The use of linear regression analyses to test whether a variable is a mediator is known as mediation analysis. A mediator in full mediation fully explains the relationship between the independent and dependent variables: there is no relationship without the mediator in the model. Even when the mediator is removed from a model, there is still a statistical relationship between the independent and dependent variables: the mediator only partially explains the relationship. (Baron and Kenny, 1986).



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Population, Sample Size, and Sampling Technique

The population of the study is the students of the writer who have undergone training during the time of the pandemic. The training should have been virtual in nature so that the training infrastructure should come into play. There are 90 students who have been identified as the population. The sample size is determined using the online sample size calculator Raosoft as shown in Annex 2.

The recommended sample size of 74 is the smallest sample that should be obtained. For this study, there were 79 respondents.

Description of Respondents

The researcher considered participants which have already undergone virtual training methods in their companies. The virtual training venues are mostly in their homes or in areas where the respondents believe that there are reliable internet connections. Most of them are below 30 years old (43 participants), and the rest are 31-40 years old (29 participants) as well as above 40 years old (9 participants). An overwhelming number of them are millennials. Less than half of them is employed in the company for less than 3 years (33), while the remainder has been employed for more than 3 years (48). And lastly, almost half of them (40) are employed in manufacturing (including quality assurance) companies while the remaining 41 are working in service companies (e.g., logistics, IT support, etc.). All of these companies have conducted at least one virtual training for their employees.

Research Instrument

The instrument was designed by the researcher. For the first part, the teaching methodologies were taken from the literature related to the training methodologies on virtual training. For the virtual training infrastructure, this was taken from journals and books on the infrastructure needed to have successful virtual training. And lastly, for the training effectiveness, this was based on the

Polytechnic University of the Philippines (PU) questionnaire for students on how they believe the teaching of their professors is effective and therefore can be effectively implemented in their work during the semester. The questionnaire was validated and its reliability was measured by giving sample pre-testing questionnaires to students who were not part of the sample. Some of the initial questions during the pre-testing stage are: (a) what is meant by “accepts learners’ views”? Would this mean “accepting” learners’ views even if it’s wrong? This was revised to “open to learners’ view”. Another question that was initially in the question was “the computer server has fast processing time?” This was changed to “Core processor has fast processing time.” For reliability, the researcher used the Cronbach’s Alpha method and got the result of 0.79 with internal consistency of “acceptable”.

Part I of the questionnaire contained the respondent’s profile in terms of age, length of stay in the company, and type of company; whether manufacturing or service.

Part II of the questionnaire contained the respondents’ assessment of Training Methodologies, Training Infrastructure, and Training Effectiveness. The questionnaire used the 5-point Likert Scale: 5 – Strongly Agree, 4 – Agree, 3 – Undecided, 2 – Disagree, 1 – Strongly Disagree.

Data Gathering Procedure

The questionnaire was distributed through emails. Through zoom meetings, the researcher explained to the respondents the goals and objectives of the questionnaire. Since the researcher could be easily contacted by the respondents, they were encouraged to ask questions should there be some need for clarification. The respondents were given ample time to submit their answers and were told to carefully give their perceptions. After submission, the researcher thanked the respondents.

The researcher collated the answers. Out of 81 respondents, 79 were able to submit their answers.



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This number was considered sufficient since the target respondent numbers were 74. The researcher tabulated the answers using excel format. Excel was used because the researcher intended to use Excel Data Analysis through simple and multivariate regression Since the researcher is also a statistician, analysis and interpretation of results were not difficult.

Statistical Treatment of Data

The following inferential statistical methods and techniques were used based on the research questions and hypotheses:

1. Simple linear regression. This was used for subproblems 1, 2, and 3; as well as corresponding hypotheses 1,2, and 3.
2. Multiple Linear Regression. This was used for sub-problem 4 and hypothesis 4. Figure 6 shows the comparison of the formula for simple linear regression and multiple linear regression. Annex 2 shows the formula and the definition of variables for the required inferential statistics.

Data Results and Analysis

Effects of Teaching Methodologies on Effective Implementation.

Table 3 shows the results of the regression analysis on the effect of teaching methodologies on effective implementation. (Note: Detailed ANOVA tables are shown in the Annex 2)

Table 3

Effect of Teaching Methodologies on Effective Implementation

<i>Regression Statistics</i>	
Multiple R	0.871311
R Square	0.759183
AdjustedRSquare	0.756135
Standard Error	0.283973
Observations	81

R-squared (0.759183) is used as an evaluation metric in the linear regression model to assess the scatter of data points around the fitted regression line. It recognizes the dependent variable's percentage of variation.

When the sample size and number of variables are considered, the value of the adjusted R-squared (0.756135) is nearly the same as R-squared, an unbiased estimate of the fraction of variance explained. Because adjusted R-squared is only slightly smaller than R-squared, the equation has sufficiently informative variables fitted on a large enough sample of data.

The value of the adjusted R-squared which is 0.756135 is a good value for this situation and can be measured and applied in the data transformation for the context of decision making. Thus, training methodology highly influences the effective implementation of virtual training.

The formula for this linear equation:

$$\text{Effective Implementation} = 0.667726 + 0.860477(\text{Training methodology}).$$

Effects of Teaching Methodologies on Virtual Training Infrastructure



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Table 4

Effect of Teaching Methodologies on Virtual Training Infrastructure

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.922356
R Square	0.85074
AdjustedRSquare	0.848851
Standard Error	0.218004
Observations	81

The value of the adjusted R-squared which is 0.848851 is a very good value for this situation and can be measured and applied in the data transformation for the context of decision making. Thus, teaching methodology highly influences the infrastructure of virtual training.

Effect of training infrastructure on effective implementation.

Table 5

Effect of Training Infrastructure on Effective Implementation

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.88300699
R Square	0.77970135
AdjustedRSquare	0.77691276
Standard Error	0.27160591
Observations	81

R-squared (0.77970135) is used as an evaluation metric in the linear regression model to assess the scatter of data points around the fitted regression line. It recognizes the dependent variable's percentage of variation. When the sample size and number of variables are considered, the value of the adjusted R-squared (0.77691276) is nearly the same as R-squared, an unbiased estimate of the fraction of variance explained. Because adjusted R-squared is

only slightly smaller than R-squared, the equation has sufficiently informative variables fitted on a large enough sample of data. Thus, the training infrastructure highly influences effective implementation.

Effects of teaching methodologies and virtual training infrastructure on effective implementation

Table 6

Effect of Teaching Methodologies and Training Infrastructure on Effective Implementation

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.89519022
R Square	0.80136553
AdjustedRSquare	0.79627234
Standard Error	0.25955348
Observations	81

In regression analysis, P-values and coefficients work together to determine which relationships in the model are statistically significant and the nature of those relationships. The coefficients describe the mathematical relationship between the independent and dependent variables. The coefficient p-values indicate whether these relationships are statistically significant.

Based on the above results, the formula for the multivariate regression model is:

$$\text{Effective Implementation} = 0.4038 + 0.3762 \times (\text{Methodologies}) + .5451 \times (\text{Infrastructure})$$

In this case, both the teaching methodologies and the virtual training infrastructure influence the effective implementation with p values of 0.0046 and 0.0001, respectively. Based on the p values, it appears that the training infrastructure affects the effective implementation more than the teaching methodologies.



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Discussion, Conclusions, Recommendations

Effects of Teaching Methodologies on Effective Implementation

As mentioned in the related literature, for the result to act on effective implementation, the teaching methodologies must be suited to the virtual environment for the participants to appreciate the different methodologies, make things more interesting, and thereby imprint in their minds the importance of the training activity as part of this research work. This training methodology has a significant effect on the implementation which is the objective of the training. We can therefore conclude that teaching methodology predicts effective implementation.

I recommend that since everything starts with teaching methodology; therefore, the preparation of teaching methodology should be thoroughly done. The course outline should be reviewed time and again because this is the basis for teaching methodology. The teaching methodology should consider methodologies recommended by experts in this field. Effective implementation is dependent on training methodologies to great extent.

Effects of Teaching Methodologies on Virtual Training Infrastructure

In the review of literature, virtual training infrastructure is dependent on teaching methodologies. The teaching methodologies predict the kind of training infrastructure to be used. That is why the IT department of the company must have access to and knowledge of the implementation of different training platforms which should be suited to the required methodologies. In our case, the training infrastructure shows that it is highly predicted by the methodologies to be used in the training. It is therefore safe to conclude that teaching methodology directly affects the virtual training infrastructure. Given this and in preparation for the training infrastructure, there should be due consideration of the training

methodology prepared. The author noted that a complicated methodology may not be properly delivered if there is a constraint in the virtual training infrastructure. On the other hand, the methodology should maximize the available virtual training infrastructure to optimize knowledge delivery.

Effect of training infrastructure on effective implementation

The participants in this research are quite aware of how important the virtual training infrastructure is regarding the effectiveness of the training implementation. The training can be useless, no matter how beautiful the training methodologies are if they cannot properly reach the training participants. This is particularly true in the Philippine environment wherein, not only the internet provision is unstable but worse, the connection is unreliable. The participants cannot prepare for the lesson because they are not even sure if they can get a good and sustainable internet connection.

I conclude that virtual training infrastructure highly influences effective implementation. I recommend that since the virtual training infrastructure is the medium in the delivery of knowledge and skills to the training participants, the infrastructure should include the equipment on the learners' end. It would be a waste of resources to have an excellent virtual infrastructure if the learners cannot receive the knowledge to be imparted.

Effects of teaching methodologies and virtual training infrastructure on effective implementation

This is validated by the coefficients of the methodologies and the infrastructure whose values are 0.3762 and 0.5451, respectively. With the higher coefficient, the training infrastructure has a greater influence on the effective implementation than the teaching methodologies.



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It is therefore commended that an organization should invest in having an excellent training infrastructure. The findings of the study indicate that no matter how good the teaching methodology is if the learnings cannot be delivered well to the participants through an excellent medium, the effective implementation is affected. The investment should be considered both on the part of the training administrators and the subject matter experts as well as on the part of the training participants.

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Marketing Mix Strategies of Consumer – Personal Services in the Province of Quezon

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Abstract

Focusing on marketing mix strategies has been a tool for various business organizations to achieve their goals and enhance overall performance. This study assessed the level of effectiveness of the marketing mix strategies of consumer-personal services in the Province of Quezon. It adopted the descriptive method. A researcher-made questionnaire distributed online to 400 consumers of personal services, specifically hair and nail services in the Quezon Province, was the main data-gathering tool. Statistical tools such as frequency, percentage, weighted mean and one-way analysis of variance were used to analyze the data. The study revealed that the respondents deemed effective the marketing mix strategies, namely product (service), price, place, and promotion. Moreover, there is no significant difference in terms of these marketing mix strategies when the respondents are grouped according to age and frequency of service availed. On the contrary, there is a significant difference in product (service), place, and promotion when they are grouped according to the average amount spent per visit. Furthermore, there is a significant difference in product (service), price, and place when they are grouped according to the number of years of availing the service. In addition, there is a significant difference in place and promotion when they are grouped according to the type of service availed. And finally, there is a significant difference in promotion when respondents are grouped according to gender. Recommendations were made to business owners to improve the quality of personal services; adapt flexibility in methods of payment; lean on pre-booking of appointments; and boost promotional activities to attract more clients.

Key Words: Marketing Mix Strategies, Personal Services, Marketing Effectiveness, 4Ps of Marketing

Relevant SDGs: SDG 8 Decent Work and Economic Growth, SDG 9 Industry, Innovation and Infrastructure

Introduction

A marketing strategy is a business's game plan for approaching prospective or potential target consumers and transitioning them into avid customers or buyers of their products or services. A company's business model should be the main focus of its marketing practices. The ultimate goal of a

marketing strategy is to create and show that it has a persistent competitive edge over its rivals in the industry. (Barone, 2021) The foundation of a marketing strategy usually starts with the product; it may be intangible or tangible. A professional marketer uses the term "product" to refer to goods, services, or even ideas given to clients, customers, or consumers. According to authors Kotler and Keller (2016), a marketing mix is a combination of tactical



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marketing methods that can be controlled and used by any company or business organization to elicit the desired reaction from its target market. It entails actions a business may take to impact the demand for its goods. It is also a tool for planning and carrying out marketing campaigns.

A service is a transaction wherein there is no physical product or goods being given to the customer by the seller. It is considered an intangible element. There are different types of services, such as knowledge services, wherein the service is based on consulting, such as transcription and professional mentors. Next is information technology, which gives management, support, and operation in the form of selling technology products. Another example is design services, where the product is expressed through visual images. There are also wellness and personal grooming services wherein they provide comfort and enhancement to consumers, such as hair salons and spas.

The world has been hit by the pandemic situation, and businesses, especially personal and beauty industries, have been greatly affected due to the strict guidelines imposed by the government for the health and safety of consumers. An article written by Gitta-Carlos (2021) stated that the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF-EID) with the recommendation from the Department of Trade and Industry (DTI) has allowed the resumption of barbershops and beauty parlors in areas under the Modified Enhanced Community Quarantine (MECQ) and General Community Quarantine (GCQ) at 30 percent venue capacity and 50 percent venue capacity for the Modified General Community Quarantine (MGCQ). It is therefore the intention of the author to assess the level of effectiveness of the marketing mix strategies of consumer-personal services in the Province of Quezon amidst the pandemic situation. Specifically, it attempted to answer the following: the profile of the respondents in terms of age, gender, type of service availed of, number of years availing the service, frequency of service availed, and average amount spent for the

service availed per visit; how the respondents assessed the level of effectiveness of the marketing mix strategies of consumer-personal services in terms of product (service), price, place, and promotion; and the significant difference in the respondents' assessment of the level of effectiveness of marketing mix strategies of consumer-personal services when they are grouped according to profile.

The scope of the study primarily focuses on personal services, specifically hair and nail services. The researcher also attempted to find out if the marketing mix is applicable and effective in Quezon Province. In this study, the marketing mix strategies dimensions are limited to four elements: (1) Product (Service), (2) Price, (3) Place, and (4) Promotion with its sub-aspects which include advertising, sales promotion, public relations and publicity, and personal selling.

Literature Review

The Concept of Marketing

Marketing, as defined by the American Marketing Association (2017) is the process, systems, and procedures for developing, promoting, delivering, and exchanging products and services that are beneficial to consumers, partners, and the general public. In addition, there are ten different categories of entities that marketers might promote: products, services, events, experiences, people, places, properties, organizations, information, and ideas. (Kotler & Keller, 2012).

Perreault and McCarthy (2002) added that, contrary to the imposed definition of most people, marketing is more than just selling and promoting. They also stated the keyword "market," which refers to a cluster of potential customers or consumers with related requests who are prepared to trade something of value with vendors offering a range of goods and/or services that would meet their demands, is where the term "marketing" originated.



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The Evolution of Marketing Mix

Neil Borden asserts that a paragraph from the research report of Harvard University's Professor James Culliton (1948) on the administration of marketing costs is where the idea of the Marketing Mix originated. Borden reportedly appreciated Culliton's notion of referring to a marketing executive as a "mixer of ingredients"—that is, someone who continually engaged in creating a fresh blend of the management's marketing practices and strategies. Product planning, pricing, branding, routes of distribution, personal selling, advertising, promotions, packaging, display, service, physical handling, and fact-finding and analysis are the first twelve items on the list of the marketing mix.. (Borden, 1984)

In the late 1960s, the marketing mix, in its modern form was transformed into 4Ps as proposed by American author, E. Jerome McCarthy. It provided a structure for the organization's marketing decisions that encompassed analytics, customer behavior, market analysis, market distribution, and management planning. A set of marketing instruments known as the "marketing mix" are utilized to pursue marketing goals in the target market. (Kotler & Keller, 2012) The 4Ps are categorized as Product, Price, Place, and Promotion. In summary, it is a tactic for placing the ideal product in the appropriate place at the perfect time and best price. A group of characteristics (features, functions, advantages, and uses) that may be exchanged or put to use, often in a combination of tangible and intangible forms, is referred to as a product. It is created to meet the demands of a certain person. Price is the amount a buyer must pay to purchase a product or service. It also refers to the value of the product. It must be exact and equivalent to the given product or service. Distribution, or the process of promoting and delivering things to customers, may also be referred to as place. Promotion involves sales-oriented methods and approaches to promoting the product or service.

4Ps of Marketing Mix

It can be observed that the 4Ps are the key to a successful and efficient marketing plan. Notredameonline.com added that the 4Ps were created decades ago to help decide a particular formula or combination of "marketing mix" that would meet equally the customer's and retailer's needs. When properly determined and implemented, this recipe has proven to be successful.

The 4P's are designed to assist marketers to consider everything related to a product or service and decide how to market something for their business. Framing the company's marketing around the 4P's will help the business learn about market competition and customers' wants. (Riserbato, 2020)

A marketing plan that is of the highest caliber must undergo extensive growth and development. Before a company can explore all of the subdivisions of marketing, like email marketing, digital marketing, and so forth, its marketing people must become proficient in the 4Ps of marketing. The first of the 4Ps is the product. The initial stage is the company's brand, which has created a product or service that resolves consumer issues or requirements. The second of the 4Ps is price, usually referred to as the cost to the consumer of the good or service. In addition to the item's or service's fair market value, the pricing also takes into account the total cost of supply, the selling prices of competing brands, and other factors. Any marketing campaign's main objective is to draw attention to the company's merchandise, so its staff must understand where to place the goods for sale. The "place" may also refer to the locale of the product's marketing. The fourth and final P is promotion of the item or service. Promotion consists of the marketing tactics used to sell the company's product or service to the public. (Business2Community, 2020)

The Concept of Service

Services are therefore critical to today's economy (Forbes, 2014). The Philippines, on this matter,



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constitutes an increase in its economic development which illustrates that the service industries are increasingly growing. According to reports, the Philippine service sectors have played almost half of the development in the labor force of 58/100 % employed persons under their record (Philippine Statistics Authority, 2019). It posted an enriching development wherein the development comprises 56.8% during the year 2018 to 57.7% during the year of 2019. (Philippine Statistics Authority, 2019)]. This growth clearly specifies the important and significant involvement of the business service industry sector in the Philippine economy.

Due to the variety of definitions, services can have different definitions. Various definitions appeared in different references. One may practically put service as “deed, process and performance” (Wilson, Zeithaml, Bitner, & Gremler, 2016). In other words, it implies intangible products. Encyclopedia Britannica defines, more precisely, that service may be referred to as “an act of labor or a performance that does not produce a tangible commodity and does not result in the customer’s ownership of anything.”(Hibbard, 2020) This is why, Steve Vargo and Bob Lusch [as cited in (Wilson, Zeithaml, Bitner, & Gremler, 2016)] argue that “all products and physical goods are valued for the services they provide.” This implies that what is their common ground is their performance.

Since service is considered intangible, companies try to innovate wider scope in their business as they incorporate other services or amenities. Anderson and Narus, as cited in Bader (2006), claimed that by delivering packages of problem-focused service solutions and merging products and services, businesses may achieve greater market distinction and stronger economic success. This movement, whether on a small scale or not, has contributed to their advantages since, basically, by introducing an additional value element, complementary services aid in strategically stabilizing the volatile product industry. (Bader, 2006) In a practical sense, an example of the high optimization of services to consumers is personal care services.

Personal Services

The personal care and services industry encompasses businesses that offer intangible goods, such as household services and personal care assistants, as well as others that provide home repair or maintenance services, such as exterminators, window washers, and tree trimmers. (Holmes, 2019)

Personal services business becomes more in demand up to this date. Numerous factors have contributed to the overall growth of the personal care sector. Furthermore, the elderly population is growing as a result of a higher life expectancy for the entire population, which is expected to continue to rise. In order to preserve independence for as long as possible, the focus in the United Kingdom is on offering care in the patient's home. As a result, there will always be a need for services that make some aspects of everyday living for senior people as simple as possible. (Simpson, 2019).

According to the International Franchise Association's recently published Franchise Industry Economic Outlook survey, the personal care service market is one of the most aggressive areas for micro business entity ownership. Beauty, wellness, fitness, and education are all personal service businesses that are now thriving. Over the years, it is anticipated that these businesses will experience sustained expansion in the franchising industry. Not only are there more franchise businesses in the personal services sector, but employment is also expanding quickly. By 2020, the industry is anticipated to have 124,394 establishments, representing a growth in the number of companies of 4.7%, and 580,070 employees, representing an increase in the number of employees of 6.0%. (Moore, 2020)

Marketing Mix in Personal Services during Pandemic- Social Distancing Issue

A 2019 Professional Beauty Association (PBA) research found that there are more than 1.2 million



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salons and spas operating worldwide, generating more than \$57 billion. In order to decide on the situation, Behindthechair.com, an association with millions of supporters that provide training and coaching for hairdressers, has been persistently asking several of its affiliates for the past few weeks. The result of the survey showed that roughly 72% of hair salon employees either live solely on their paychecks or barely have enough money saved up to last them about a month. About 23% said they have no health insurance. (Wischhover, 2020)

The beauty salon sector is preparing for a probable decline in the industry. There will undoubtedly be an impact on salons due to COVID-19. Since some industry events have been postponed or canceled, there may also be a decrease in salon visits in neighborhoods where the virus has spread. The full effects of this pandemic have yet to be seen. Due to the nature of the profession and the personal interactions that take place in such settings, hair and nail services are more likely to be affected. (Birch, 2020)

Therefore, with the various articles and studies presented in the research study, it indicated the importance of assessing the marketing mix strategies in every business. Both local and foreign studies revealed that it is necessary to assess and evaluate the effectiveness of marketing mix strategies for personal services. The marketing mix is fundamental to one's business since it serves as a guide on how the business will be established. Marketing is considered to be a key part of the most vital function of the business that will determine the success of a company. Thus, it is the intention of the researcher to assess and evaluate the effectiveness of marketing mix strategies of the consumer – personal services amidst the pandemic situation.

Research Philosophy, Framework, Design, and Methodology

The researcher adapted the Input-Process-Output Model in conducting the research. According to American Psychological Association,

Dictionary.apa.org, the IPO Model implies that internal system processes change raw materials (inputs) into outcomes (outputs) in order to analyze performance and processing systems. In short, this paradigm entails the conversion of input into output via a number of processes. The research study used this model systematically in order to assess the level of effectiveness of marketing mix strategies for consumer-personal services in the province of Quezon.

The inputs specified the subjects of assessment. It showed the profile of the respondents (age, gender, type of service availed of, number of years availing the service, frequency of service availed, and average amount spent for the service availed per visit); the level of effectiveness of the marketing mix strategies of consumer personal services in different dimensions, such as product (service), price, place, and promotion; and the significant difference in the respondents' assessment on the level of effectiveness of marketing mix strategies of consumer-personal services when they are grouped according to profile. The researcher disseminated an online survey questionnaire to the respondents to gather the primary data of the investigation. In exchange, the survey's data served as the foundation for an evaluation and assessment of the level of effectiveness of consumer-personal service marketing mix strategies in the province of Quezon.



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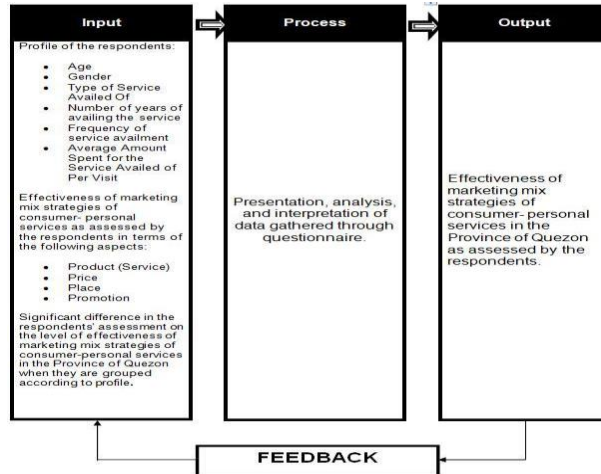
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Figure 1

Input-Process-Output Model



Hypothesis

There is no significant difference in the respondents' assessment on the level of effectiveness of marketing mix strategies of consumer-personal services in the province of Quezon when they are grouped according to profile.

Methodology

The descriptive method of research was used by the researcher to gather essential information about the effectiveness of marketing mix strategies for consumer-personal services in the province of Quezon. As used in this research, information about the respondents' profile, such as age, gender, type of service availed, number of years of availing the service, frequency of service availed, and average amount spent for the service availed per visit, is gathered and evaluated as to the effectiveness and significant difference between marketing mix strategies. As of April 2020, the Department of Trade and Industry – Quezon Province Chapter has provided the researcher with a list of registered businesses under the category of personal services, specifically beauty parlors, salons, and barbershops, with a total of 201 establishments in the whole area.

The convenience sampling technique or method was used by the researcher to determine the study's sample of respondents. The researcher formulated an online questionnaire that has been checked and tested for reliability prior to dissemination to the target respondents, who were clients of various beauty salons, parlors, and barbershops in Quezon Province. This study used a Likert-Scale type of survey questionnaire developed by the researcher as the main instrument in gathering the data. The survey is divided into two sections. Part one was about the profile of the respondents, and part two was the assessments of the respondents on the level of effectiveness of marketing mix strategies in the aspects of the product (service), price, place, and promotion, with its sub-aspects of advertising, sales promotion, public relations and publicity, and personal selling, using the Likert-scale method as follows: 5 as Very Effective, 4 as Effective, 3 as Somewhat Effective, 2 as Less Effective, and 1 as Not Effective. The data collection started when the beauty parlors, salons, and barbershops were advised to be re-opened by the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF-EID) last June and completed by 400 respondents by February 2021. The researcher used social media platforms like Facebook and Twitter to disseminate the survey in Google form and sent the link to her friends, who forwarded the link to other consumers of the beauty parlors, salons, and barbershops in the province of Quezon. The following statistical tools and techniques were used by the researcher: frequency and percent distribution; weighted mean; and analysis of variance (ANOVA).



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Data Results and Analysis

Profile of the Respondents According to Age, Gender, Type of Service Availed of, Number of Years Availing the Services, Frequency of Service Availed, and Average Amount Spent for the Service Availed of per Visit

Table 1

Frequency and Percent Distribution of the Respondents According to Age

Age	Frequency	Percent
12 – 20 years old	59	14.75
21 – 30 years old	223	55.75
31 – 40 years old	61	15.25
41 – 50 years old	13	8.25
51 – 60 years old	16	4.00
61 years old and above	8	2.00
Total	400	100.00

Table 1 illustrates the frequency and percent distribution of the respondents in terms of age. It can be observed from the result that 223 or 55.75% of the respondents were in the age range of 21-30, 61 or 15.25% belong to 31-40, 59 or 14.75% were 12-20 years old, 16 or 4% were in the range of 51-60, 13 or 8.25% were 41-50, and 8 or 2% belong to 61 and above. It was divided into 6 genres. Ages 12-20 years old represent the teenagers, 21-30 years old represents the young adult and young professionals as well, 31-40 years as adults, 41-50 years old as full-grown adults, 51-60 years old and 61 years old above were considered as senior adults.

Table 2

Frequency and Percent Distribution of the Respondents According to Gender

Gender	Frequency	Percent
Male	124	31.00
Female	264	66.00
LGBTQ+ more	12	3.00
Total	400	100.00

Table 2 displays the frequency and percent distribution of the respondents in terms of gender. The data showed that 264 or 66% of the respondents

were female, 124 or 31% were male, and 12 or 3% identified as LGBTQ+.

Table 3

Frequency and Percent Distribution of the Respondents According to Type of Services Availed

Type of Service Availed Of	Frequency	Percent
Hair Services	187	46.75
Nail Services	19	4.75
Both	194	48.50
Total	400	100.00

Table 3 represents the type of services availed of by the consumers as assessed by the respondents. The result showed that 194 or 48.50% of the respondents availed both hair and nail services, 187 or 46.75% availed hair services only, and 19 or 4.75% availed nail services only. The result revealed that the respondents wanted to have their hair and nails done at the same time. It was mostly because they wanted to make the most of their time in the parlor, and that is why they opted to have both services.

Table 4

Frequency and Percent Distribution of the Respondents According to Number of Years Availing the Service

Number of Years Availing the Service	Frequency	Percent
Less than a year	80	20.00
1 year but less than 3 years	66	16.50
3-5 years	37	9.25
More than 5 years	217	54.25
Total	400	100.00

Table 4 shows the frequency and percent distribution according to respondents' number of years availing the services. The study revealed that 217 or 54.25% of the respondents were consumers for more than 5 years, 80 or 20% were less than a year, 66 or 16.50% were 1 year but less than 3 years, and 37 or 9.25% were 3-5 years. According to the study's findings, it showed that the customers were loyal to their preferred beauty parlor/ salon/ barbershop for availing the services for more than five years.



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Table 5

Frequency and Percent Distribution of the Respondents According to Frequency of Service Availed

Frequency of Service Availment	Frequency	Percent
Once a month	171	42.75
More than once per month	53	13.75
Once a year	83	20.75
More than once per year	93	23.25
Total	400	100.00

Table 5 illustrates the frequency of service availed of the respondents. The result showed that 171 or 42.75% of the respondents visit the establishments once a month, 93 or 23.25% visit more than once per year, 83 or 20.75 visits once a year, and 53 or 13.75% visit more than once per month.

Table 6

Frequency and Percent Distribution of the Respondents According to Average Amount Spent for the Service Availed of Per Visit

Average Amount Spent for the Service Availed of per Visit	Frequency	Percent
Less than P100.00	78	19.50
P100.00 – P300.00	122	30.50
P301.00 – P500.00	55	13.75
P501.00 – P1,000.00	56	14.00
P1,001.00 and above	89	22.25
Total	400	100.00

Table 6 depicts the frequency and distribution in terms of average amount spent for the service availed of per visit in beauty salons/parlors/barbershops. The study revealed that 122 or 30.50% of the respondents spent P100.00 - P300.00, followed by 89 or 22.25% spent P1,001.00 and above, 78 or 19.50% spent less than P100.00, then 56 or 14% spent P501.00-P1,000.00 and 55 or 13.75% spent P301.00 - P500.00.

Level of Effectiveness of Marketing Mix Strategies of Consumer-Personal services Based on Product (Service), Price, Place, and Promotion

Table 7

Respondents' Assessment on the Level of Effectiveness of the Marketing Mix Strategies of Consumer – Personal Services Based on Product (Service)

Aspects of Product (Service)	Weighted Mean	Verbal Interpretation
The establishment offers high quality of service.	4.20	Effective
Has competent and well-trained personnel to perform the service.	4.33	Effective
Service workers are responsive and provide prompt service.	4.34	Effective
Service workers can provide the service as promised.	4.29	Effective
Service workers perform the right service at the right time.	4.27	Effective
Service workers have knowledge on latest trend or fashion related to the service.	4.29	Effective
Service workers are neat and well-groomed.	4.34	Effective
The personnels interact and engage in light conversation with the client.	4.30	Effective
Service workers provide courteous and friendly service.	4.42	Effective
Can handle complaints from consumers (if any) effectively.	4.20	Effective
Grand Mean	4.24	Effective

Table 7 reveals the respondents' evaluation and assessment of the level of effectiveness of consumer-personal services based on product (service). The highest indicator was "Service workers provide courteous and friendly service." which had a weighted mean average of 4.42 (effective), then "Service workers are responsive and provide prompt service" and "Service workers are neat and well-groomed," both with weighted mean of 4.34 (effective), while "The establishment offers high quality of service." and "Can handle complaints from consumers (if any) effectively" both had a 4.20 weighted mean (effective).



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Table 8

Respondents' Assessment on the Level of Effectiveness of the Marketing Mix Strategies of Consumer – Personal Services Based on Price

Aspects of Price	Weighted Mean	Verbal Interpretation
The establishment offers affordable price.	4.25	Effective
The establishment has fixed and regular price for the services offered.	4.30	Effective
The price of the service is reasonable.	4.32	Effective
Always provides the best value for money from the services.	4.30	Effective
Offers lower price on the services compared to competitors.	3.95	Effective
Offers special price to regular consumers.	4.01	Effective
Senior citizen and PWD discounts are recognized.	4.08	Effective
Different payment method to choose from: cash, credit card, or mobile banking (if available).	3.74	Effective
Has no hidden charges or surcharges to clients.	4.34	Effective
The price in the beauty parlor/salon/ barbershop is consistently affordable throughout the year.	4.28	Effective
Grand Mean	4.02	Effective

Table 8 illustrates the respondents' assessment of the level of effectiveness of consumer-personal services based on price. The highest indicator was "Has no hidden charges or surcharges to clients" which had a weighted mean average of 4.34 (effective). It is followed by "The price of the service is reasonable" with a weighted mean of 4.32 (effective), while "Offers lower price on the services compared to competitors" had a weighted mean of 3.95 (effective) and the lowest weighted mean was 3.74 (effective), which was the statement "Different payment method to choose from: cash, credit card, or mobile banking (if available)". Based on observations and practices, most of the consumers' inquiries about the services follow the price and the package of particular services. Many salons in Quezon Province developed packages and emphasized that it is a good buy if they take advantage of this package. The consumer may feel dismayed if the salon charges them a certain amount that was not mentioned prior to availing of the product.

Table 9

Respondents' Assessment on the Level of Effectiveness of the Marketing Mix Strategies of Consumer – Personal Services Based on Place

Aspects of Place	Weighted Mean	Verbal Interpretation
The beauty parlor/ salon/ barbershop is easy to locate.	4.46	Effective
The establishment working hours is convenient for the consumers.	4.41	Effective
The physical appearance of the establishment is visually appealing.	4.25	Effective
Has a waiting area for incoming clients and acquaintances.	4.30	Effective
The beauty parlor/salon/ barbershop has relaxing and calming atmosphere.	4.23	Effective
The establishment is well-lighted and ventilated.	4.40	Effective
Convenient parking of vehicles. (if available)	3.87	Effective
Accessible for public transport to get to the beauty parlor/ salon/ barbershop.	4.45	Effective
The establishment is safe and secure.	4.26	Effective
Clean restroom is available in the premises.	4.12	Effective
Grand Mean	4.19	Effective

Table 9 the respondents' assessment on the level of effectiveness of consumer-personal services based on place. The highest weighted mean was "The beauty parlor/ salon/ barbershop is easy to locate." with 4.46 (effective) followed by "Accessible for public transport to get to the beauty parlor/ salon/ barbershop" with 4.45 (effective) while "Clean restroom is available in the premises" with 4.12 (effective) and "Convenient parking of vehicles. (if available)" with 3.87 (effective).

Table 10

Respondents' Assessment on the Level of Effectiveness of the Marketing Mix Strategies of Consumer – Personal Services Based on Promotion (Advertising)

Aspects of Promotion (Advertising)	Weighted Mean	Verbal Interpretation
Has signages, banners, or billboards that are eye-catching.	4.17	Effective
Posters and fliers of the services offering are available in the premises.	4.00	Effective
Has brochures that showcase the different service offerings.	4.02	Effective
The establishment gives business cards with contact details to consumers.	3.74	Effective
Grand Mean	3.90	Effective



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Table 10 reveals the respondents' assessment on the level of effectiveness of consumer-personal services based on promotion's sub-aspect, which was advertising. The highest indicator was "Has signages, banners, or billboards that are eye-catching" with a weighted mean of 4.17 (Effective) while the lowest indicator was "The establishment gives business cards with contact details to consumers" with a weighted mean of 3.74 (Effective).

Table 11

Respondents' Assessment on the Level of Effectiveness of the Marketing Mix Strategies of Consumer – Personal Services Based on Promotion (Sales Promotion)

Aspects of Promotion (Sales Promotion)	Weighted Mean	Verbal Interpretation
Offers special bundle of services. (e.g. Combination of service: Rebond+Manicure and Pedicure)	4.31	Effective
Seasonal promotions are available during special occasions. (e.g. Celebrations of birthday, graduation, Mother's Day, Father's Day, Valentine's Day, and etc.)	4.15	Effective
Offers buddy packages. (e.g. packages for couples, mother-and-daughter, etc.).	3.91	Effective
Has loyalty cards for regular clients.	3.80	Effective
Grand Mean	3.92	Effective

Table 11 represents the respondents' assessment on the level of effectiveness of consumer-personal services based on promotion's sub-aspect, which was sales promotion. The highest indicator was "Offers special bundle of services. (E.g., Combination of service: Rebond+ Manicure and Pedicure." and has a weighted mean average of 4.31 (Effective) while the lowest indicator was "Has loyalty cards for regular clients." And has a weighted mean average of 3.80 (Effective).

Table 12

Respondents' Assessment on the Level of Effectiveness of the Marketing Mix Strategies of Consumer – Personal Services Based on Promotion (Public Relations and Publicity)

Aspects of Promotion (Public Relations and Publicity)	Weighted Mean	Verbal Interpretation
The establishment supports community-related projects. (e.g. Free Haircut Program to a particular location)	3.58	Effective
The beauty parlor/ salon/ barbershop donates human hairs to make wigs for medical purposes with client's approvals. (e.g. Wigs for cancer patients)	3.60	Effective
The establishment builds relationship with celebrities or known personalities to endorse the beauty parlor/ salon/ barbershop.	3.68	Effective
The beauty parlor/ salon/ barbershop is law-abiding establishment with complete business permits to operate.	4.33	Effective
Grand Mean	3.63	Effective

Table 12 reveals the respondents' assessment on the level of effectiveness of consumer-personal services based on the promotion's sub-aspect, which was public relations and publicity. The highest indicator was "The beauty parlor/salon/barbershop is a law-abiding establishment with complete business permits to operate." with a weighted mean average of 4.33 (Effective) while the lowest indicator was "The establishment supports community-related projects. (e.g., Free Haircut Program to a particular location)." and has a weighted mean average of 3.58 (Effective).

Table 13

Respondents' Assessment on the Level of Effectiveness of the Marketing Mix Strategies of Consumer – Personal Services Based on Promotion (Personal Selling)

Aspects of Promotion (Personal Selling)	Weighted Mean	Verbal Interpretation
Offers complimentary consultation for the services availed. (e.g. Hair or nails healthcare tips)	3.98	Effective
The establishment employs promo boys/ girls during special events. (e.g. new service offering)	3.7	Effective
The service worker makes suitable recommendations to clients on the services available.	4.05	Effective
The service workers ask their clients if they are satisfied with the service delivered.	4.14	Effective
Grand Mean	3.83	Effective



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Table 13 shown on the next page depicts the respondents' assessment on the level of effectiveness of consumer-personal services based on the promotion's sub-aspect, which was personal selling. The highest indicator was "The service workers ask their clients if they are satisfied with the service delivered." and has a weighted mean average of 4.14 (Effective) while the lowest indicator was "The establishment employs promo boys/girls during special events (e.g. new service offering)." and has a weighted mean average of 3.70 (Effective).

Significant Difference in the Respondents' Assessment on the Level of Effectiveness on the

Marketing Mix Strategies of Consumer-Personal Services When They are Grouped According to Age, Gender, Type of Service Availed of, Number of Years Availing the Service Frequency of Service Availed, and Average Amount Spent Per Service Availed of.

Table 14

Significant Difference in the Level of Effectiveness on the Marketing Mix Strategies of Consumer-Personal Services by the Respondents When They are Grouped According to Age

Level of Effectiveness	Age	Mean	F-value	p-value	Decision	Remarks
Product (Service)	12 – 20	4.0678	1.331	0.25	Accept Ho	Not Significant
	21 – 30	4.1937				
	31 – 40	4.1787				
	41 – 50	4.2091				
	51 – 60	5.0063				
	61 and above	3.9				
Price	12 – 20	3.8912	0.681	0.638	Accept Ho	Not Significant
	21 – 30	3.959				
	31 – 40	3.9148				
	41 – 50	4.003				
	51 – 60	3.6938				
	61 and above	3.75				
Place	12 – 20	4.0119	2.131	0.061	Accept Ho	Not Significant
	21 – 30	4.1448				
	31 – 40	3.9492				
	41 – 50	4.2121				
	51 – 60	3.7561				
	61 and above	3.9275				
Promotion	12 – 20	3.5088	0.896	0.483	Accept Ho	Not Significant
	21 – 30	3.4654				
	31 – 40	3.3743				
	41 – 50	3.3048				
	51 – 60	3.0794				
	61 and above	3.66				

Table 14 exhibits the significant difference in respondents' assessment on the level of effectiveness on the marketing mix strategies of consumer-personal services when they are grouped according

to age. The test of significant difference revealed that Product (Service) ($F=1.331$, $p=.250$), Price ($F=0.681$, $p=.638$), Place ($F=2.131$, $p=.061$), and Promotion ($F=0.896$, $p=.483$). Considering the p-values were more than the assumed 0.05 level of significance, the study failed to reject the null hypothesis; therefore, there were no significant differences in the level of effectiveness of marketing mix strategies of consumer – personal services in the province of Quezon when respondents were grouped according to their age; this only implies that their assessments were statistically the same.

Table 15

Significant Difference in the Level of Effectiveness on the Marketing Mix Strategies of Consumer – Personal Services by the Respondents When They are Grouped According to Gender

Level of Effectiveness	Gender	Mean	F-value	p-value	Decision	Remarks
Product (Service)	Male	4.1185	0.794	0.453	Accept Ho	Not Significant
	Female	4.1667				
	LGBTQ+ more	4.3333				
Price	Male	3.8859	0.987	0.374	Accept Ho	Not Significant
	Female	3.9269				
	LGBTQ+ more	4.15				
Place	Male	3.9708	2.655	0.072	Accept Ho	Not Significant
	Female	4.1178				
	LGBTQ+ more	4.325				
Promotion	Male	3.169	7.784	0.000	Reject Ho	Significant
	Female	3.5525				
	LGBTQ+ more	3.535				

Table 15 shows the significant difference in respondents' assessments on the level of effectiveness on the marketing mix strategies of consumer-personal services when they are grouped according to gender. The test of significant difference revealed that Promotion attained an $F=7.784$ with $p=.000$. As the p-value was lower than the assumed level of significance of .05, the null hypothesis was rejected. This shows that when the respondents were grouped according to gender, their assessments on the level of effectiveness of marketing mix strategies of consumer-personal services were statistically significantly different. Moreover, their assessments on Product (Service) ($F=0.794$, $p=.453$), Price ($F=0.987$, $p=.374$), and Place ($F=2.655$, $p=.072$) were statistically the same.



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Table 16

Significant Difference in the Level of Effectiveness on the Marketing Mix Strategies of Consumer – Personal Services by the Respondents When They are Grouped According to Type of Service Availed Of

Level of Effectiveness	Type of Service	Mean	F-value	p-value	Decision	Remarks
Product (Service)	Hair Services	4.0877	2.311	0.101	Accept Ho	Not Significant
	Nail Services	4.2316				
	Both	4.218				
Price	Hair Services	3.8324	2.16	0.117	Accept Ho	Not Significant
	Nail Services	4.0632				
	Both	3.9716				
Place	Hair Services	3.9765	4.494	0.012	Reject Ho	Significant
	Nail Services	4.2316				
	Both	4.1674				
Promotion	Hair Services	3.2555	6.851	0.001	Reject Ho	Significant
	Nail Services	3.5711				
	Both	3.5909				

Table 16 exhibits the significant difference in respondents' assessments and evaluations on the level of effectiveness on the marketing mix strategies of consumer- personal services when they are grouped according to the type of service availed. The test of significant difference revealed the following results: Promotion (F=6.851, p=.001) and Place (F=4.494, p=.012). Since all these p-values are lower than the assumed level of significance of .05, the null hypothesis was rejected. So therefore, when the respondents were grouped according to the type of service available, their assessments on the level of effectiveness of marketing mix strategies of consumer-personal services were statistically significantly different. On the contrary, their assessments on Product (Service) (F=2.311, p=.101) and Price (F=2.160, p=.117) were statistically the same.

Table 17

Significant Difference in the Level of Effectiveness on the Marketing Mix Strategies of Consumer – Personal Services by the Respondents When They are Grouped According to Number of Years Availing the Service

Level of Effectiveness	Years Availing the Service	Mean	F-value	p-value	Decision	Remarks
Product (Service)	Less than a year	3.9475	7.180	0.000	Reject Ho	Significant
	1 year but less than 3 years	4.0182				
	3-5 years	4.3108				
	More than 5 years	4.2498				
Price	Less than a year	3.8025	5.018	0.002	Reject Ho	Significant
	1 year but less than 3 years	3.7132				
	3-5 years	4.0378				
	More than 5 years	4.008				
Place	Less than a year	3.88	8.006	0.000	Reject Ho	Significant
	1 year but less than 3 years	3.8864				
	3-5 years	4.1203				
	More than 5 years	4.2040				
Promotion	Less than a year	3.4014	0.067	0.977	Accept Ho	Not Significant
	1 year but less than 3 years	3.4376				
	3-5 years	3.8022				
	More than 5 years	3.4487				

Table 17 reveals the significant difference in respondents' assessments and evaluations on the level of effectiveness on the marketing mix strategies of consumer- personal services when they are grouped according to the number of years availing the service. The test of significant difference showed that Place had an F=8.006 with p=.000, Product (Service) with F=7.180 with p=.000, and Price with F=5.018 with p=0.002. Considering that all these p-values are less than the assumed level of significance of .05, the null hypothesis was rejected. Thus, when the respondents were grouped according to the number of years availing the service, their assessments on the level of effectiveness of marketing mix strategies of consumer-personal services were statistically significantly different. In contrast, their assessments on Promotion (F=0.067, p=.977) were statistically the same.



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Table 18

Significant Difference in the Level of Effectiveness on the Marketing Mix Strategies of Consumer – Personal Services by the Respondents When They are Grouped According to Frequency of Service Availed

Level of Effectiveness	Frequency of Service	Mean	F-value	p-value	Decision	Remarks
Product (Service)	Once a month	4.1316	0.494	0.687	Accept Ho	Not Significant
	More than once per month	4.1811				
	Once a year	4.1265				
	More than once per year	4.2161				
Price	Once a month	3.8843	0.369	0.776	Accept Ho	Not Significant
	More than once per month	3.9906				
	Once a year	3.9265				
	More than once per year	3.9333				
Place	Once a month	4.0320	1.234	0.297	Accept Ho	Not Significant
	More than once per month	4.1642				
	Once a year	4.0301				
	More than once per year	4.1667				
Promotion	Once a month	3.3261	1.378	0.249	Accept Ho	Not Significant
	More than once per month	3.3148				
	Once a year	3.4212				
	More than once per year	3.5049				

Table 18 presents the significant difference in respondents' assessments on the level of effectiveness on the marketing mix strategies of consumer-personal services when they are grouped by frequency of service availed. The test of significant difference revealed that Promotion (F=1.378, p=.249), Place (F=1.234, p=.297), Product (Service) (F=0.494, p=.687), and Price (F=0.369, p=.776). As all of the p-values were greater than the assumed 0.05 level of significance, the study failed to reject the null hypothesis; therefore, there were no significant differences in the level of effectiveness of marketing mix strategies of consumer – personal services in the province of Quezon when respondents were grouped according to their frequency of service availed; this only implies that their assessments were statistically the same.

Table 19

Significant Difference in the Level of Effectiveness on the Marketing Mix Strategies of Consumer – Personal Services by the Respondents When They are Grouped According to Average Amount Spent for the Service Availed of Per Visit

Level of Effectiveness	Average Amount Spent	Mean	F-value	p-value	Decision	Remarks
Product (Service)	Less than ₱100.00	3.9553	3.425	0.009	Reject Ho	Significant
	₱100.00 – ₱500.00	4.2082				
	₱501.00 – ₱900.00	4.1945				
	₱901.00 – ₱1,000.00	4.2018				
	₱1,001.00 and above	4.2303				
Price	Less than ₱100.00	3.8282	0.976	0.42	Accept Ho	Not Significant
	₱100.00 – ₱500.00	3.9615				
	₱501.00 – ₱900.00	3.9345				
	₱901.00 – ₱1,000.00	4.0179				
	₱1,001.00 and above	3.8742				
Place	Less than ₱100.00	3.8513	3.279	0.012	Reject Ho	Significant
	₱100.00 – ₱500.00	4.0828				
	₱501.00 – ₱900.00	4.1691				
	₱901.00 – ₱1,000.00	4.1696				
	₱1,001.00 and above	4.1708				
Promotion	Less than ₱100.00	3.095	4.915	0.001	Reject Ho	Significant
	₱100.00 – ₱500.00	3.3616				
	₱501.00 – ₱900.00	3.6322				
	₱901.00 – ₱1,000.00	3.5845				
	₱1,001.00 and above	3.6092				

Table 19 exhibits the significant difference in respondents' assessments and evaluations on the level of effectiveness on the marketing mix strategies of consumer-personal services when they are grouped according to average amount spent for the service availed of per visit. The test of significant difference showed the following results: Promotion (F=4.915, p=0.001), Product (Service) (F=3.425, p=0.009), and Place (F=3.279, p=0.012). Considering that all these p-values are lower than the assumed level of significance of .05, the null hypothesis was rejected. So therefore, when the respondents were grouped according to average amount spent for the service availed of per visit, their assessments on level of effectiveness of marketing mix strategies of consumer-personal services were statistically significantly different. Moreover, their assessments on Price (F=0.976, p=0.420) were statistically the same.

Discussion, Conclusions, Recommendations

Discussion

Based on the research study, the result revealed that most of the respondents were ages 21–30 with a frequency score of 223 or 55.75%, while the lowest score included those ages 61 and above with a



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frequency score of 8 or 2%. To determine the target market of the consumer-personal services, the researcher first identified the age of the customers who availed of the personal service. Personal services seem to appeal to a wide range of customers, including young women and elderly men; the bulk of patrons at each salon share particular attributes. There is age diversity in beauty salons. The salon sector may provide personalized services based on the customer's age by identifying its target market. (Durant, 2019)

The end result showed that more than half of the respondents were female, with a frequency score of 264 or 66% while the lowest score was LGBTQ+more, with a frequency score of 12 or 3%. Most of the respondents of consumer-personal services were women. Women really love to pamper themselves. According to the study, women love to take care of their nails and hair, and they love to pamper them. This is the major reason why women frequently visit beauty salons. Salons offer a broad variety of services to their customers, comprising hair, body, and nail care services. There are several benefits to visiting these types of salons on a regular basis, which may be a real stress reliever in one's daily work-life routine. With hectic work-life routines and exhausting schedules, taking care of children, husbands, and houses, it is very essential to relieve stress. The major advantages of going to the salon were pampering and relaxation. After a busy day, it was surely the perfect location to relax, relieve stress, and find a peaceful place. (Sierraden, 2019)

The result of the research exposed that the most common types of service available were both hair and nail services (Frequency-194 or 48.50%), while the least included nail services only (Frequency-19 or 4.75%). It also revealed that most of the respondents were availing of the services for more than 5 years (frequency of 217 or 54.25%) while the lowest frequency of 37 or 9.25% was 3-5 years. . According to the study's findings, it showed that the customers were loyal to their preferred beauty parlor/ salon/ barbershop for availing the services for

more than five years. According to Freedman (2020), retaining a client's devotion and loyalty extends beyond making sure they are happy with the services or goods the business offers. The preferred outcome is to convert a consumer into a brand enthusiast and loyal customer that will frequently visit the establishment. It showed that respondents with the highest frequency score of 171 or 42.75% availed of the services once a month, while those with the lowest frequency score of 53 or 13.25% availed of the services more than once per month. The result illustrated those respondents with the highest frequency score of 122 or 30.50% spent between ₱100.00 - ₱300.00 for the services availed, while those with the lowest frequency score of 78 or 19.50% spent less than P100.00 for the services availed.

Based on the product (service), it may be drawn from the findings that the respondents assessed that the marketing mix strategies of consumer-personal services were effective, as seen from its grand mean of 4.24. The research study exhibited that the services provided by the establishments were deemed effective with the highest score of 4.42 (Weighted Mean). "Service workers provide courteous and friendly service." which both have a weighted mean average of 4.20 each and verbal interpretation of "effective". According to Kokemuller (2018), hiring friendly, pleasant, helpful, and courteous employees helps in growing the business and, ultimately, results in customer loyalty. Any salon owner's objective is to get clients to their establishment.

For the price strategies, the study showed that all the indicators were effective with the grand mean of 4.02. The highest weighted mean score was 4.34, which implied "Has no hidden charges or surcharges to clients," while the lowest weighted mean score was 3.74, which was "Different payment method to choose from: cash, credit card, or mobile banking (if available)".

Based on the data gathered for place, all of the indicators resulted in effective assessment, as seen



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from their grand mean of 4.19. The highest weighted mean score for the place was 4.46, which pertained to "The beauty parlor/salon/barbershop are easy to locate." Consumers in general, want an establishment that is easy to find or locate. If possible, it should be found along the highway. When choosing a location, the establishment must be clearly visible and reachable by vehicle, bystanders, and public transportation. If the salon has a loyal customer base that will keep coming back for treatments, it is essential that it be located somewhere that is accessible (Ambrose, 2016).

For promotion (advertising), the result of the research study revealed that the indicators were effective. The highest weighted mean score was 4.17, which was "Has signages, banners, or billboards that are eye-catching." and the lowest weighted mean score was 3.74, which was "The establishment gives business cards with contact details to consumers." According to Paul (2019), customers still express interest in the banner and billboards visible in an establishment. Despite being an old and traditional method, this marketing collateral still works. Signs have other functions and are not just for information. Customers form judgments about a business based on the quality and appearance of its signage. Next, for promotion (sales promotion), the highest weighted mean score was 4.31, which was "Offers special bundle of services (e.g. Combination of service: Rebond + Manicure and Pedicure)" and the lowest weighted mean score was 3.80, which was "Has loyalty cards for regular clients." According to Price (2019), packaging or bundling stock motivates customers to consume more stock or services to benefit from bundled pricing. Bundling can be considered effective when the consumer can see the value in purchasing related goods or services at a rate discounted. Then, for promotion (public relations and publicity), the highest weighted mean score was 4.33, which was "The beauty parlor/ salon/ barbershop is a law-abiding establishment with complete business permits to operate." and lowest weighted mean score was 3.58, which was "The establishment supports community-related projects. (e.g., Free Haircut Program to a particular

location)". According to the American Marketing Association's Code of Ethics as cited by Perreault-McCarthy (2002), professional marketers must follow all applicable rules and regulations in their activity. According to Higuera (2021), volunteering services can also promote local small businesses. Local residents within the community will learn of the establishment's philanthropic contribution, and this act of kindness may increase appreciation for the product or service. And finally, for promotion (personal selling), the highest weighted mean score was 4.14, which was "The service workers ask their clients if they are satisfied with the service delivered." and the lowest weighted mean score was 3.70, which was "The establishment employs promo boys/ girls during special events. (e.g. new service offering)." In the Personal Selling category, it is when the service workers ask their clients if they are satisfied with the service delivered, it simply meant that respondents engage service providers through feedbacks. Customer feedback is data provided by the audience regarding how a business, product, or service helped customers and satisfied their needs. Customer reviews are the best and most trustworthy source of information regarding a company's quality. It is significant because it highlights areas where the product needs to be improved; listening to customer feedback gives customers a sense of involvement and importance; positive feedback leads to personal recommendations; and listening to customer feedback aids in fostering brand loyalty. (Kierczak, 2021). Overall, sub-aspects of promotion were all effective.

When grouped according to age, the result showed the following: Product (Service) ($F=.331$, $p=.250$), Price ($F=0.681$, $p=.638$), Place ($F=2.131$, $p=.061$), and Promotion ($F=0.896$, $p=.483$). Hence, the study failed to reject the null hypothesis. When grouped according to gender, the outcome revealed: Promotion ($F=7.784$, $p=.000$). Thus, the null hypothesis was rejected. On the contrary, their assessments on Product (Service) ($F=0.794$, $p=.453$), Price ($F=0.987$, $p=.374$); and Place ($F=2.655$, $p=.072$). Thus, the study failed to reject the null hypothesis for these aspects. When grouped



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according to the type of service availed of, the following results appeared: Promotion ($F=6.851$, $p=.001$) and Place ($F=4.494$, $p=.012$). Thus, the null hypothesis was rejected for these aspects. Alternatively, their assessments on Product (Service) ($F=2.311$, $p=.101$) and Price ($F=2.160$, $p=.117$) failed to reject the null hypothesis. When grouped according to the number of years availing the service, the outcome showed the following: Place ($F=8.006$, $p=.000$), Product (Service) ($F=7.180$, $p=.000$), and Price ($F=5.018$, $p=0.002$). Hence, the study rejected the null hypothesis for these aspects. In contrary, their assessments of Promotion ($F=0.067$, $p=.977$) concluded that the study failed to reject the null hypothesis. When grouped according to the frequency of service availed, the result showed: Promotion ($F=1.378$, $p=.249$), Place ($F=1.234$, $p=.297$), Product (Service) ($F=0.494$, $p=.687$), and Price ($F=0.369$, $p=.776$). Hence, the study failed to reject the null hypothesis. When grouped according to the average amount spent for the service availed of per visit, the end result revealed the following: Promotion ($F=4.915$, $p=.001$), Product (Service) ($F=3.425$, $p=.009$), and Place ($F=3.279$, $p=0.012$). Thus, the null hypothesis for these aspects was rejected. On the other hand, their assessments of Price ($F=0.976$, $p=.420$) failed to reject the null hypothesis.

Conclusions

According to the assessment of the respondent's profile, it can be seen that any age and gender can avail of Personal Services. But the most active gender and age bracket in visiting the salons belonged to the females aged 21 to 30 years old, which often consisted of young professionals who availed both hair and nail services once a month at a price range of ₱100.00-₱300.00 for more than 5 years.

Based on the data gathered and respondents' assessment, it can be determined that the aspects of marketing mix strategies for consumer-personal services in the province of Quezon were deemed effective. There was no significant difference in

terms of product (service), price, place, and promotion when they were grouped according to age and frequency of service availed, according to the assessment of the level of effectiveness on the aspects of marketing mix strategies. In contrast, there were significant differences in product (service), place, and promotion when they were grouped according to the average amount spent per visit. Also, there were significant differences in product (service), price, and place when they were grouped according to the number of years of availing the service. In addition, there were significant differences in place and promotion when they were grouped according to the type of service availed of. And finally, there were significant differences in promotion when they were grouped according to gender.

Recommendations

Based on the findings and conclusions made, the following recommendations were suggested: investment in training and development of employees in customer service training like complaints handling management and dealing with difficult situations; enrolment of service providers to National Certificate II in Beauty Care Services (Nail Care) and Hairdressing conducted by the Technical Education and Skills Development Authority (TESDA); adaptation to the new norms of cashless transactions like online payments or digital banking; due to pandemic situation, business establishments should consistently practice pre-booking of appointments to streamline operations and limit the number of people in the establishments; promote by using 2-in-1 card to consumers that will serve as loyalty cards and business cards in one; devote in corporate social responsibility advocacy by partnering with the Local Government Units in providing community-driven projects like discounted hair or nail services for the front liners in the health sector in exchange for likes and social media followings for a certain period; and recommend future researchers to use the research as a potential reference or learning tool to assess the target market persona for future businesses and



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look to further study other areas or aspects not included in this research like consider including the significant impact of pandemic to consumer-personal services industry and its effect on company's sustainability and profitability.

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Marketing Strategy on Customer Patient Satisfaction of Mary Johnston Hospital, Inc.

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Abstract

The purpose of the study is to assess the effectiveness of the Marketing Strategy on Customer Patient Satisfaction of Mary Johnston Hospital, Inc. The marketing strategies that were used as tools to assess the marketing strategy of the hospital are the 7P's, namely: Product, Price, Place, People, Promotion, Physical Evidence, and Process. Survey questionnaires were given to admitted patients or in-patients from the different departments of the hospital. As a result of the study, most of the respondents are from ages 20-30 years old and above. In line with the assessment of the respondents on the marketing strategy of the customer patient satisfaction of the hospital, the result under Product, Price, Place, Promotion, People, Physical Evidence and Process, the verbal interpretation is effective.

When it comes to the test of significant difference, the respondents' assessment on the effectiveness of Marketing Strategy on Customer-Patient Satisfaction when they are grouped according to its profile is that there is a significant difference on the effectiveness of the marketing strategy on customer patient satisfaction of the hospital when they are grouped according to age. It is therefore resolved that the hospital marketing strategy on customer patient satisfaction is effective, but in the aspects of price and promotion, there is a need for further improvement.

Keywords: marketing strategy, Mary Johnston hospital, assessment, effectiveness & patient satisfaction

Introduction

The main concerns of firms and companies in the world of business whether small or medium enterprise and any profit organizations are business growth and global competitiveness. This is because growth and global niche directly respond to business sustainability. To achieve growth, business or firms continue to pursue innovations not only on the products but also on the way the organizations are structured. Traditional structure of business entity

or organization is simply divided into Human Resource, Finance, and Operation until it expands to include the Marketing, Information Technology and Planning among others. While operation is still considered as the heart of any business entity, the marketing plays a crucial role in terms of reaching the company's target market. This is because the market is the one that fills the company's bloodline, finance.

Company CEOs and Executives globally put premium in finding the best market person.



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Marketing is not just about mainstreaming the company's product, but it also deals with how to make the company sustainable. It's careful to understand that the best marketing strategy is easy to create and developed, but how it can fit to the company is otherwise. A market person has the eyes and the ability in terms of timing and developing. Marketing is the integral part of the operational process of the company that will lead to its capacity and sustainability of its operation and to be more competitive to its competitors. It is also the key to achieve the goals of the company and to promote the vision and mission of the company as well.

Statement of the Problem

This study aims to assess the effectiveness of the marketing strategy on customer-patient satisfaction of Mary Johnston Hospital. Specifically, it sought to answer the following questions:

1. What is the profile of the respondents in terms of the following?
 - 1.1 Age
 - 1.2 Sex
 - 1.3 Highest Educational Attainment
 - 1.4 Employment
 - 1.5 Mode of Payment
2. How do the respondents assess the effectiveness of marketing strategy on customer-patient satisfaction of Mary Johnston Hospital, Inc. in terms of the following aspects?
 - 2.1 Product
 - 2.2 Price
 - 2.3 Place
 - 2.4 Promotion
 - 2.5 People
 - 2.6 Physical Evidence
 - 2.7 Process
3. Is there a significant difference in the respondent's assessment of the effectiveness of the marketing strategy on customer patient satisfaction of the Mary Johnston Hospital, Inc. when they are grouped according to profile?

Hypothesis

There is no significant difference in the respondents' assessment of the effectiveness of the marketing strategy on customer-patient satisfaction of Mary Johnston Hospital, Inc.

Scope and Limitations of the study

The Mary Johnston Hospital Inc., it is a non-stock and non-profit institution. A tertiary level hospital and have 120 beds as approved by the Department of Health. This study covers its current operational activities, personnel, structure, finance, and marketing strategy.

The limitation of this study includes but not limited to the following: (1) time of the study; (2) instrument used in the study; (3) expertise of the researcher to analyze the results of the study; and (4) access to Mary Johnston Hospital data.

Significance of the Study

The significance of this study will help the Researcher to find out the Marketing Strategy that will fit on the operation of Mary Johnston Hospital. It will also help the hospital to look for loopholes that will lead to the sustainability of its operation. It entails the proper action towards health care services and to become more competitive in neighboring LGUs and other hospital.

This study will serve as future reference of researchers that may help their study in terms of marketing strategies of their company or other business firms.

Review Of Literature and Studies

The related literature of the study was focused on the Marketing Strategy (7P's) and on the Business Operation of the hospital. It composed of foreign and local studies. It will define the essence of the different marketing strategy that is to adopt the necessary information that would help described



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what is suitable for a hospital marketing strategy that would improve its operation. And different studies that contributes evidence in administering the Marketing Strategy (7P's) in a hospital setting.

Marketing Strategy (7p's)

Kotler defines marketing, as the social process by which individuals and groups obtain what they need and want through creating and exchanging products and value with others. It is the right product, in the right place, at the right time and at the right price. Ans is the process whereby society, to supply its consumption need evolves distributive system composed for participants, who interacting under constraints technical (economic) and ethical (social), create the transactions or flows which resolves market separation and result in exchange and consumption.

The five Ps: product, price, place, promotion, and people, all are needed to be in alignment for promotion to be effective. A product marketing an organization or event, it is useful to think of an art a product that you can offer to the public to consume experience enjoyment and reflect upon. The product should be packaged in enticing language and imagery that attracts the target market and focuses on how great the viewers experience will be. Place refers not only to the organization's location but also its accessibility. Price must be considered even if the event is free because the cost of attending an arts event is more than just the ticket price. It must take into account other actual and perceived costs. Actual costs (transportation, parking fee and etc.) are uncontrolled but these can be lessened or minimized by providing subway, provides information about the art of production before the event via website, email, invitation and include language in marketing materials which are appropriate for all levels or ages.

Perceived costs are the unsure of areas safety and location. These costs can alleviate through brainstorming of what member or the audience need. Value chain is a useful model to analyze

specific activities, in which firms can create a competitive advantage.

Michael Porter identifies a set of interrelated generic activities to a wide range of firms known as the Value Chain. Primary value chain Activities: Inbound Logistic - Operations- Outbound Logistics- Marketing and Sales-Service. The goal of these activities is to create value that exceeds the costs of providing the product or service, thus generating a profit margin. Inbound Logistics include the receiving, warehousing and inventory control of input materials. The operations are the value creating activities that transform the inputs into the final product. Outbound Logistics are the activities required to set the finished product to the customer including Warehousing order fulfillment, etc. Marketing and Sales are the activities associated with getting buyers to purchase the product, including channel selection, advertising and pricing. While intuitively appealing to many healthcare executives, the adoption of marketing by during the last two decades of the twentieth century was highly variable.

The inconsistency in the adoption of marketing was a result of numbers of factors, namely, the perceived lack of relevance to hospitals operating in highly regulated, yet revenue- rich, environments of the 1970s and early 1980s (O'Connor 1982, Noveli, 1983). As these environments became more competitive and resourced limited following the implementation of Medicare's prospective payment system, marketing was vigorously advocated as a means for hospitals to achieve organizational objectives and a competitive advantage. (Allen 1988; Clarke and Shayavitz1987; Kotler and Clarke 1987.) Although many hospitals embraced marketing by the late 1980s, concern continued that marketing was being more talked about rather than operationalized in hospitals and identifying the results of marketing efforts was difficult. And reported continued confusion over the substance of hospital marketing was it simply promotion and advertising or identifying and meeting customer needs.



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By the mid-1980s, the concept of a marketing orientation began to guide the thinking of many healthcare executives and researchers. Kotler and Clarke (1987) were the first researchers to clearly define and operationalize the concept of Marketing Orientation in healthcare organizations. Their definition of marketing orientation states that the main task of the organization is to determine the needs and wants of target markets and to satisfy them through the design, communication, pricing, and delivery of appropriate and competitively viable products and services. Because marketing focuses on promoting exchanges with target markets for the purpose of achieving organizational objectives, the adoption of marketing orientation is seen as necessary to facilitate an organization's effectiveness. Effectiveness, according to Kotler and Clarke (1987), is further reflected in the degree to which an organization exhibits five major attributes of a marketing orientation:

1. Customer philosophy: Are customer needs and wants used in shaping the Organization's plan and operations?
2. Integrated marketing organization: Does the organization conduct marketing analysis, planning, implementation, and control?
3. Marketing information: Does management receive the kind and quality of information needed to conduct effective marketing?
4. Strategic Orientation: Does the organization implement strategies and plans for achieving its long-run objectives?
5. Operational Efficiency: Are marketing activities carried out cost effectively? The above attributes have been used in several studies to measure the existence of a marketing orientation in hospitals and to measure the relationship of marketing orientation to other indicators of organizational performance.

A study of 80 hospitals by McDevitt (1987) concluded that larger hospitals have more of a marketing orientation was not related to other operational characteristics such as occupancy rate. McDevitt also found that extent of marketing tasks completed in hospitals varied considerably among facilities in his study. A study of 153 Midwestern hospitals by Naidu and Narayana (1991) showed that only 20 percent of hospitals have a high degree of marketing orientation, and that marketing orientation is positively associated with bed size, for profit ownership, and occupancy rate. These researchers also concluded that a marketing orientation is critical to the success of hospitals in competitive environment. Naidu, Kleimnhausen and Pillari (1992) concluded from a survey of 176 hospitals that had made extensive progress in moving a marketing orientation as earlier defined by Kotler and Clarke (1987). These authors noted that marketing is effective in the healthcare industry and found that a high marketing orientation is positively related to the existence of a marketing department, bed side and competition in the area. Furthermore, these researchers suggested that a professional marketing director be appointed to lead marketing function. Perreault/Mc Carthy (2005) defines marketing is both a set of activities performed by organizations and a social process. In other words, marketing exists at both micro and macro levels. Micro Marketing is the performance of activities that seek to accomplish an organization's objectives by anticipating customer or client needs and directing a flow of need-satisfying goods and services from producer to customer or client. Marketing applies to both profit and non-profit organizations. Profit is the objective for most business firms. But other types of organization may seek more members or acceptance of an idea.

Product is the good or service for the target needs. The product area is concerned with developing the right "product" for the target market. Along with other product, area decisions like branding, packaging, and warranties.



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Place is concerned with all the decisions involved in getting the “right” product to the target market’s Place.

Promotion is concerned with telling the target market or others in the channel of distribution about the “right” product. Sometimes is focused on acquiring new customers and sometimes focused on retaining current customers. Promotion includes Personal selling, Mass selling and Sales promotion. Personal Selling involves direct spoken communication between sellers and potential customers. Let’s the salesperson adept the firm’s marketing mix to each potential customer. Mass Selling is communicating with large numbers of customers at the sametime. The main form of mass selling is advertising any paid form of non-personal presentation of ideas, goods, or services by an identified sponsor. Publicity - any unpaid form of non- personal presentation of ideas, goods, or services is another important for of mass selling. Massselling may involve a wide variety of media, ranging from newspapers and billboards to the internet. Sales promotion refers to those promotion activities other than advertising, publicity and personal selling that stimulate interest, trial or purchase by final customers.

Price - price setting must consider the kind of competition in the target market and the cost of the whole marketing mix. A manager must also try to estimate customer reaction to possible prices.

Business Operation

According to K D Bertakis ¹, R Azari, L J Helms, E J Callahan, J A Robbins, their studies have shown that women use more health care services than men. New adult patients (N = 509) were randomly assigned to primary care physicians at a university medical center. Their use of health care services and associated charges were monitored for 1 year of care. Self-reported health status was measured using the Medical Outcomes Study Short Form-36 (SF-36). They controlled for health status, sociodemographic information, and primary care physician specialty

in the statistical analyses. The result of their studies Women had significantly lower self-reported health status and lower mean education and income than men. Women had a significantly higher mean number of visits to their primary care clinic and diagnostic services than men. Mean charges for primary care, specialty care, emergency treatment, diagnostic services, and annual total charges were all significantly higher for women than men; however, there were no differences for mean hospitalizations or hospital charges.

After controlling for health status, sociodemographic, and clinic assignment, women still had higher medical charges for all categories of charges except hospitalizations.

In view of the study about the Reasons and Outcomes of Admissions to the Medical Wards of Jimma University Specialized Hospital, Southwest Ethiopia, the most admitted patients are group age from 21-30 years old with common cause of admission are Communicable diseases; namely severe community acquired pneumonia, all infectious and parasitic diseases category and pyogenic as well as chronic meningitis

Jennifer Abbasi, *JAMA*.(2020) Healthy young people like Salzman, Gray, and Hall were never risk free, but most COVID-19 cases identified early on were in older adults and people with chronic health conditions, who are much more likely to have severe disease and to die. As a result, research efforts, public health messaging, and public awareness had largely focused on those high-risk groups. But recent national data show that new infections have increased in younger adults, an uptick that isn’t fully attributable to increased testing in these groups. Although the majority of these cases likely will be asymptomatic or mild, physicians and survivors say that’s not the full picture. COVID-19 on occasion kills younger people. The deaths may be relatively rare, but some nonfatal symptomatic cases can be hugely disruptive and even life altering.



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Cunningham and his colleagues reported in *JAMA Internal Medicine* that even the youngest adults who are hospitalized with the disease may not be spared from poor outcomes. He analyzed data from 3222 patients aged 18 to 34 years who were admitted to US hospitals. More than one-fifth of them required intensive care, one-tenth required mechanical ventilation, and 88, or 2.7%, died.

In other hospital like St. Luke's Hospital, accepts only cash or credit cards for payments. Same with Osaka University Hospital patients can pay their bill thru cash or credit card (JCB, VISA, UFJ, American Express, Nicos, MasterCard, Diners Club), or by a debit card (bankcard). Likewise with the hospital cash is prominent, it also accepts credit cards, debit cards, health cards other health finances like guaranteed letters; DSWD, and PCSO. Cash is a liquid asset which sustain the daily operation of the hospital.

Based on the review of related literature by Smriti Naithani, 2008, in Hospital inpatients' experiences of access to food: Almost half of the patients reported feeling hungry during their stay and identified a variety of difficulties in accessing food. These were categorized as: organizational barriers (e.g., unsuitable serving times, menus not enabling informed decision about what food met their needs, inflexible ordering systems); physical barriers (not in a comfortable position to eat, food out of reach, utensils or packaging presenting difficulties for eating); and environmental factors (e.g., staff interrupting during mealtimes, disruptive and noisy behaviour of other patients, repetitive sounds or unpleasant smells).

In the study of *The Challenge of Understanding Health Care Costs and Charges*, it is found out that there is a wide variation in the prices of tests and procedures, even in the same geographic location. And also mentioned in the Costing study for selected hospitals in the Philippines, the direct cost takes about half of the total unit cost, while the overhead cost consumes approximately 40% at secondary and tertiary hospitals.

Patient immobility during a hospitalization is linked to deconditioning, bed sores, longer hospital length of stay (LOS), and an increased risk of hospital-associated pneumonia (HAP) (Czapluski, Marshburn, Hobbs, Bankard, and Bennett, 2014; Stolbrink et al. 2013). Barriers to mobilize patients during an acute admission include lack of assistive devices, fear of patient falling, and lack of motivation amongst both the staff and patients (Czapluski, et al., 2014). Zisberg, Shadmi, Gur-Yaish, Tonkikh, and Sinoff (2015) contribute hospital-associated function decline due to lack of immobility both immediately and 30 days post hospitalization. Brown, Friedkin, and Inouye (2004) found adverse outcomes are related to lack of ambulation during hospitalizations, which contributes towards a higher incidence of skilled nursing facility (SNF) placement and higher hospital length of stay.

According to Gulbranson (2019) Brochures, Newsletters, and Posters are one of the most practical forms to promote products. Brochure also known as a pamphlet, a single piece of paper that can be folded in many different ways, with summary information regarding an organization, company, product services, and its informational paper that is mainly used for advertising. There are six types of brochures that are most commonly used: the Gate Fold Brochure, the Tri-Fold Brochure, the Bi-Fold Brochure, Leaflets/ Flyers, Folders/ Insert Brochures, and Z-Fold Brochures.

The newsletters' purpose is to keep customers or employees informed of what is taking place in your community or company. They also help promote organizations, products, services, and businesses. Newsletters are appealing and easy to read. It helps build regular communication with customers and employees, while being a cost-effective way to do so.

One of the studies is about Politeness of Front Counter Staff of Malaysian Private Hospitals, front counter services in Malaysia seeks to provide some evidence of conversational data of front counter staff serving their patients in nine private hospitals at



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the beginning and the closing of each transaction. The result of their study showed less politeness to patients. Such behaviour may cause individual organizations to lose clients and fail in their greater duty of care to the community. They recommend the following steps to be taken to emphasize the use of markers of politeness in service industries: 1. provide training to staff via courses or workshops; 2. emphasize service with a smile; 3. focus on the needs so as to make patients feel valued and appreciate; and give honorariums or incentives to staff who get the highest number of votes from patients for being courteous.

Hospital beds are designed and constructed to provide safety, comfort, and mobility for a broad range of patients with varying conditions and treatment plans. Modern hospital beds incorporate a range of safety features that are designed to protect against fall and pressure injuries, assist with patient positioning and mobility, and alert caregivers of a potential mishap. Hospital beds are considered Durable Medical Equipment (DME) and require routine inspection and maintenance. These are based from the Hospital Bed Components & Safety - Expert Overview. According to Maria Clark, 2020 features of bed shall explain bed adjustments to patients.

Based on the study conducted on medicine procurement in hospital pharmacies of Nepal, a qualitative study based on the Basel Statements, one of the reasons of the shortage of medicine is procurement which entails the highlights different aspects of procurement, such implementation of an appropriate and cost-effective procurement. As a result, it was found that the majority of hospital pharmacies in Nepal reported using an expensive direct procurement model for purchasing medicines. Most had no formulary and procured medicines solely based on doctors' prescriptions, which were heavily influenced by pharmaceutical companies' marketing strategies. Also the [2018 EAHP survey results that the medicines shortages problem remain a major problem for patients in European hospitals, continues to persist](#) specifically on

antibiotics.

According to the book of Karen Dorman Marek and Lisa Antle, entitled, *Medication Management of the Community-Dwelling Older Adult*, the young-old (ages 66–74) have been found to be more adherent to medication regimens than middle-aged older adults, but after age 75, older adults present decreased comprehension of medication instructions and adherence.

Based on the study on Hospital inpatients' experiences of access to food, by Smriti Naithani (2008) there are physical barriers in accessing food in elderly, these includes inappropriate seating and trolley positioning resulting in food being placed out of reach and patients experiencing difficulties in transporting food to mouth; and being given inappropriate utensils to feed themselves.

In consonance with the study about, "Is Tertiary Care Treatment Affordable to All? - Explore Alternative (s) for Healthcare Financing"; Health Care Financing (HCF) pattern of high-cost treatment diseases related to ICU, kidney transplant, cardiovascular surgery, Hematology, Surgical Gastroenterology etc. (expenditure limit more than Rupees (Rs) 75000 so far incurred in one patient), the study revealed that the average size of family is 6 members with an income of approx. Rs. 10185 per month per family. Average expenditure so far incurred by one show that majority 115 (75%) patients bear the expenses themselves (out of pocket) It was also observed that approx. 50% out of pocket expenditure was met by taking loan from the bank, relatives, selling of assets and mortgaging the assets. approx. 34 (22%) reported that their expenditure will be reimbursed or got advance payment.

Increase cost of the treatment due to high technology innovation, changing profile of disease etc. is beyond the reach of common public. The prospective study carried out on 154 high-cost treatment patients at SGPGIMS, the tertiary care institute, revealed that the majority of patients (75%) spent the money from



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their pocket (out of pocket). About 50% of them could afford the treatment cost as the money was with them while remaining remained distressed as the money was collected by loan, selling/mortgaging the assets. The present study findings reflect that the tertiary & high-cost treatment is beyond the reach of majority and will have great impact on the economy and health profile of society.

The most important marketing communication tool used in health institutions is public relations. As in all other organizations, there are many groups (stakeholders) where health institutions interact. These are divided into two as internal stakeholders (employees, managers, hospital owners, etc.) and external stakeholders (patients, relatives of patients, media, Ministry of Health, competing hospitals, supplier groups, etc.). Public relations, which are one of the marketing communication tools, can be expressed as efforts to create a positive image in society by establishing correct and reliable relations with internal and external stakeholders. Furthermore, sharing the policies implemented by the health institution with the stakeholders and adopting these policies by the stakeholders, ensuring that the activities of the organization are positively met by the stakeholders, are among the activities of public relations. If good communication is established with the society, it is inevitable that the health institution will increase its market awareness and superiority over its competitors. For this reason, public relations, which is one of the marketing communication tools, is among the indispensable marketing activities of the health institution.

Public relations are at the forefront in terms of creating a positive image in the society in terms of services and works offered in health institutions rather than advertising in marketing communication. Health services marketing with image management, it aims to create communication programs that will enable customers to evaluate the hospital and the health services provided positively.

Synthesis of Related Literature

The expanded marketing mix, product, price, place, promotion, people, physical evidence and process are all needed to be in alignment for promotion to be effective. A product marketing an organization or event, it's useful to think of an art a product that you can offer to the public to consume experience enjoyment and reflect upon. Price must be considered even if the event is free because the cost of attending an arts event is more than just the ticket price. Value chain is a useful model to analyze specific activities, in which firms can create a competitive advantage. Michael Porter identifies a set of interrelated generic activities to a wide range of firms known as the Value Chain. Inbound logistics include the receiving, warehousing, and inventory control of input materials. Operations are the value creating activities that transform the inputs into the final product. Marketing and Sales are the activities associated with getting buyers to purchase the product.

The following attributes have been used in a number of studies to measure the existence of a marketing orientation in hospitals and to compare it to other indicators of organizational performance: 1) Customer philosophy: Are customer needs and wants used in shaping the Organization's plan and operations? 2) Marketing information: Does management receive the kind and quality of information needed to conduct effective marketing? A study of 80 hospitals by McDevitt (1987) concluded that larger hospitals have more of a marketing orientation was not related to other operational characteristics such as occupancy rate. A study of 153 Midwestern hospitals by Naidu and Narayana (1991) showed that only 20 percent of hospitals have a high degree of marketing orientation. These researchers suggested that a professional marketing director be appointed to lead marketing function. Personal Selling involves direct spoken communication between sellers and potential customers. Mass Selling is communicating with large numbers of customers at the same time. Sales promotion refers to activities other than advertising,



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publicity and personal selling that stimulate interest, trial or purchase by final customers. Price setting must consider the kind of competition in the target market and the cost of the whole marketing mix.

New adult patients were randomly assigned to primary care physicians at a university medical center. Use of health care services and associated charges were monitored for 1 year. Women had significantly lower self-reported health status and lower mean education and income than men. After controlling for health status, sociodemographic, and clinic assignment, women still had higher medical charges for all categories of charges except hospitalizations. Hospital cash is prominent, it also accepts credit cards, debit cards, and health cards other healthfinances like guarantee letters; DSWD, and PCSO. Almost half of patients reported feeling hungry during their stay and identified a variety of difficulties in accessing food. Patient immobility during a hospitalization is linked to deconditioning, bed sores, longer hospital lengthof stay (LOS), and an increased risk of hospital-associated pneumonia (HAP).

A brochure is a single piece of paper that can be folded in many different ways, with summary information regarding an organization, company, product services, and its informational paper that is mainly used for advertising. Brochures, Newsletters, and Posters are one of the most practical forms to promote products. There are six types of brochures that are most commonly used. Hospital beds are considered Durable Medical Equipment (DME) and require routine inspection and maintenance. Modern hospital beds incorporate a range of safety features that are designed to protect against fall and pressure injuries, assist with patient positioning and mobility, and alert caregivers of a potential mishap. According to Maria Clark, 2020 features of bed shall explain bed adjustments to patients.

The majority of hospital pharmacies in Nepal reported using an expensive direct procurement

model for purchasing medicines. Most had no formulary and procured medicines solely based on doctors' prescriptions, which were heavily influenced by pharmaceutical companies' marketing strategies. EAHP survey results that the medicines shortages problem remains a major problem for patients in European hospitals, continues to persist specifically on antibiotics.

The study carried out on 154 high-cost treatment patients at SGPGIMS, the tertiary care institute, revealed that the majority of patients (75%) spent the money from their pocket (out of pocket) 50% out of pocket expenditure was met by taking loan from the bank, relatives, selling of assets and mortgaging the assets. Average size of family is 6 members with an income of approx. Rs. 10185 per month per family.

Theoretical Framework

The Expanded Marketing Mix - 7P's

The following marketing mix was defined by Edmund Jerome Mc Carthy in 1960 the 4P's and updated by Booms and Bitner in 1981.

Product: The first P manages the genuine product being sold to the customer, whether it is a physical item, or an intangible service. Additionally, included in this P is such critical ideas as the product's look, name, packing, etc. (design, technology, usefulness, convenience, value, quality, packaging, branding, accessories & warranties.)

Price: The second P covers any issues related to pricing that is identified with the item. Above all else, overall revenue, and the estimating of the opposition, manages what the cost of the product will be (skimming, penetration, psychological, cost plus & Loss leader)

Promotion: Here, the expense can soar in correlation to the cx genuine generation costs, so extraordinary consideration must be taken when choosing how to convey, communicate and offer the products to



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consumers. (Special offers, advertising, endorsements, user trials, direct mailing, leaflets/posters, free gifts, competitions & joint ventures)

Place: The last P of the unique marketing mix, place, manages inquiries of distribution channel, and getting the product to the purchaser. Value-based, practical, and logistical issues are investigated here, and choices made right now incorporate what stores to discover the item in, and whether a sales force is required, in addition to everything else (retail, wholesale, mail order, internet, direct sales, peer to peer & multi-channel).

People: The first P of the expanded marketing mix is concerned with the individuals working for the organization. It is imperative to enroll and train the right individuals, on the grounds that this is who the customers will be dealing with (employees, management, culture & customer service).

Physical Evidence/Layout: How an item is introduced to the client, including its surroundings is vital. Particularly vital to block and mortar stores that offer an item, they must be inviting, simple to explore, and if the item being sold is on the pricy side, fancier than different spots (smart, run-down, interface, comfort & facilities).

Process: The last P is concerned with methodology; how one manages customer service, and an organization's capacity to offer service, handle protests, and anticipate any issues before they really happen. (Especially relevant to service industries & how are services consumed?)

Conceptual Framework

The research paradigm that served as guide to this study is the system approach or known as Input-Process-Output (IPO) Model. This groups the respondents according to profile and the effectiveness of the marketing strategies of Mary Johnston Hospital, Inc. These inputs will be processed through the use of survey questionnaire to

validate the effectiveness of the Expanded Marketing Mix the 7Ps: Product, Price, Place, Promotion, People, Physical Evidence and Process

Figure 1:

The Paradigm of the Study



The Diagram explains how the presentation of the study will take place. It's the Input- Process-Output Model. This will be processed by the questionnaire to validate the effectiveness of the Marketing Strategy on Customer Patient Satisfaction of Mary Johnston Hospital, Inc.

Methodology

The research design used is a descriptive method. Random Sampling and Statistical Research Instrument were used to process the data from the respondents and to obtain results for the statement of the problem of the study.



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Method of Research

The method used in this study is the descriptive research method. This describes the position of the company to sustain its operation and to evaluate the marketing strategy on Customer-Patient Satisfaction of Mary Johnston hospital that will help and improve its marketing strategy and to have higher revenue in the next 5 years and beyond.

Berenson, Levine and Szabat (2015) define descriptive research method as a collection, presentation and characterization of a set of data to describe the various features of the set of data properly. This method measures variables and support the existing studies and theories. These procedures are important to properly present and describe information and arrive to a conclusion based on the findings. The researcher used the survey questionnaire for the collection of data.

In this study, descriptive research design was used to describe its respondents according to Sex, Age, Educational Attainment, Employment Status and Method of Payment. It will interpret the respondents' assessment on the marketing strategy on Customer-Patient Satisfaction of Mary Johnston Hospital, Inc., based on the 7Ps: Product, Price, Place, Promotion, People, Physical Evidence and Process, and the outcome of MJH strategy and if there is co-relationship between marketing strategies of MJH when grouped according to profile.

Population, Sample Size and Sampling technique

The total population of the Mary Johnston Hospital, Inc., at the time of the study is 558. The respondents of this study are the customers/patients a total of 235 respondents based on the sample size taken using the Slovin's formula.

Where:

$$n = N/(1+Ne^2)$$

$$n = 558/(1 + 558 (.05)^2)$$

$$n = 232.98$$

Sampling Technique

Random sampling technique is a random sample subset chosen in a population. This was used to pick the respondents in the hospital from its different departments like Medicine Ward, Medicine Annex, Ob-gyne, Surgery Ward and Surgery Intensive Care Unit. Each patients have an equal chance of being chosen using this sampling procedure.

Description of Respondents

The respondents are the patients who were admitted in different departments of the hospital like Medicine Ward, Medicine Annex, Surgery Ward and Ob-gyne regardless on their length of stay at Mary Johnston Hospital, Inc.

Research Instrument

The instrument used in this study was made by the researcher.

Part I is the profile of the respondents in terms of age, sex, highest educational attainment, employment and mode of payment. And Part II is the assessment of the customer to the marketing strategy of Mary Johnston hospital, Inc.

Statistical Treatment of Data

The following statistical tool were applied; T- Test and Analysis of Variance.

A t-test is a hypothesis test used by the researcher to compare population means for a variable, classified into two categories depending on the less-than interval variable. More precisely, a t-test is used to examine how the means taken from two independent samples differ. Below is the T-test formula

$$T\text{-test} = \frac{\bar{x} - \mu}{s/\sqrt{n}}$$



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\bar{x} is the sample mean
 s is sample standard deviation
 n is sample size
 μ is the population mean

The T-test was administered by comparing two variables especially in terms of SEX to determine the significant difference in a .05 level of significance.

Data Results and Analysis

Table 1

Weighted Mean and Verbal Interpretation of the Respondents' Assessment of the Effectiveness of the Marketing Strategy on Customer-Patient Satisfaction of Mary Johnston Hospital, Inc.

Marketing Strategies	Overall Weighted Mean	Verbal Interpretation	Rank
Product	4.15	Effective	2
Price	3.56	Effective	7
Place	4.13	Effective	3
Promotion	3.90	Effective	6
People	4.29	Effective	1
Physical Evidence	4.07	Effective	4
Process	4.05	Effective	5
Grand Mean	4.02	Effective	

4.51-5.0= Very Effective, 3.51-4.50=Effective, 2.51-3.50=Somewhat Effective, 1.51-2.50=Less Effective, 1.0-1.50= Not Effective

Table above shows the result of overall weighted mean and verbal interpretation of the respondents' assessment of the effectiveness of the marketing strategy on customer patient-satisfaction of the hospital. Which obtained a grand mean of 4.02 thus the respondents' assessment on the effectiveness of the marketing strategy on customer patient satisfaction of the hospital is effective.

The marketing strategies in aspect of People and Product have the overall highest weighted mean, 4.29 and 4.15 respectively. Price and Promotion have the lowest overall weighted mean, 3.56 and 3.90 respectively. The management should improve

on the marketing strategy in aspect of Price and Promotion to attend the needs of patients and to maintain the high quality of service.

Discussion, Conclusion and Recommendations

Profile of the Respondents in terms of age, sex, educational attainment, employment, and mode of payment.

The total number of respondents of this study is 235. When it comes to sex, the most admitted patients are female with a frequency of 167 or 71.1 percent while male are 28.9% of the total respondents. In terms of ages, admitted patients are 20-30 years old have the greatest number of frequencies of 70 or 29.8 while patients 61 years old and above have the least frequency of 11.5% percent of the total respondents. When it comes to educational attainment, most of the patients are college graduate which the frequency is 148 or 63% and the least are patients who have a doctorate degree, which is only 1.7 % of the total respondents. Most of the respondents are employed with 59.1%, while self-employed obtained the lowest frequency of 10.6%. And lastly, in terms of mode of payments, cash payment has the highest frequency of 148 or 63% while PCSO payment obtained the lowest frequency of 1.7% in paying their bills. The Assessment on the Effectiveness of the Marketing Strategy on Customer-Patient Satisfaction of Mary Johnston Hospital, Inc.

The assessment of the respondents on the effectiveness of the marketing strategy on Customer-Patient Satisfaction of the hospital is effective with an overall weighted mean for Product (4.15), Price (3.56), Place (4.13), Promotion (3.90), People (4.29), Physical Evidence (4.07) and Process (4.05).



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Test of Significant Difference on the Respondent's Assessment of the Effectiveness of the Marketing Strategy on Customer Patient Satisfaction of the Mary Johnston Hospital, Inc., when they are grouped according to profile such as Age, Sex, Educational Attainment, Employment and Mode of Payment.

According to Age

Based on the result of the significant difference, the respondents' assessment of the effectiveness of the marketing strategy when they are grouped according to **Age**, the respondents disagreed on the effectiveness of the marketing strategy on customer-patient satisfaction of the hospital.

The overall respondent's assessment on the effectiveness of the marketing strategy on customer patient satisfaction of the hospital when they are grouped according to age the result is significant with their corresponding p-values product (0.047); price (0.053); place (0.004); promotion (0.006); people (0.003); physical evidence (0.009) and process (0.015) which is less than the 5% level of significance, hence the null hypothesis is rejected. Therefore, there is a significant difference of the respondents on the effectiveness of the marketing strategy on customer patient satisfaction of the hospital when they are grouped according to age.

According to Sex

Based on the result of the significant difference on the respondents' assessment of the effectiveness of the marketing strategy when they are grouped according to sex, the overall assessment of the respondents in aspect Product, Price, Place, Promotion, People, Physical Evidence and Process is insignificant. With their corresponding p-value of 0.109, 0.649, 0.073, 0.546, 0.722, 0.344, and 0.337, respectively which is greater than the 5% level of significance, thus the hypothesis is accepted. Therefore, there is no significant difference on the respondents' assessment on the marketing strategy of customer patient satisfaction of the hospital when

they are grouped according to sex,

The variables in terms of product that obtained a result of significant are "All medical examinations and laboratories are available" and "Food services is accessible", with a p-value of 0.035 and 0.037 respectively. The variable in aspect of place "Security is provided and available" obtained the result significant with p-value of 0.036 which their p-value is less than the 5% level of significance, thus the null hypothesis is rejected.

According to Educational Attainment

Based on the result of the significant difference on the respondents' assessment of the effectiveness of the marketing strategy when they are grouped according to Educational Attainment, the overall assessment of the respondents in aspect **Product**, Price, Place, Promotion, People, Physical Evidence and Process is insignificant. With their corresponding p-value of 0.613, 0.585, 0.272, 0.409, 0.687, 0.902, and 0.844, respectively which is greater than the 5% level of significance, thus the hypothesis is accepted. Therefore, there is no significant difference on the respondents' assessment on the marketing strategy of customer patient satisfaction of the hospital when they are grouped according to educational attainment.

The only variable in aspect of place "Security is provided and available" obtained the result significant with p-value of 0.045 which is less than the 5% level of significance, thus the null hypothesis is rejected.

According to Employment

Based on the result of the significant difference on the respondents' assessment of the effectiveness of the marketing strategy when they are grouped according to employment, the overall assessment of the respondents in aspect of Product, Price, Place, People, Physical Evidence and Process is insignificant except in aspect of Promotion. With their corresponding p-value of 0.080, 0.101, 0.234,



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0.084, 0.207, 0.066 which is greater than the 5% level of significance, thus the null hypothesis is accepted. Therefore, there is no significant difference on the respondents' assessment on the marketing strategy of customer patient satisfaction of the hospital when they are grouped according to educational attainment.

According to Mode of Payment

Based on the result of the significant difference on the respondents' assessment of the effectiveness of the marketing strategy when they are grouped according to mode of payment, the overall assessment of the respondents in aspect of Product, Price, Place, Promotion, People, Physical Evidence and Process is insignificant. With their corresponding p-value of 0.177, 0.308, 0.239, 0.837, 0.365, 0.607, and 0.460 respectively which is greater than the 5% level of significance, thus the null hypothesis is accepted. Therefore, there is no significant difference on the respondents' assessment on the marketing strategy of customer patient satisfaction of the hospital when they are grouped according to mode of payment.

Conclusions

Based on the result of this study, it is concluded that when it comes to profile most of the respondents are female. Majority of the respondents are 20-30 years old and their educational attainment is college graduate, most of them are employed. Patients pay their bills in cash.

In line with the assessment of the respondents on the marketing strategy of the customer patient satisfaction of the hospital, the result under aspect of Product, Price, Place, Promotion, People, Physical Evidence and Process, the verbal interpretation is effective.

When it comes to the test of significant difference, the respondents' assessment on the effectiveness of Marketing Strategy on Customer-Patient Satisfaction when they are grouped according to its

profile, there is a significant difference on the effectiveness of the marketing strategy on customer patient satisfaction of the hospital when they are group according to age.

Therefore, the hospital marketing strategy on customer patient satisfaction is effective, but in aspect of price and promotion there's a need for further improvement.

Recommendations

Based on the conclusions given, the following are recommended:

1. All patients are cured and with minimal relapse. There should be a monitoring of patient after discharge. Instruction to patients should be clear and understandable.
2. Food services is accessible. Explain to the patients the food served unto them, that the physician advise that they are on diet.
3. Prices of medical procedures are affordable. Prices of procedures shall be comparable from neighbor hospitals and there should be bench marking. They shall be reviewed to come up with a reasonable price for each procedure. It should be affordable for the indigent patients.
4. Communication materials are available (i.e., flyers, brochures, and newsletter). Flyers, brochures, and newsletter should be available inside the patient room. These materials shall be updated from time to time.
5. In terms of mobility inside the hospital, the lift should always be available. There should be a monthly check up to refrain from customer inconvenience.
6. Hospital personnel are courteous and



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welcoming. To ensure this will always be practiced, there should be a continuous training on customer service. The newly hired employees shall be oriented on good manners and values which is to be incorporated in their work. There should be a short survey with performance of the employees towards patient/customer, for further improvement.

7. Hospital beds have special features for the patient comfort. The features of the bed shall explained/inform to patients have a special feature like having a button to be pressed for adjustment of the bed for their comfort. There should be a monthly inventory of beds to know if still functioning or not and to avoid discomfort of patients. The said beds shall have one design for each room and have the same features.
8. Medicines in Pharmacy are complete and available. The medicines in the pharmacy shall be complete and available by maintaining the level of stocks. There should be and advanced notice to suppliers of orders ahead of time to avoid the unavailability of the stocks. Stock cards should be monitored regularly.

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Marketing Mix Practices of a Nonsectarian School in the Time of the 2020 Pandemic

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ABSTRACT

The coronavirus disease (COVID-19) is an infectious disease caused by a new strain of coronavirus and as the crisis began in 2019, the community struggles and made a big adjustment including the education sector, thus, the objective of this study is assess the level of the effectiveness of the National Teachers College marketing mix practices. The researcher described the data by using a descriptive method and has used different statistical treatments such as frequency percentage, arithmetic mean, and one-way analysis of variance (ANOVA). The 614 students served as the respondents to answer the questionnaire that focuses on the profile of the respondents, and the assessment in the effectiveness in the marketing mix practices. The study reveals that most of the respondents assessed the marketing mix practices in a favorable score with the highest mean of 4.11 in the product marketing mix. Whereas, it was noted that when the students were grouped according to the year level, units taken, courses, family and sources of income, there were significant differences whether the student is a full time or part time. The researcher recommends that there are needs to upgrade the digital marketing strategies, develop an inquiry management system which includes the provision to view the fees at any given time, enhancement of enrollment process, evaluation of different school programs as it has seen to improve in the marketing practices of the institution.

Key Words: marketing mix, marketing strategies, effectiveness, educational management, digital marketing

Relevant SDGs: SDG 4 Quality Education

Introduction

After 2020, the new coronavirus changed the lives of people around the world. The Covid-19 crisis began in the Philippines when the Ministry of Health reported the first case on January 30, 2020, with the first local transmission announced on March 7, 2020. It has brought about many adjustments to the world, including the economy, health care system, education, culture, and behavior. As a result, many businesses are struggling to adapt to the new

normal, and the education sector is not an exception.

The changing business environment and the outbreak of the Covid-19 pandemic have made survival difficult for any school. With such a large student population, all market conditions must be recognized and prioritized to adapt to the current situation. According to Li and Lalani (2020), given the unexpected changes in classrooms around the world, the adoption of online learning has led to speculation in the education market as to whether this type of learning method is successful and can



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continue in the future.

In the Philippines, two government departments, including the Department of Education (DEPED) and the Commission on Higher Education (CHED), have decided not to freeze the academic year, so schools expanded their services through online and modular approaches. Students and community stakeholders have been affected by this pandemic as many schools deal with adjustments and more people are encouraged to stay home. For Chawla (2013), there is an urgent need to examine the factors that enable schools to attract and retain students in this era of competitive academic environments.

The National Teachers College (NTC – short for college in this article) is a private, non-sectarian higher education institution dedicated to developing a world-class workforce and producing quality graduates. Like other private universities, NTC faced some challenges during the pandemic. The NTC employs various strategies to at least keep the number of students enrolled in the university. However, due to a number of circumstances, students preferred to enroll in public universities. Therefore, NTC has developed a marketing strategy to entice students to continue their education at the institution.

Thus, the researcher decided to conduct a study aimed at evaluating the effectiveness of NTC's marketing mix that will adapt to the changing environment of the education market.

Statement of the Problems/Objectives

This study aimed to assess the effectiveness of the marketing mix strategies of a higher education institution in Manila.

Specifically, it attempted to answer the following sub-problems.

1. What is the profile of respondents in terms of the following:

- 1.1. Year Level
- 1.2. Students' Status
- 1.3. Units Enrolled
- 1.4. Program Enrolled
- 1.5. Institution
- 1.6. Residence
- 1.7. Average Monthly Income
- 1.8. Source of Income?

2. How do the respondents assess the level of effectiveness of the marketing mix practices of the higher education institution in terms of the following:

- 2.1. Product
- 2.2. Price
- 2.3. Place
- 2.4. Promotion
- 2.5. People
- 2.6. Processes
- 2.7. Physical Evidence?

3. Is there a significant difference in the respondents' assessment on the level of effectiveness of marketing mix practices when they are grouped according to their profile?

Literature Review

Demographic Profile of the Market

According to Kotler and Armstrong (2010), the demographic segmentation divides the market into groups based on variables such as age, family life cycle, family size, gender, occupation, income, religion, race, education, generation, and nationality. The authors emphasized that demographic factors are the most popular based on sectoring customer groups.

Demographic segmentation is easy to use because it is closely related to the demographic variables to define what the consumer needs, wants, and usage rates. Also, this kind of segmentation detects the gaps in the market that can be served as targets to give rise to create a new or enhanced product and service development as well as expansion of the existing product or service range. So as to use this



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segmentation as identification to the strengths and weaknesses of the marketing strategies, the researcher decided to include this area to measure customers' buying behavior in identifying the level of effectiveness of marketing mix practices of the school.

The Role of Marketing in Education

The role of marketing education describes the investigation and understanding of the market to provide services and goods for potential customers at a given time, place and price. According to Platis and Gabriela (2010), by understanding the needs and wants of potential customers with a provision for quality and optimal services will gain a positive outcome to the market's objectives.

The 7 Ps of Educational Marketing

In the current education market situation, several higher education institutions are developing and implementing marketing strategies that are focused on long-lasting competitive advantages. Samani et.al (2017) mentioned that marketing mix is a set of controllable tools that can be applied to faculty or department to optimize the market attraction to students to study.

According to Enache (2011), educational marketing tools and instruments are used to develop market services. Gajic (2012) adds that the synergistic application of marketing strategies to higher education institutions enables quality improvement in the system and will create an excellent service and superior value that corresponds to the expectations of the target market. Booms and Bitner (1981) presented the modified and extended service marketing. It includes the seven following elements:

- Product,
- Price,
- Place,
- Promotion,
- People,

- Processes, and;
- Physical evidence.

National Teachers College Marketing Practices

True to its mission and vision, NTC continues to perform its share in educating and training teachers, administrators, supervisors, and other professionals who will serve in the interest of the Republic of the Philippines and the world at large.

The National Teachers College is a premier education institution located in Quiapo, Manila. NTC is one of many schools that offer minimal tuition fees around the university belt area.

The school caters a wide variety of courses that are information-technology enhanced for the clients to choose from. This nonsectarian school also offers basic education programs, undergraduate and graduate programs.

Like other schools, NTC faces many challenges due to the pandemic. Different strategies were rolled out, especially this Covid 19 pandemic. By adapting at the situation, NTC provided the overall framework to continuously adapt to the pandemic:

- Alagang NTC: Academic Easing Policies that helps students to complete the tasks within the semester.
- Maximum Choice: National Teachers College provides options to students to enroll. The students have the options to enroll via online or in modular form. The school also provides more installment and discount for fees.
- Maximum Leniency: A variety of options that students and parents can have while continuing the enrollment at NTC. The school provides extension to students and teachers during the pandemic. It also provides different course programming in which a 3x3 model was created wherein the semester is divided into three cycles or periods for the three courses. The enhanced



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teacher responsiveness is also provided by having a set of guidelines on how the students can reach their professors better for the learning supports.

During the transition from the previous to present administration, there were a lot of changes to the systems and policies of the school. Most of the systems were slowly upgraded and training was provided to teaching and non-teaching personnel. Before the pandemic happened, the school was slowly transitioning to upgrading their system online.

From synchronous classes, online enrollment, online database learning materials accessibility and other support programs to students were provided. But because of the sudden change during the Covid-19 pandemic, the school struggled to fully upgrade the system, especially the enrollment process. There were also circumstances that the information was not fully provided. Because of these, there should be an enhancement to key areas of the school's marketing strategies.

The Impact of Covid-19 to Education

Educational International (2020), an international group, conducted an education Covid-19 tracker wherein as of May 3, 2020, there were about 1,575,270,054 learners affected and 63,000,000 educators affected in 191 countries worldwide. UNESCO (2020) supports the statement that as of October 10, 2020, the total count of students affected by Covid19 is 580,317,581 with 33.1% of total enrolled learners in the 31 country-wide closures. The Philippines that is partially open has 28,451,212 affected learners in which 3,589,484 (12.61%) are enrolled in tertiary level.

The COVID-19 pandemic is determined as one of the foremost health crises that needs to be resolved immediately as this not only affects the everyday lives of people, it also affects the livelihood, jobs and schooling of children. Through distance learning, the school responded immediately to the causes of school

closures. According to Burgess and Sievertsen (2020), home schooling gives a massive shock not only to parents but also to children's lives. Rodriguez (2020) mentioned that students will have a hard time to go back to formal instruction after the crisis since the children come from different situations, resources and various opportunities and support during the pre and post pandemic.

In reality, some students will be fine during and after the crisis because of the high quality of learning opportunities that they are receiving compared to others. This gap will result in enormous disadvantages to students who do not have access to quality learning. Meanwhile, Winthrop (2020) mentioned the challenges in education on this pandemic crisis: 1) Distance Learning, one of the kind of learning approaches will not work well to students.; 2) Educators will have an added jobs due to the additional mainstream of their works.; 3) The protection of the students will not be ensured especially in times of crisis.; 4) School closures will bring more gaps to the community; and lastly, 5) The experiences in educational technology will be harder both for the students and teachers. Whereas, the opportunities are: 1) Blended learning will be tested and be used largely.; 2) Teachers and school administrators will get more support, respect and appreciation from the citizens.; and 3) Collaborations of teachers will be discovered and improve the learning process.

The entirety of the children's lives should be reviewed holistically as they need to check if they are ready to learn in a wide preparation amidst the pandemic which supports inside and outside the school (Liz, 2020). The school also needs to measure the losses in learning once the school is ready again to open and to effectively and efficiently the students who are greatly affected by this crisis. In addition, schools should also re-check and consider the policy of postponement of learning assessments since school assessment is very important in the learning process



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Challenges of Education in the New Normal

Transitioning to the new normal of learning is a big adjustment to everyone. There is a unique challenge to every leader's decision making in the new normal. Angara (2020) mentioned that there are two major concerns learning in the new normal: connection on the internet, and the issuance of the curriculum and the educational materials that have to be adjusted and customized for a blended learning school environment.

Aside from this, teachers training, curriculum design and other areas were also mentioned as a major concern today in the education sector.

Glanninin (2020) mentioned that in order to protect the progress of the education section, the government should reassess the following: gender digital division, and, leveraging of teachers and communities in adoption to distance learning and safeguarding of vital services to ensure the safety of the students who will return to school.

Students' Perceptions about Education Services

The perception of the students in the service quality is derived between the student expectation and what they are actually receiving (O, Neill & Palmer, 2004).

Good service to customers is one of the primary goals of service organizations like the educational institution. As a result, student's perception in the service quality compromises the students' satisfaction (Browne, Kaldeberg, Browne, & Brown, 1998). Students enroll in an institution with a high expectation of service to fulfill their needs.

The service in an educational institution is not the same with the other service organizations. Distinguishing the importance of satisfaction for both students and parents need to be prioritized especially in delivering the service quality (Cronin & Taylor, 1992).

Digital Marketing

Digital marketing is a direct marketing that links the sellers electronically to consumers using the form of technology via email, websites, mobile communications, online forms and the like (Kotler & Armstrong, 2009). The American Marketing Association has added that this is a form of social media channels promotion to easily reach the customers. The use of the internet is a method of communication. The advantage of this marketing strategy is that it has a high-level of connectivity and cost-effective kind of advertisement.

The marketers classify this as one of the exciting tools in the market. Many companies have switched and or upgraded their promotion styles from the traditional type like distributing brochures, flyers and tarpulin to switching to social media channels, search engines, and other websites that help them campaign to reach more people.

The State of Digital Marketing in the Philippines

According to the Asia Digital Marketing Association (ADMA) and the Internet World Statistics (The State of Digital Marketing in the Philippines, n.d), the Philippines is tagged as one of the frontliners in the digital economies in the Asia Region. In fact, the Philippines stand as the second highest ranking in Southeast Asia and rank 6th in the Asia Region. It believes that the country is very substantial in the digital marketing ecosystem and has grown exponentially twice in 2016. The statistics have shown that the Philippines has a big market potential for digital marketers.

For business owners, the state of digital and internet marketing in the Philippines clearly defines that it has great implications for future growth of business. This brings the exploration of digital marketers on how it is effective in the country.



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Importance of Digital Marketing Services in the Educational Industry

Digital marketing in the Philippines has a strong influence in the education industry (Rai, 2020). The utilization of this marketing method brings a far-reaching approach to the target market regardless of the location. Furthermore, with the use of social media platforms, brand awareness can be easily promoted and expand the target market conveniently.

Marketers use the advantages and convenience of digital marketing to allow them to spread the branding more extensively.

1. **Cost-effective:** Digital Marketing is cost-effective. It can focus on a larger crowd with a minimal investment or cost in marketing paraphernalia.
2. **Increases Brand Awareness:** Creating brand awareness in social media channels are noteworthy steps in digital marketing platforms. Several institutions are using social media platforms to showcase the school process to get more crowd and hence, improve the brand awareness.
3. **Higher in Conversion rate:** As stated in the item number 2, there is a higher conversion rate in customers especially when using social media sites. Research shows that there is a high chance of lead conversion in digital marketing for educational institutions.
4. **Measurable Results:** Different devices or tools in the digital marketing adequacy can be utilized. Since the set-up is digital advertising, the tracking and measuring of leads is accessible.
5. **Easily Accessible Tools:** The availability of digital marketing tools such as websites and social networking sites like Twitter, Facebook, Instagram as well as SMS can guarantee a wide target audience.
6. **Quick Feedback:** Getting and managing feedback in the digital marketing channels

is prompt and quick.

Synthesis of Review Related and Literature

The gathered literature and studies that are related to the conduct of the study shows that the marketing mix is a vital tool for the marketers to conduct marketing strategies to achieve the objectives of the organization.

Identifying the importance of marketing education, challenges and opportunities amidst the pandemic that may be used by marketers to create innovative strategies. Moreover, readings in the service marketing mix are also cited. Marketing mix has an influence on the sales performance of the business. By studying the effectiveness of marketing mix tools, it will create a unique positioning and will leave a remarkable image to differentiate itself in the market. The seven marketing elements which include Product or Service, Price, Place, Promotion, People, and Processes Physical Evidence are elements in the marketing that will support establishing great service strategies in the market. Through constantly utilizing and monitoring these marketing mix elements, the product and services can be successfully profitable to provide and meet the needs of the customers.



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Research Philosophy, Framework, Design, and Methodology

Theoretical Framework

Figure 1.

Theoretical Framework – 7P's of Service Marketing Mix



The theoretical framework for this research study is based on the concepts of marketing mix namely, product, price, place, promotion, people, processes, and physical evidence. According to Hanlon (2020), the original 4Ps (Product, Price, Place and Promotion) were designed to sell products rather than services and the role of customer service in helping the brand development was not so well known. Booms and Pitner added the three extended marketing Ps: People, Processes, and Physical Evidence. When considering the totality of competitive strategies, it is recommended to use the 7Ps approach of the marketing mix. The Product marketing mix defines the design as well as the packaging. The amount or quantity the consumer is willing to exchange to receive the product and service offerings is called the Price marketing mix. The Promotion marketing mix is the coordination of a marketer's communication efforts to influence the consumers' attitudes and behavior and lastly is the place, where the product or service is available to the

consumer at the desired time and location. People marketing mix refers to the staff, salespeople, and those who work for the business. The Processes marketing mix means the activity tangled in delivering your products and services to the customer and lastly, Physical Evidence defines anything that customers see when interacting with the business. Figure 1 above shows the relationship between 7Ps marketing mix to the marketing strategies.

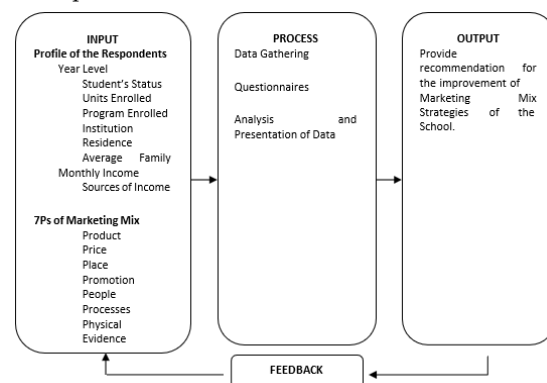
Conceptual Framework

To show the process of study, the researcher decided to use the Input-Process-Output (IPO) Model shown on the next page. Input frame illustrates the profile of the respondents that includes the year level, student's status, units enrolled, program enrolled, institution, residence, average family monthly income and sources of income and the 7Ps of marketing mix involving the product, price, place, promotion, people, processes, and physical evidence. Process frame describes the data gathering, questionnaires and analysis and presentation of data that the researcher will administer.

Output frame portrays the recommendation for the improvement of marketing mix strategies of the school.

Figure 2.

Conceptual Framework - IPO Model





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Methodology

This chapter presents the investigation strategy utilized, description of respondents, portrayal of methods and instruments, information gathering method, and the measurable treatment.

Method of Research

The researcher used a descriptive method to this study. It is the most suitable and appropriate method to be used in the study. Descriptive research is concerned with describing a population with respect to important variables. The survey is suitable in the study since it allows the researcher to describe the level of effectiveness of marketing practices of the school. The researcher used the descriptive research design by presenting the profile of the respondents, the effectiveness of marketing mix practices and significant differences between the marketing mix practices and respondents' profile. The researcher utilized this kind of research method for the easy understanding of the readers.

Population, Sample Size and Sampling Technique

The population of the study focused on the students presently enrolled in the National Teachers College, a nonsectarian school located in the city of Manila. Its total population is 5,970 which consists of enrollees from different departments such as School of Arts, Sciences and Technology (1,194), School of Business (2,446) and School of Teacher Education (2,330). Based on the total of 5,970 population, each department had been proportionately assigned the number of respondents which included in the study:

Table 1. Proportion Distribution Based on Population of Total Number of Enrollees by Department

Department	Population	Proportion (in %)
School of Arts, Sciences, and Technology	1,194	20
School of Business	2,446	41
School of Teacher Education	2,330	39
Total	5,970	100

The Cochran's formula with finite population was used to compute for the sample size:

$$n = \frac{\frac{Z^2 \cdot p(1-p)}{e^2}}{1 + \left(\frac{Z^2 \cdot p(1-p)}{e^2 N}\right)}$$

where:

n = sample size

p = population proportion (0.50)

e = margin of error (0.05)

Z-score = 1.96 at 95% confidence level

N = population

Substituting the corresponding values:

$$n = \frac{\frac{1.96^2 \times 0.50(1-0.50)}{0.05^2}}{1 + \left(\frac{1.96^2 \times 0.50(1-0.50)}{0.05^2 \times 5,970}\right)}$$

$$n = \frac{\frac{3.8416 \times 0.50(0.50)}{0.0025}}{1 + \frac{3.8416 \times 0.50(0.50)}{14.925}}$$

$$n = \frac{384.16}{1 + 0.06}$$

$$n = 362.41 \text{ or } 362$$

Therefore, the sample size to be used is 362. The researcher got a total of 614 respondents after distribution of the questionnaire, which was more than the required number of targeted 362 sample sizes.

The researcher applied a stratified random sampling approach in the selection of the respondents. Stratified random sampling was used in this research to describe a method of sampling that involves the division of a population into smaller sub-groups known as strata (Hayes, 2020). The study had been conducted in the 4th week of February 2021 during the second semester period.



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Description of Respondents

The respondents of the study are the students in the National Teachers College who must be presently enrolled during the conduct of the study to assess the effectiveness of marketing mix practices of the school.

Research Instrument

Questionnaire was used in this study to collect data to formulate direct and effective conclusions for the research study on the first hand information from the respondents. The instrument was composed of 2 parts: first part will present the profile of the respondents and the second is the marketing mix strategies of the institution in which a list of alternative responses were provided for the respondents to choose. Part I contains the student's profile including year level, student's status, units enrolled, program enrolled, institution, residence, average family monthly income, and source of income. Part 2 is the assessment of the respondents in the effectiveness of marketing mix practices in terms of product, price, place, promotion, people, processes and physical evidence. The arithmetic mean range was analyzed using a Likert Scale. The following ratings of the numerical weights were assigned to the corresponding value of the student's perception on the effectiveness of marketing mix practices of the school.

Weighted Mean	Interpretation
4.50-5.00	Strongly Agree
3.50-4.49	Agree
2.50-3.49	Undecided
1.50-2.49	Disagree
1.00-1.49	Strongly Disagree

Data-Gathering Procedure

Before the administration and conduct of the study was made, a request to conduct the study to the school was administered. After getting the approval, the respondents were contacted through social media, and went to their online classes to get the

target responses since community quarantine was still on-going. After retrieving the questionnaires, responses were tabulated and submitted for statistical treatment.

Statistical Treatment of Data

The information assembled was organized and prepared to decide the method translation of the comes about. Tables were made to organize, summarize, and analyze the information accumulated for simple assurance of its contrast from each other. The researcher employed the following statistical techniques:

Frequency Percentage was used to determine the percentage of the respondents in accordance to their profile in terms of year level, student's status, units enrolled, program enrolled, institution, residence, average family monthly income, and source of income

Arithmetic Mean was used to assess the level of effectiveness of the marketing mix practices of National Teachers College (NTC) in terms of product, price, place, promotion, people, physical evidence, and processes.

$$A = \frac{1}{n} * \sum_{i=1}^n x_i$$

where:

A= average (or arithmetic mean)

n = the number of terms (e.g., the number of items or numbers being averaged)

x_i = the value of each individual item in the list of numbers being averaged

Independent Samples t-test is used to compare the means of two populations. In particular, this technique was used to determine if there is significant difference in the respondents' assessment on the level of effectiveness of marketing mix practices when they are grouped according to



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student status and residence. The t-test formula is given as:

Five Point Likert Scale was used to interpret and validate the level of effectiveness of marketing mix practices of a nonsectarian school. The following verbal interpretation was used:

Assigned Weighted Point	Weighted Mean	Interpretation
5	4.50-5.00	Strongly Agree
4	3.50-4.49	Agree
3	2.50-3.49	Undecided
2	1.50-2.49	Disagree
1	1.00-1.49	Strongly Disagree

One-Way

Analysis of Variance (ANOVA) is a statistical technique that is used to compare the means of more than two populations. For instance, ANOVA was used in this study to determine if any significant difference in the respondents' assessment on the level of effectiveness of marketing mix practices exist considering the year level, units enrolled, program enrolled, institution, average family monthly income, and source of income. The ANOVA formula is given as:

$$F = \frac{S_b^2}{S_w^2}$$

The gathered data were tallied, tabulated and prepared for statistical calculations, analysis and interpretation using statistical software SPSS 25.

Data Results and Analysis

This chapter presents the findings of the study, its analysis and interpretation of data gathered. The following analysis and interpretation were presented according to the order of questions laid down in the questionnaires.

The Profile of the Respondents According to Year Level, Student's Status, Units Enrolled, Program Enrolled, Institution, Residence, Average Monthly Income, Source of Income

Table 2.

Frequency and Percentage Distribution of the Respondents by Year Level

Year Level	Frequency	Percent (%)
First Year	140	22.80
Second Year	238	38.76
Third Year	129	21.01
Fourth Year	107	17.43
Fifth Year	0	0.00
Total	614	100.00

Table 2 presents the frequency and percentage distribution of the 614 respondents according to their year level. Two hundred thirty eight (238) respondents were presently enrolled in second year level that got 38.76%, followed by first year level students (140, 22.80%), third year level students (129, 21.01%), and fourth year level students (107, 17.43%). No respondents were enrolled in fifth year level.

Rutland, Dobbs and Totemeyer (2016) conducted a study on student educational background that affects transition into year level academic performance and support needs. The result may indicate that NTC's population was dominated by first- and second-year students with younger age.

However, the researcher would also like to add that year level students might have different perceptions on the assessment of marketing mix practices since the respondents were from different ages. This only shows educational attainment of students by year level might contribute to an in-depth understanding of school's marketing mix practices.



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Table 3.

Frequency and Percentage Distribution of the Respondents by Student's Status

Student's Status	Frequency	Percent (%)
Full Time Student	484	78.83
Part Time Student	130	21.17
Total	614	100.00

Table 3 above shows the frequency and percentage distribution of respondents according to their status. It can be seen in the table that the most of the respondents were full time students which comprised 484 respondents with 78.33% and part time students got 130 respondents with a percentage of 21.17.

Based on the school's student handbook, if the student intends to be a part time student, the student can take at least 18 units and below to achieve monitoring scholastic performance. Meanwhile, if the student wants to be in full time status, the student can take more than the 18 units and may exceed the maximum number of units (NTC Student Handbook, 2019). According to new data, a considerable number of college students at all grade levels are foregoing the fall semester entirely, regardless of their campus's reopening plans. The findings show that students opted to be full time in their studies amid the pandemic.

To add, these findings show that one fourth of the respondents decided to become part time students (with few units enrolled or working part time) by reducing their academic loads. It means that students might experience facing financial difficulties as well as transitioning to online classes. Any decisions of the student to retain or reduce academic loads may hit the school's financial capability in the market.

Table 4.

Frequency and Percentage Distribution of the Respondents by Units Enrolled

Units Enrolled	Frequency	Percent (%)
1-10 units	105	17.10
11-15 units	33	5.37
16-20 units	95	15.47
21-25 units	154	25.08
26-30 units	227	36.97
Total	614	100.00

Table 4 above represents the frequency and percentage distribution of respondents according to their units enrolled. It can be seen in the table that the majority of the students were enrolled with 26-30 units that obtained 227 responses with 36.97% followed by the second highest weighted mean which had 21-25 units that obtained 154 responses with 25.08 percentage. Whereas, the two lowest weighted means obtained students enrolled between 11-15 units (33, 5.37%) and 16-20 units (95, 15.47%).

The students are expected to carry the entire semester's workload. These findings reveal that most of the students decided to enroll by having 21-30 units. This supports the data that 21-30 units enrolled by a student are classified in a full time status that shows in Table 3.

Findings also reveal that at least 38% of the total population that includes students enrolled between 1-20 units opted to be in part time status.



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Table 5.

Frequency and Percentage Distribution of the Respondents by Program Enrolled

Program Enrolled	Frequency	Percent (%)
Bachelor of Secondary Education	148	24.1
Bachelor of Elementary Education	32	5.21
Bachelor of Physical Education	12	1.95
Bachelor of Technology and Livelihood Education	15	2.44
Bachelor of Early Childhood Education	59	9.61
Bachelor of Special Needs Education	35	5.7
Bachelor of Science in Office Administration	30	4.89
Bachelor of Science in Business Administration	149	24.27
Bachelor of Science in Hospitality Management	11	1.79
Bachelor of Science in Tourism Management	11	1.79
Bachelor of Science in Psychology	66	10.75
Bachelor of Science in Library and Information Science	2	0.33
Bachelor of Science in Information and Technology	33	5.37
Bachelor of Science in Accountancy	11	1.79
Total	614	100

Table 5 describes the frequency and percentage distribution of respondents' program enrollment. Most of the respondents that obtained the two highest weighted means were from Bachelor of Science in Business Administration (149, 24.27%) and Bachelor of Secondary Education (148, 24.10%). Data also shows that the two lowest weighted means were from Bachelor of Science in Library and Information Science (2, 0.33%) and Bachelor of Science in Accountancy, Bachelor of Science in Tourism Management, and Bachelor of Science in Hospitality Management with an obtained response of 11, 1.79%.

A total of 4,744 students in the two institutions, specifically the School of Teacher Education with 2,439 students and School of Business with 2,305 students share a big percentage in the school's enrollment. The results clearly show that most of the

respondents were from education and business programs. The result may indicate that they are more participative in sharing their perceptions towards the assessment of marketing mix practices of the school since they have the biggest number in the school's population.

Meanwhile, the lowest weighted means (Bachelor of Science in Accountancy, Bachelor of Science in Tourism Management, and Bachelor of Science in Hospitality Management) are included in a small number of population per program, thus, the result in the participation rate is lower than the education and business courses programs.

Table 6.

Frequency and Percentage Distribution of the Respondents by Institute

Institution	Frequency	Percent (%)
School of Arts, Sciences and Technology	101	16.45
School of Teacher Education	301	49.02
School of Business	212	34.53
Total	614	100.00

Table 6 above shows the frequency and percentage distribution of respondents' institutions. School of Teacher Education got the highest percentage of distribution with 301 respondents, 49.0%, followed by School of Business with 212 respondents, 34.53% and lastly, the School of Arts, Sciences and Technology with 101 respondents, 16.45%.

Based on the school's enrollment data, the school has three institutes namely School of Teacher Education with 2,305 students enrolled, School of Business with 2,439 and lastly, the School of Arts, Sciences, and Technology with 1,192 students. Data shows that the School of Teacher Education and School of Business have more enrollees than the School of Arts, Sciences, and Technology due to the number of program offerings per institute.



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This could be an indication that students from teacher and business programs have more access to internet connectivity and have experienced marketing strategies. Therefore, the school should manage and create extensive strategies to attract and sustain communication to students enrolled under the School of Arts, Sciences, and Technology.

Table 7.

Frequency and Percentage Distribution of the Respondents by Location

Residence	Frequency	Percent (%)
within NCR	536	87.30
outside NCR	78	12.70
Total	614	100.00

Table 7 presents the frequency and percentage distribution of respondents' according to their location. It can be seen that most of the respondents were located within NCR (536,87.30%) and the rest were located outside NCR (78,12.70%).

According to Leckhart (2005), prospective parents choose a school that is close to their home. This indicates that these people choose their preferred school based on its location considering the distance from their home.

Therefore, considering the travel restrictions that are currently being implemented, the school should create strategies on how to accommodate and support students' needs both enrolled in NCR and provinces.

Table 8.

Frequency and Percentage Distribution of the Respondents by Average Family Monthly Income

Average Family Monthly Income	Frequency	Percent (%)
Below Php 10,000	257	41.86
Php 10,001 - 24,999	268	43.65
Php 25,000 - 64,999	76	12.38
Php 65,000 - 134,999	12	1.95
Php 135,000 and above	1	0.16
Total	614	100.00

Table 8 illustrates the frequency and percentage distribution of respondents' according to their average family monthly income. Two hundred sixty-eight (268) respondents have an average monthly income of 10,001 - 24,999 that obtained 43.65 percent of the population followed by Php 10,000 and below (257 responses, 41.86%). Meanwhile, the two lowest weighted means were from average monthly income of Php 135,000 and above (1,0.16%) and Php 65,000 - 134,999 (12, 1.95%).

According to Albert, Abrigo, Quimba, and Vizmanos (2020), there is a significant risk that the current gaps between income classes may be exacerbated by the COVID-19 pandemic. Families that have a steady source of money can support their children's needs, particularly their schooling.

This supports the data that most of the respondents were from middle class earner families that are basically defined as the socioeconomic group between the affluent and the poor. As a result, the majority of responders just have enough money to attend the university.



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Table 9.

Frequency and Percentage Distribution of the Respondents by Source of Income

Source of Income Supporting your Education	Frequency	Percent (%)
Salary/Wages (Your Work)	73	11.89
Salary/Wages (From Family)	419	68.24
Business	24	3.91
Pensions or Scholarship Grants	46	7.49
Remittance Abroad (From Family /Relatives)	52	8.47
Total	614	100.00

Table 9 interprets the frequency and percentage distribution of respondents' according to their source of income supporting their education. Most of the respondents stated that the salary or wages of their family members supporting their education obtained 419 responses with 68.24 percent followed by salary or wages (from student's work) with 73 responses, 11.89%. The two lowest weighted means were from business (24, 3.91%) and pensions or scholarship grants (46, 7.49%).

According to Coleman's assessment from 1966, families may play an even bigger effect in a student's academic success than schools and communities. Egalite (2016) mentioned that parents with more financial means can identify localities with higher-quality schools and choose more expensive neighborhoods—the very places where good schools are located.

This means that the salary of the parents/families play important roles in a student's academic decisions. And the 11.89% respondents, salary/wages (student's work), supports Table 3 and 4 that a number of students minimize the academic loads to work with their part time jobs to support their education.

Assessment on the Level of Effectiveness of Marketing Mix Practices of a Non-Sectarian School in the Time of 2020 Pandemic

Table 10.

Assessment on the Level of Effectiveness of Product Marketing Mix Practices

Marketing Mix Practices	Mean	Verbal Interpretation
2.1 Education as a Product		
• The school provides support to students transitioning to online learning (orientation/program/seminars to distance learning).	4.11	Agree
• The school produces graduates with a high degree of competence in their chosen career.	4.11	Agree
• The school helps the students to enhance their skills for personal and professional growth.	4.23	Agree
• The school offers a wide range of relevant initiatives such as: educational programs (classes, library and information services, computer laboratory, campus lectures, etc.), recreational programs (athletic facilities and clubs, etc.), personal growth programs (counseling center) and future-planning programs (career counseling services, placement services, etc)	4.05	Agree
• The school provides support to the students in landing a job	4.06	Agree
GRAND MEAN	4.11	Agree

In this area, “The school helps the students to enhance their skills for personal and professional growth.” obtained the highest mean of 4.23 interpreted as Agree followed by “The school provides support to students transitioning to online learning (orientation/program/seminars to distance learning).” that tied with “The school produces graduates with a high degree of competence in their chosen career.” that obtained 4.11 means Agree.



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On the other hand, The school offers a wide range of relevant initiatives such as: educational programs (classes, library and information services, computer laboratory, campus lectures, etc.), recreational programs (athletic facilities and clubs, etc.), personal-growth programs (counseling center) and future-planning programs (career counseling services, placement services, etc)” got the lowest weighted mean of 4.05 which is also interpreted as Agree followed the second lowest weighted mean “The school provides support to the students in landing a job.” with 4.05. Product marketing mix got the grand mean of 4.11 interpreted as Agree.

According to Vegas and Winthrop (2020), schools should recognize and routinely assess students` skills, personalizing learning opportunities to meet kids at their ability level, in order to assist learners, grow and develop a broad variety of competencies and skills in and out of school.

The study shows that respondents gave a positive assessment to the effectiveness of different programs that contribute to their personal and professional growth.

However, the school should review their different educational programs and assistance to future job placement so that it can help students to maximize students` skills and opportunities.

Table 11.

Assessment on the Level of Effectiveness of Price Marketing Mix Practices

Marketing Mix Practices	Mean	Verbal Interpretation
2.2 Price		
• The school provides easy payment terms such as installment basis.	4.29	Agree
• The school offers an affordable tuition fee yet provides a quality education.	4.11	Agree
• The school provides pre-enrollment financial aid advising.	4.15	Agree
• The online banking system is present and easy to use.	3.87	Agree
• The miscellaneous fees are well reflected and stated.	3.57	Agree
GRAND MEAN	4	Agree

Table 11 exhibits the level of effectiveness of the school in terms of Price marketing mix practices. Based on the assessment of the respondents, “The school provides easy payment terms such as installment basis.” acquired the highest weighted mean of 4.29 that is defined as Agree followed by “The school provides pre-enrollment financial aid advising.” obtained 4.15.

The statements “The miscellaneous fees are well reflected and stated.” got the lowest mean of 3.57 followed by “The online banking system is present and easy to use.” that acquired 3.87 described as Agree respectively. The overall weighted mean for price marketing mix practices obtained 4.00.

The pricing element influences not only the cash generated by a university`s enrollment, but also student evaluations of its quality (Ivy, 2008). The findings reveal that schools which provide easy payment terms such as installment basis have a positive price marketing assessment.



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It also shows that by giving pre-enrollment financial aid advice, the students can cope with financial struggles. The researcher can conclude that offering more flexible payment plan options makes it easier for students and families to pay tuition fees and plan for their enrollment. However, reflection of miscellaneous fees and online banking systems got the lowest weighted means.

Table 12.

Assessment on the Level of Effectiveness of Place Marketing Mix Practices

Marketing Mix Practices	Mean	Verbal Interpretation
2.3 Place		
• On-site enrollment and document processes are well organized.	3.87	Agree
• Student portal is efficient and easy to use.	4.08	Agree
• The school is accessible from my location.	3.99	Agree
• The necessary information can be obtained through the website, and social networking sites (Facebook, Instagram, Twitter, etc.).	4.21	Agree
• The school is located in a safe environment where students are safe from bullying, harassment, and violence.	4.14	Agree
GRAND MEAN	4.06	Agree

“The necessary information can be obtained through the website, and social networking sites (Facebook, Instagram, Twitter, etc.)” obtained the highest mean of 4.21 interpreted as Agree followed by *“The school is located in a safe environment where students are safe from bullying, harassment, and violence.”* that 4.14. On the other hand, the two lowest weighted means are *“The school allows on-site enrollment/payment for the students.”* got the

lowest mean of 3.87 and *“The school is accessible from my location.”* that acquired 3.99 means as an Agree respectively.

According to Ivy (2018), place is the distribution method that the university uses to provide tuition to its market in a way that meets, if not exceeds, student expectations.

Since the school has different ways to engage students even in remote access, it can be concluded that the institution placing strategies are effective especially during this time of crisis and that the respondents should have access to all information with regards to their welfare.

Meanwhile, the school should also take a look at the on-site enrollment and document processes. It can be also noted that since the pandemic is still on-going, this may indicate that the travel restrictions and limited transportation impacts school’s accessibility placing strategy since some students were from outside the NCR.

Table 13.

Assessment on the Level of Effectiveness of Promotion Marketing Mix Practices

Marketing Mix Practices	Mean	Verbal Interpretation
2.4 Promotion		
• The school organizes different events that promote the school.	4.13	Agree
• The school presents high quality ads in social media.	3.96	Agree
• The students and parents are adequately informed about what the school offers.	4	Agree
• The students are much aware about scholarship programs.	4.1	Agree



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• The school provides a public relations program to increase awareness about what the school offers.	4.1	Agree
GRAND MEAN	4.06	Agree

The table 13 above shows the level of effectiveness of the school in terms of Promotion marketing mix practices. As seen in the table, “The school organizes different events that promote the school.” got the highest mean of 4.13 described as Agree followed by “The students are much aware about scholarship programs”. and “The school provides a public relations program to increase awareness about what the school offers.” tied with a 4.10 rating. The lowest mean is the “The school presents high quality ads in social media.” with 3.96 interpreted also as Agree and followed by the second lowest mean “The students and parents are adequately informed about what the school offers.” with a 4.00 rating.

Digital marketing, according to Garces (2019), provides a more global approach to its target market, regardless of where they are located. Garces (2019) adds that digital marketing provides a more global approach to its target consumer, regardless of location. On the other hand, it can be also noted that there is a need to improve high quality ads in social media.

The school should create a high-quality, relevant and eye-catching image or video that will allow the school to target and re-target customers` attention. In addition, the school should hire a digital or marketing content creator to ensure that the school will be promoted in the right target market or audience. On the other hand, awareness on scholarship programs should be extensively disseminated among students and parents.

Table 14.

Assessment on the Level of Effectiveness of People Marketing Mix Practices

Marketing Mix Practices	Mean	Verbal Interpretation
2.5 People		
• Non-teaching staff (registrar, accounting, etc.) are responsive to the needs of students.	3.44	Undecided
• The faculty are competent and experts in their field.	4.04	Agree
• The teachers provide performance feedback on the given tasks/assignments.	4.05	Agree
• The faculty shows innovative teaching strategies.	4.08	Agree
• The faculty provides effective and efficient classroom management that promotes comfort and order.	4.09	Agree
GRAND MEAN	4.06	Agree

Table 14 above illustrates the level of effectiveness of the school in terms of People marketing mix practices. Under these marketing practices, “The faculty provides effective and efficient classroom management that promotes comfort and order.” attained the highest weighted mean of 4.09 interpreted as Agree and the second highest is “The faculty shows innovative teaching strategies” with 4.08 rating. The lowest weighted mean is the “non-teaching staff (registrar, accounting, etc.) are responsive to the needs of students.” that got 3.44 which means Undecided and followed by “The faculty are competent and experts in their field.” with a 4.04 rating.

Mishra, et.al (2020) mentioned that online teaching mode is providing the feeling of psychological safety to the learning community in COVID-19 afflicting period. (2011) added people marketing mix is directly involved with the students and parents and these are the following: Teachers, Non-Teaching



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Personnel. It shows that many students feel comfort and safety when engaging with their teachers.

Meanwhile, responsiveness of non-teaching staff is at risk level and it means that the students were not satisfied in the non-teaching personnel engagement. Therefore, the school should provide an online feedback system wherein it can provide a detailed evaluation of non-teaching staff.

Table 15.

Assessment on the Level of Effectiveness of Processes Marketing Mix Practices

Marketing Mix Practices	Mean	Verbal Interpretation
2.6 Processes		
• Enrollment system is well organized.	3.79	Agree
• The schedule designs of classes are well organized.	3.8	Agree
• The school has clear policies on attendance, reporting and updating of students' performance.	4	Agree
• The students can choose their preferred learning modality (online/modular).	4.53	Strongly Agree
• The teaching process (lectures, seminars, consultations) is well organized.	4.07	Agree
GRAND MEAN	4.04	Agree

To these factors, “The students have the option to choose his/her learning modality (online/modular).” attained the highest weighted mean of 4.53 with Strongly Agree interpretation and the second highest mean is “The teaching process (lectures, seminars, consultations) is well organized.” got a 4.07 rating. On the other hand, the lowest weighted mean is the “Enrollment system is well organized.” that got 3.79 followed by “The schedule designs of classes are well organized.” with 3.80 rating interpreted as Agree statements respectively.

Some of the procedures that could be employed to present the university’s image are teaching learning processes and school relaxation policies (Tukur, Abubakar, Sayuti, & Ijeoma) (2019). The findings reveal that respondents gave a positive assessment on the learning modality options provided by the school. This only means that the students have the privilege to choose their learning alternatives that they intend to take even with limited internet activity. It also revealed that teaching processes of faculty are well organized.

This may indicate that the school provides training and seminars for teachers on how to cope with an online teaching system. On the other hand, it was also noted that there is a need for the enrollment system to be reassessed since this obtained the lowest weighted mean.

Table 16.

Assessment on the Level of Effectiveness of Physical Evidence Marketing Mix Practices

Marketing Mix Practices	Mean	Verbal Interpretation
2.7 Physical Evidence		
• The instructional/learning materials (modules) are clear to understand.	3.89	Agree
• The modules have clear instructions on how to meet the learning objectives of the subject.	3.95	Agree
• The teachers dress nicely and professionally.	4.3	Agree
• Classrooms are well-ventilated and conducive for teaching-learning process.	4.08	Agree
• The physical facilities at this school are visually appealing, clean, and in good condition.	4.14	Agree
GRAND MEAN	4.07	Agree

Among the five areas, “The faculty dresses nicely when teaching online.” received the highest



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weighted mean of 4.30 described as Agree followed by “The physical facilities at this school are visually appealing, clean, and in good condition. “with 4.14 rating. The two lowest weighted means are “The instructional/learning materials (modules) are clear to understand.” got 3.89 and “The modules have clear instructions on how to meet the learning objectives of the subject.” that attained a 3.95 rating described as Agree statements respectively. The overall weighted mean for Physical Evidence Marketing Mix Practices is 4.07.

The findings reveal that the researcher can conclude that the way teachers present themselves gives a positive impression to students in contribution to the teaching-learning process.

Nevertheless, the school should review the instructional/learning materials or modules since this is vital in the presentation and application of online teaching and learning process.

Table 17.

Summary of the Weighted Means of Marketing Mix Practices

Marketing Mix Practices	General Mean	Verbal Interpretation
Education as a Product	4.11	Agree
Price	4.00	Agree
Place	4.06	Agree
Promotion	4.06	Agree
People	3.94	Agree
Processes	4.04	Agree
Physical Evidence	4.07	Agree
OVERALL GRAND MEAN	4.04	Agree

Table 17 above displays the summary of marketing mix practices of a non-sectarian institution in the city of Manila. Product marketing mix practices got the highest general mean of 4.11 among the other marketing practices. It is followed by Physical Evidence 4.07, Place and Promotion both 4.06, Processes 4.04, Price 4.00 and the lowest mean is People marketing mix that got 3.94 score rating.

To sum up, this only shows that the institution delivered a good product strategy in the market. In addition, that school should also reassess its People Strategies in order to improve its holistic marketing.

Significant Differences on the Respondents' Assessment on the Level of Effectiveness of Marketing Mix Practices when they are Grouped According to their Profile

To answer the hypothesis, the researcher used One-Way Analysis of Variance (ANOVA) and Independent Samples t-test to compare the means of populations.

Table 18.

Significant Difference in the Respondents' Assessment on the Effectiveness of the Marketing Mix Practices of a Nonsectarian Institution According to their Year Level

Marketing Mix Practices	F	Sig.	Decision	Interpretation
Product	2.15	0.09	Accept Ho	There is no statistically significant difference.
Price	5.04	0.00	Reject Ho	There is a statistically significant difference.
Place	2.90	0.03	Reject Ho	There is a statistically significant difference.
Promotion	1.43	0.23	Accept Ho	There is no statistically significant difference.
People	2.94	0.03	Reject Ho	There is a statistically significant difference.
Processes	3.35	0.02	Reject Ho	There is a statistically significant difference.
Physical Evidence	1.90	0.13	Accept Ho	There is no statistically significant difference.

Table 18 presents the test of significance difference in the respondents' marketing mix practices of nonsectarian schools in the city of Manila when they are grouped according to their student's status.

As shown in the table, the null hypothesis in the following level of effectiveness of marketing mix practices of the institution with regards to Price (F=5.04, p=0.00), Place (F=2.90, p=0.03), Promotion (F=1.43, p=0.23), People (F=2.94, p=0.03), Processes (F=3.35, p, 0.02) and Physical Evidence (F=1.90,



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$p=0.13$). Price, Place, People and Processes are less than the level of significance of 0.05, the null hypothesis was rejected.

Table 19.

Significant Difference in the Respondents' Assessment on the Effectiveness of the Marketing Mix Practices of a Nonsectarian Institution According to their Student's Status

Marketing Mix Practices	t-statistic	Sig.	Decision	Interpretation
Product	-0.35	0.73	Accept Ho	There is no statistically significant difference.
Price	-0.72	0.47	Accept Ho	There is no statistically significant difference.
Place	-1.20	0.23	Accept Ho	There is no statistically significant difference.
Promotion	-0.41	0.68	Accept Ho	There is no statistically significant difference.
People	0.08	0.93	Accept Ho	There is no statistically significant difference.
Processes	-0.65	0.51	Accept Ho	There is no statistically significant difference.
Physical Evidence	-0.39	0.70	Accept Ho	There is no statistically significant difference.

Table 19 describes the test of significant difference in the respondents' marketing mix practices of a non-sectarian institution when they are grouped according to their status.

As shown in the table, the null hypothesis in the following level of effectiveness of marketing mix practices with regards to Product ($t=-0.35$, $p=0.73$), Price ($t=-0.72$, $p=0.47$), Place ($t=-1.20$, $p=0.23$), Promotion ($t=-0.41$, $p=0.68$), People ($t=-0.08$, $p=0.93$), Processes ($t=-0.65$, $p=0.51$) and Physical Evidence ($t=-0.39$, $p=0.70$).

Table 20.

Significant Difference in the Respondents' Assessment on the Effectiveness of the Marketing Mix Practices of a Nonsectarian Institution According to their Units Enrolled

Marketing Mix Practices	F	Sig.	Decision	Interpretation
Product	2.05	0.09	Accept Ho	There is no statistically significant difference.
Price	1.55	0.19	Accept Ho	There is no statistically significant difference.
Place	1.67	0.15	Accept Ho	There is no statistically significant difference.
Promotion	0.98	0.42	Accept Ho	There is no statistically significant difference.
People	0.99	0.41	Accept Ho	There is no statistically significant difference.
Processes	2.77	0.03	Reject Ho	There is a statistically significant difference.
Physical Evidence	1.76	0.14	Accept Ho	There is no statistically significant difference.

Table 20 portrays the test of significant difference in the respondents' marketing mix practices of a non-sectarian institution when they are grouped according to their units enrolled. This means that when Processes were grouped according to respondents' units enrolled, the assessment on the effectiveness of mentioned marketing strategies differed significantly.

Table 21.

Significant Difference in the Respondents' Assessment on the Effectiveness of the Marketing Mix Practices of a Nonsectarian Institution According to their Program Enrolled

Marketing Mix Practices	F	Sig.	Decision	Interpretation
Product	2.67	0.00	Reject Ho	There is a statistically significant difference.
Price	2.37	0.00	Reject Ho	There is a statistically significant difference.
Place	2.82	0.00	Reject Ho	There is a statistically significant difference.
Promotion	2.68	0.00	Reject Ho	There is a statistically significant difference.
People	2.58	0.00	Reject Ho	There is a statistically significant difference.
Processes	3.05	0.00	Reject Ho	There is a statistically significant difference.
Physical Evidence	2.19	0.01	Reject Ho	There is a statistically significant difference.



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Table 21 describes the test of significant difference in the respondents' marketing mix practices of a nonsectarian institution in the city of Manila when they are grouped according to their program enrollment.

As shown in the Table 19, the null hypothesis in the following level of effectiveness of marketing mix practices adopted by the school with regards to Product (F=2.67, p=0.00), Price (F=2.37, p=0.00), Place (F=2.82, p=0.00), Promotion (F=2.68, p=0.00), People (F=2.58, p=0.00), Processes (F=3.05, p=0.00), and Physical Evidence (F=2.19, p=0.01) have less than the level of significance of 0.05, this means that null hypothesis are accepted and have significance to the effectiveness of marketing mix practices of the school when they are grouped according to their program enrollment.

Table 22.

Significant Difference in the Respondents' Assessment on the Effectiveness of the Marketing Mix Practices of a Nonsectarian Institution According to their Institution

Marketing Mix Practices	F	Sig.	Decision	Interpretation
Product	5.22	0.01	Reject Ho	There is a statistically significant difference.
Price	4.92	0.01	Reject Ho	There is a statistically significant difference.
Place	4.15	0.02	Reject Ho	There is a statistically significant difference.
Promotion	1.85	0.16	Accept Ho	There is no statistically significant difference.
People	0.97	0.38	Accept Ho	There is no statistically significant difference.
Processes	2.20	0.11	Accept Ho	There is no statistically significant difference.
Physical Evidence	1.52	0.22	Accept Ho	There is no statistically significant difference.

Table 22 describes the test of significant difference in the respondents' marketing mix practices of a nonsectarian institution in the city of Manila when they are grouped according to their program enrollment. To conclude, when respondents are grouped according to their institution, there is a significant role in assessing the effectiveness of marketing mix practices of the school.

Table 23.

Significant Difference in the Respondents' Assessment on the Effectiveness of the Marketing Mix Practices of a Nonsectarian Institution According to their Residence

Marketing Mix Practices	t-statistic	Sig.	Decision	Interpretation
Product	-0.07	0.94	Accept Ho	There is no statistically significant difference.
Price	0.21	0.84	Accept Ho	There is no statistically significant difference.
Place	1.74	0.08	Accept Ho	There is no statistically significant difference.
Promotion	0.47	0.64	Accept Ho	There is no statistically significant difference.
People	0.66	0.51	Accept Ho	There is no statistically significant difference.
Processes	1.00	0.32	Accept Ho	There is no statistically significant difference.
Physical Evidence	0.93	0.35	Accept Ho	There is no statistically significant difference.

Table 23 presents the test of significant difference in the respondents' marketing mix practices of a nonsectarian institution in the city of Manila when they are grouped according to their residence. The researcher can conclude that when respondents are grouped according to their residence, there is no significant role in assessing the effectiveness of marketing mix practices of the school.

Table 24.

Significant Difference in the Respondents' Assessment on the Effectiveness of the Marketing Mix Practices of a Nonsectarian Institution

Marketing Mix Practices	F	Sig.	Decision	Interpretation
Product	0.80	0.52	Accept Ho	There is no statistically significant difference.
Price	0.55	0.70	Accept Ho	There is no statistically significant difference.
Place	1.66	0.16	Accept Ho	There is no statistically significant difference.
Promotion	2.39	0.05	Reject Ho	There is a statistically significant difference.
People	2.09	0.08	Accept Ho	There is no statistically significant difference.
Processes	0.71	0.59	Accept Ho	There is no statistically significant difference.
Physical Evidence	0.18	0.95	Accept Ho	There is no statistically significant difference.



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Table 24 expresses the test of significant difference in the respondents' marketing mix practices of a nonsectarian institution in the city of Manila when they are grouped according to their family monthly income. This concludes that when respondents are grouped according to their residence, there is a significant role in assessing the effectiveness of marketing mix practices of the school.

Table 25.

Significant Difference in the Respondents' Assessment on the Effectiveness of the Marketing Mix Practices of a Nonsectarian Institution

Marketing Mix Practices	F	Sig.	Decision	Interpretation
Product	1.10	0.36	Accept Ho	There is no statistically significant difference.
Price	2.24	0.06	Accept Ho	There is no statistically significant difference.
Place	4.75	0.00	Reject Ho	There is a statistically significant difference.
Promotion	2.40	0.05	Reject Ho	There is a statistically significant difference.
People	3.30	0.01	Reject Ho	There is a statistically significant difference.
Processes	3.31	0.01	Reject Ho	There is a statistically significant difference.
Physical Evidence	1.66	0.16	Accept Ho	There is no statistically significant difference.

Table 25 above shows the test of significant difference in the respondents' marketing mix practices of a non-sectarian school in the city of Manila when they are grouped according to their source of income supporting respondents' education.

This means that when the respondents were grouped according to their source of income, their assessment on the effectiveness of marketing mix practices in terms of Price, Place, Promotion, People and Processes differed significantly.

Conclusions

Based on the summary of findings, the researcher arrived at the conclusions that:

1. In terms of respondents' profile, the researcher concluded that the majority of the respondents were in second year level, full time students with 26-30 units, coming from School of Teacher Education and School of Business with education and business administration courses. Most of the respondents were from NCR where the school is located. Majority of them were middle class earners whose average monthly income ranges from 10,001 to 24,999 and their financial resources came from salary/wages to support the respondents' education. It can be also concluded that the respondents have enough resources to enroll and continue their education in the school.
2. In terms of the assessment of the respondents in the level of effectiveness of the school's marketing mix practices, the researcher can conclude that the school got a score of effective strategies in all marketing areas namely, Product, Price, Place, Promotion, People, Processes and Physical Evidence. But it was also noted that when checking the sub items of each marketing mix practices, there were items that needed to be re-evaluated and enhanced, specifically the non-teaching staff. They should be responsive to the needs of student-respondents in terms of miscellaneous fees transparency, onsite and document processing, high quality media ads, enrollment system and module/learning materials presentation. Majority of the respondents agreed that the school's marketing mix practices were effective. It can be noted that the school delivered good marketing tactics in the market in terms of product. This can be observed that the majority of the respondents were in favor of the effectiveness of marketing strategies. However, there is a need to improve the digital or social media marketing of the school.



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3. When grouped according to status, whether full time or part time status, it can be noted that the respondents' assessments do not have significant differences. When grouped according to their year level, units and programs enrolled, respondents' institution, average monthly income and source of income, respondents' assessments have significant differences.

Recommendations

Based on the summary of findings and conclusions, the researcher recommended the following:

Create an inquiry management system

The school should have an inquiry management system wherein this contains the school's information queries that automatically sends relevant responses and instantly notifies students and parents about their inquiries. Training for non-teaching personnel will also help to upgrade skills, and expertise. Through this way, it can help the school in providing the best service to their customers.

Provision for display of table of fees

The school should provide a table of fees wherein the students and parents can check tuition fees and other charges at any given time. A better understanding of student expenses can help the parents to provide financial aid for their children. Awareness on the fees can benefit and organize the finances of the families.

Creation of Module Writers Team

The school's administration must create a group of module writers who will produce, and design them. They will also be the one who will supervise and concentrate in creating, reviewing and enhancement of the learning materials.

Adding more digital marketing platforms

The school should improve its promotional strategies by using digital platforms such as social media sites, websites and other online sites to enhance communication linkages to the students and parents.

Evaluation of different school programs

A regular evaluation should be conducted to different programs such as in guidance counseling, recreational programs, personal-growth programs, scholarship programs, and future-planning programs since this is one of the key areas to check the students and parents' satisfaction. Additional course offerings could also help the school to increase the enrollment specifically under the School of Arts, Sciences, and Technology.

Enhance enrollment and document processes

Offices such as admission and registrar must enhance and maximize the use of the system to accommodate more students' inquiry during the enrollment period. An enrollment system with a task management feature will help the school, students and parents to track enrollees' application in the school. This feature can also be used in the document processing in the registrar's office.

Further research of the study is recommended

There must be further research about the three institutes, School of Teacher Education, School of Business and School of Arts, Sciences and Technology, in order to see customers behavior, create new interventions and innovative strategies to sustain and attract students and improve service quality of the nonsectarian school.

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Analysis of the Effect of the Covid-19 Pandemic on the Marketing System of Tilapia (*Oreochromis niloticus* L) Trading in Batong Malake, Los Baños, Laguna

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Abstract

Purpose – This study was conducted to analyze the marketing system of tilapia in Los Baños, Laguna for the purpose food security and as source of livelihood to the populace.

Design/methodology/approach – The comparative research design was used to establish a cause and-effect relationship between the COVID-19 pandemic and the metrics such as marketing margin, percent product loss, profit margin, consumer peso breakdown, and return on investment that are involved in tilapia trading market efficiency.

Findings – Based on the results, market and price stability, consumer preference, high demand, profitability, and well-coordinated marketing participants of the tilapia industry are the major influences on how there are little or minimal changes that occur in the industry despite the occurrence of the COVID-19 pandemic. This implies that the tilapia industry shows robustness in adapting to and mitigating negative economic shocks, exemplified by how it was able to recover from the negative effect of the COVID-19 pandemic.

Research limitations/implications – This study was only conducted in the municipality of Los Baños, Laguna. Nevertheless, the study on analysis of the market systems for other agri-food can be done anywhere in the country or globally since food security and sustainability are very crucial.

Practical and social implications – This marketing system is beneficial for the capture and aquaculture tilapia producers, middlemen and vendors to be informed of the availability of the produce. Originality/value -Although many market studies had already been conducted related to agri-aqua commodities, this study primarily focused on the effects of covid-19 pandemic to the marketing system of tilapia in Los Baños, Laguna. Additionally, there are fisherfolks in Los Baños who are involved in the production and marketing of tilapia in the municipality due to its proximity to Laguna de bay. Despite this, a market study on tilapia in Los Baños is few to nil in Los Baños.determining the motivations of Filipino senior entrepreneurs, we would like to highlight the benefits of this phenomenon on senior citizens and society. Particularly, senior entrepreneurship empowers older Filipino citizens and promotes economic independence, active aging, and social inclusion.

Key Words: marketing system, tilapia, market efficiency, sustainability, covid-19



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Relevant SDGs: SDG 1 No Poverty, SDG 2 Zero Hunger, SDG 12 Responsible Consumption and Production, SDG 14 Life Below Water

Relevant SDGs: SDG 1 No Poverty, SDG 5 Gender Equality, SDG 8 Decent Work and Economic Growth, SDG 10 Reduced Inequalities

Introduction

The pandemic triggered a health and economic crisis, increasing poverty and food insecurity, particularly in agriculture and fisheries (Sumner et al., 2020). The pandemic also affected ASEAN nations, including the Philippines, with the virus spreading slowly through each country (Ferrer et al., 2021). In the Philippines, small-scale or municipal fisheries are critical to the livelihoods and food security of coastal communities and the entire country (Perez et al., 2012). The severe consequences of the COVID-19 lockdown on small-scale fisheries (SSF) have become apparent; these include the closure of fishing operations and market stalls, and compromising food security (Gregorio & Ancog, 2020; Ferrer et al., 2021). Pandemics in the past have demonstrated that quarantines and panic undermine not only human activity and economic growth but also fishery's supply chains, tourism, and agricultural activities, resulting in hunger and malnutrition, as well as psychological effects (Cullen et al., 2020; Sunny et al., 2021).

Furthermore, the Philippines, the pandemic's impact on the aquaculture-capture fisheries marketing system has been detected. Market disruptions attributed to the pandemic include shortened fish market hours, logistics and transportation issues, a reduction in fishing trips during the lockdown, an increase in the price of fishery products once they reach the market, and a limit on the number of consumers in the market, all of which reduce the likelihood of consumers buying fish (Manlosa et al., 2021). Concerns have also been raised about the intermediaries or middlemen involved in the marketing of fisheries commodities,

which negatively influence supply chain participants, particularly producers and consumers. Consumers bore the brunt of the high retail price, while intermediaries profited the most at the expense of both consumers and producers (Pielago, 2016). The tilapia industry's supply chain may be interrupted, and actors in the marketing system may be severely aggravated due to the pandemic's overrunning influence. One of the most significant challenges in securing food for the entire population affected by the pandemic is increasing the efficiency of the marketing system by making food available at the lowest possible cost (but not at the expense of the fisherman) and reducing the number of product losses.

As a result, the tilapia trading system must be efficient to remain robust in the face of the COVID-19 pandemic and to ensure that tilapia is supplied to consumers at the proper time and location. The most critical to ensuring that the tilapia sector has a long-term supply chain. This is also backed by Husen's (2019) research, which found that the improvement of fish output and the development of the fishing industry in terms of economy and infrastructure are mainly dependent on an efficient fish marketing system.

The critical role that tilapia plays in the context of food security (SDG 2) and as a source of livelihood (SDG 12), mainly for marketing participants involved in tilapia trading, needs a careful assessment of the overall marketing system's performance. Thus, determining its efficiency and the possible changes in the marketing system of tilapia trading brought about by the challenges, problems, and potential opportunities amid the pandemic could help tilapia traders mitigate the



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negative impact of COVID-19 and stay resilient amidst the pandemic (SDG 1 and SDG 14).

Literature Review

According to the FAO report (2020), COVID-19 has no direct effect on fish. Still, it impacts shifting consumer demands, market access, and logistical issues connected to transportation and border limitations. As a result, it's critical to protect each stage of the fisheries and aquaculture supply chains, as each connection is vulnerable to the COVID-19 virus's growing impact.

Bennett et al. (2020), citing the FAO report, indicate that the pandemic's global impact is mainly felt by groups and sectors that are extremely susceptible and vulnerable to COVID-19's adverse social and economic effects, particularly small-scale fisheries (SSF). As a result, the creation of a coordinated response and support network that will assist in the refinement of existing institutions, supply chains, and food systems to strengthen the SSF sector's resiliency is necessary (Benett et al., 2020).

In relation to that, there is a need to ensure the tilapia industry's long-term viability. Because of its affordability, good animal protein, and ease of breeding and growing, tilapia has been dubbed "pandemic food." It was also a good source of revenue and livelihood, particularly for fishermen and those reliant on the sector. However, the pandemic's widespread impact has shown vulnerabilities in various areas, particularly in the marketing chain. The pandemic, combined with the industry's hindering environmental and disease problems, aggravated the issue in Laguna, where aquaculture and capture fisheries are regarded as vital sources of income. The average tilapia price per kilogram increased by 6.9% from 78.40 in 2018 to PhP 83.80 in 2020. (PSA, 2020). Despite the increased price, the majority of the profit share went to middlemen at the expense of both producers and consumers.

Even after the government removed the lockdown restrictions, some fishermen continue to curtail

their fishing activity because they have difficulty accessing output markets, logistical channels, and distribution channels. The social distancing policy in retail and public markets also hampered fish retailers, as seen by the fewer customers allowed into the markets. One strategy to achieve industry sustainability is to have an efficient marketing system. However, due to the pandemic's overrunning impact, the tilapia industry's supply chain may be disrupted, and players in the marketing system may be severely aggravated.

Given the importance of the tilapia industry during the pandemic, it's crucial to investigate possible modifications to the marketing system for tilapia trading. This is backed by Husen's (2019) research, which found that the increase in fish output and the development of the fishing industry in terms of economy and infrastructure are significantly dependent on an efficient fish marketing system. With that, the marketing system of the tilapia industry should exhibit efficiency to stay resilient amidst the COVID-19 pandemic and ensure that tilapia will be made available to consumers at the right time and place.

In their study of marketing efficiency in the fishing sector, Lekshmi et al. (2020) wrote, "An efficient marketing system has to be in place, which responds to the nutritional requirements of the general population as well as demand for the export market." Additionally, an efficient marketing system decreases post-harvest losses, engages a significant portion of the workforce, and generates revenue for the country (Akande & Diei-Ouadi, 2010; Kumar et al., 2008; Ali et al., 2014). In her assessment of marketing efficiency, Pielago (2016) employs marketing margin analysis, percent product losses, a breakdown of the consumer's peso, and return on investment. The researcher used Jolejole (2003) work on using percent product losses to assess marketing system efficiency.

Studying marketing systems is critical since it is often regarded as the most efficient means of achieving economic progress. This is reinforced by



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Shaw's (2019) hypothesis, which states that improving the aggregate marketing system's efficiency is both a necessary and sufficient prerequisite for economic development. As a result, several studies on the marketing systems of various commodities, industries, and sectors have been carried out, and Layton's General Marketing Theory has been the foundation of marketing systems studies. The College of Economics and Management Studies related to marketing systems have been conducted in their special undergraduate problems. A few of which were integrated into the current study of the researcher to gain a better understanding of what a marketing system is and what possible contribution the researcher may undertake in the development of the commodity being studied. Furthermore, the current research intends to identify the adjustments and changes in the marketing system resulting from COVID-19 as well as provide advice on how the stakeholders involved might remain resilient in the face of the pandemic's onslaught.

Methodology

Research Design

For this study, regarding the analysis of the effect of the pandemic on the marketing system of tilapia trading in Los Baños, the researcher utilized the descriptive research design. In addition to the descriptive research design, a comparative research design will be used to establish a cause and-effect relationship between the COVID-19 pandemic and metrics such as marketing margin, percent product loss, profit margin, and breakdown of consumer peso, as well as return on investment, that are involved in tilapia trading marketing efficiency.

Data Collection

Primary data gathered by field surveys involving the inspection of the study area in terms of tilapia distribution and marketing systems were gathered. A combination of personal or phone call interviews, and qualitative and quantitative methods were used

for primary data collection. The data collected for the study regarding the effect of the COVID-19 pandemic was anchored in the timeframe of April 2020 to September 2020, and by that time, the fish cage owners and operators were already recovering from the Taal volcanic eruption.

On the other hand, secondary data came from government organizations such as the Bureau of Agricultural Statistics and the Philippine Statistics Authority's journals, essays, and reports (BAS-PSA). In addition, the Bureau of Fisheries and Aquatic Resources (BFAR), the Department of Agriculture (DA), and the Department of Trade and Industry can also provide helpful information (DTI).

To select the trader-respondent, the researcher used a complete enumeration method of retailers selling tilapias. Specifically, the tilapia retailers in Batong Malake Public Market, as it is considered to be the biggest wet market and '*bagsakan*' of tilapia in the town of Los Baños. From here, the basis for obtaining the distribution channel, which involves several intermediaries involved in the trading, will solely depend on the retailer's sources of tilapia. As the marketing channels were identified in a backward manner, the intermediaries involved were simultaneously determined.

There are a total of forty-five (45) respondents involved in the marketing system of tilapia trading in Batong Malake Public Market in Los Baños through the process of complete enumeration at the retail level. This consists of 15 retailers, 6 wholesaler-retailers, 5 assembler wholesalers, 4 buyer-harvester, and 15 fish cage operators. After that, all the snowballs recommended by the retailers in the public market are completed.

Data Analysis

Descriptive measures such as simple frequencies, means, and percentages were used to characterize the selected respondents based on their basic personal information, such as age, sex, household size, income, and educational attainment. In



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In addition, payment and information flow analyses were also analyzed and conducted. Through interviews and questionnaires, the volume, percentage, and product losses in each distribution channel were determined. Additionally, problems, challenges, and bottlenecks in marketing operations, as well as government interventions and respondents' adaptive strategies related to the pandemic, will be discussed.

Marketing Efficiency

To determine the efficiency of the marketing system for tilapia, the researcher employed quantitative analyses using marketing margin, marketing cost as a percentage of the marketing margin, and profit margin as a percentage of the marketing margin. Furthermore, the breakdown of consumer peso will also be used to determine the efficiency of the marketing channels based on the farmer's and intermediaries' share of the retail price. To determine the efficiency of distribution and transportation, percent product losses, travel time, and associated transportation costs were all calculated.

Marketing Margin Metrics:

- Marketing Margin = Selling Price - Buying Price or Marketing Cost
- Marketing Cost = Marketing Cost / Marketing Margin x 100
- Profit Margin = Marketing Margin - Marketing Cost
- Profit as percentage of marketing margin = $\frac{\text{Profit Margin}}{\text{Marketing Margin}} \times 100$
- Profit as percentage of marketing cost = $\frac{\text{Profit Margin}}{\text{Marketing Cost}} \times 100$
- Product Loss (kilograms) = Volume Bought - Volume that is sold and consumed
- Product Loss (pesos) = Product losses in kilograms x Price (PHP/kg)
- Percentage of Product Losses = $\frac{\text{Product losses in pesos}}{\text{Total quantity bought} \times \text{Buying Price}} \times 100$
- Farmers' Share = $\frac{\text{Farm Gate Price}}{\text{Retail Price}} \times 100$
- Market Intermediaries' Share = $\frac{\text{Marketing Margin}}{\text{Retail Price}} \times 100$

Data Results and Analysis

The Fish Cage Caretaker-Operators

The supply of tilapia generally comes from the fish cage operators or the fish producers in Laurel, Batangas, where the Taal Lake Central Fish Port is located. The Taal Lake serves as the major fishing

ground for the fishermen residing in various lakeshore communities surrounding it. Specifically, the tilapia farmers or fish cage operators from Barangay Berinayan, Laurel Batangas were interviewed. Generally, the fish farmers are the main sources of fish in the entire business. They perform stocking and feeding practices as their major farming activities.

General Characteristics of the Fish Cage Operators

The fish cage operator's age ranged from 30 years to 64 years, with an average of 47 years. Out of the 15 respondents, 20 percent are within the range of 20–35 years old. The majority of the respondents came from the age group of 36–50 years old, with 47% of the total population. The remaining 33 percent came from the age group of 50-65 year old, which is equivalent to 5 respondents. All the 15 tilapia fish cage operators are males as they are perceived to be more fit and able to perform various tasks and activities in tilapia production. On the other hand, 80 percent of the respondents are married while only 3 respondents are single, with a percentage of 20 percent. Most of the farmers decided to settle down in the area of study as they happened to marry women from the area of study and make tilapia farming their main source of income and live farming their main source of income and livelihood.

In terms of educational attainment, majority of the farmer respondents finished secondary education, with a total percentage of 53.33%. Meanwhile, only one respondent (7%) was able to graduate from college. Moreover, based on the interview, the respondents were trained at a very young age of 15 to 17 years. Most of the young men were trained and engaged in fish cage operations right after they graduated from high school. Some of the respondents decided to stop attending school immediately after completing their primary education in order to help their families earn money for their household needs by working as caretaker-operators in fish cage operations. Thus, it can be said that tilapia enterprises or fish cage operations are generationally observed by some respondents



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who started to be engaged in the enterprise at a very young age. The tilapia operation is vast in terms of generation.

Aside from this, the respondents obtain additional income from making fish traps 'baklad' made from bamboo, nets, and screen metal, water fishing, and net weaving. Aside from tilapia farming, some of the fish cage operators also farm other agricultural products like rice, taro (gabi), coconut (buko), and banana. Based on the interview, the respondents also mentioned that before the locals started venturing into fish cage operations and fish production, their initial source of livelihood was kaingin or slash-and-burn and agricultural crop farming. However, their agricultural land allotted for crop production has been less productive, so they have resorted to fish cage operations and fish production instead.

Table 1.

Distribution of 15 tilapia fish cage caretaker-Operators by socio-demographics and economic characteristics in Barangay Berinayan, Laurel, Batangas, 2022

CHARACTERISTICS		NUMBER (n=15)	PERCENT
Civil Status	Single	3	20
	Married	12	80
	Total	15	100
Age	20-35	3	20
	36-50	7	47
	50-65	5	33
	Total	15	100
Average Age	47		
Educational Attainment	College Graduate	1	6.67
	High School Graduate	8	53.33
	Elementary graduate	6	40
	Total	15	100
Years in Tilapia Farming	0-5 years	2	13
	11-15 years	1	7
	16-20 years	3	20
	21-25 years	4	27
	More than 25 years	5	33
	Total	15	100
Average Years in Tilapia Farming	19		

Problems encountered by the Tilapia Farmers Due to COVID-19 Pandemic

One of the common problems encountered by the tilapia farmers during the peak of the pandemic is the increase in the price of the inputs, particularly in the price of fingerlings and feeds, according to the statement given by the operator-respondents during the interview. Thus, some fish cage owners resorted to feeds and fingerlings with lower quality to cut some of their production expenses. Consequently, it negatively impacted the marketability of their harvest and the volume of their produce. Aside from the increase in the price of the inputs, it was also mentioned previously that they also encountered delays in the delivery of the inputs.

Furthermore, the farmer-respondents have also stated that there has been a decline in the demand for tilapia, especially in 2020, when the pandemic is at its peak. The decline in the market demand for tilapia prior to that year is due to the mobility restrictions and lockdown imposed by the government as a preventive measure to stop the spread of the virus. Consequently, the number of consumers going to the public market has declined, so the tendency of the tilapia retailers and other traders was to reduce the volume of their orders for the fear that they would not be able to sell all the tilapia that they had ordered from their sources.

The respondents also stated that the inadequate support from the government is also one of the issues that they have faced before and during the occurrence of the COVID-19 pandemic. During the interview, they mentioned that they do not receive any government assistance during the lockdown aside from the Social Amelioration Program (SAP) given by the Department of Social Welfare and Development (DWSD). In line with this, some fish cage operators did not receive financial assistance despite the fact that SAP was implemented to transfer cash to support the displaced and vulnerable groups, which included the individuals in the fishery and agricultural sector.



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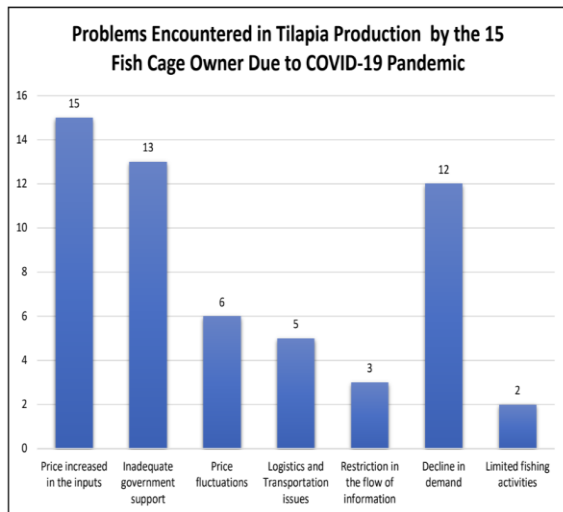
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In addition, one of the indirect impacts of the COVID-19 pandemic on the fish cage caretaker-operators is the loss of their additional income coming from their other source of livelihood. For example, some of them are tricycle drivers, or locally known as "namamasada," but due to the lockdown (especially at the peak of the pandemic), the number of individuals using transportation has also decreased.

The respondents also mentioned that the limitation on fishing activities only became a problem in the first few months after the lockdown, but ever since the announcement of agricultural and aquatic products being an essential commodity, they have already gone back to their usual farming routine and activities.

Figure 1

Problems encountered in tilapia production due to the COVID-19 pandemic according to the 15 fish cage caretaker-operators



General Characteristics of Fish Traders

The average age of the traders involved in the marketing system of tilapia in Batong Malake Public Market is 47 years old, ranging from 35

(youngest) to 67 (oldest) years old. Approximately 60% of all traders are in their early adulthood or middle age structure. Thus, the majority of the entrepreneurs that enter the tilapia trading business belong to the late-advanced or middle-aged group. On the other hand, 56.67 percent of the total population of the tilapia traders were female, while the remaining 43.33 percent were male. Typically, females are usually involved in retail in public markets and wholesaling. Based on the data gathered, out of 21 traders involved in retail and wholesaling, there were 15 females (71.43%) and there were only 6 males (28.57%). On the contrary, there are more males involved in harvesting and assembling (viajeros). Out of 9 traders involved in assembling and harvesting, 7 were males (77.78%), while there were only 2 females (22.22%).

Meanwhile, majority of the traders involved in the study are high school graduates, which is about 63.33% of the total population of the traders. It was followed by traders who were able to obtain a tertiary education but were not able to finish their college degree programs. On the other hand, some of the respondents did not pursue tertiary education because their family had been in the tilapia trading business in the long run, so they opted to just train in running their family trading business. There were nine traders who were under the category of college undergraduate with a percentage of 20%. There are exactly two respondents who were able to finish their primary education but did not further pursue their education and another two respondents who were able to pursue their secondary education but were not able to finish. Lastly, there is only one respondent (3.33%) who was able to finish tertiary education, and based on the interview, the trader has a master's degree in teaching.

In terms of civil status, 83.33% of the total population of the trader-respondents were married. It was then followed by trader-respondents who belong to the single category with a portion of 10% of the total population of the traders. There was only one respondent (3.33%) who was widowed and separated. On the other hand, the average



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household size of the trader

respondents is 6, ranging from 1 (lowest) to 8 (highest). The household size with 4 to 6 members contains the bulk proportion of the traders, with 70% of the total population of the traders. It was followed by household size, with 7 to 9 family members, with a proportion of 20%. The household size with 1 to 3 members has the lowest percentage of 10%.

Table 2

Distribution of 30 trader-respondents by socio-demographics and economic characteristics

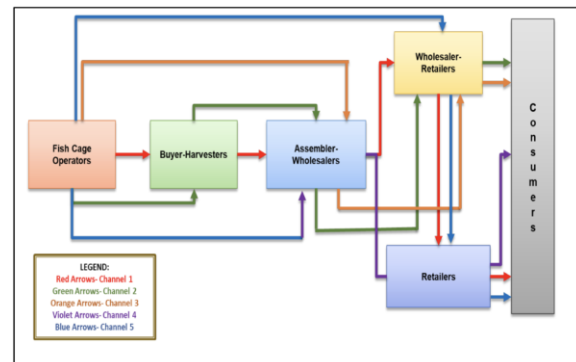
CHARACTERISTICS		NUMBER (n=30)	PERCENT
Age	18-35	2	6.67
	36-50	18	60
	51-65	9	30
	66-85	1	3.33
Total		30	100
AVERAGE		47	
Sex	Male	13	43.33
	Female	17	56.67
	Total	30	100
Educational Attainment	College Graduate	1	3.33
	College Undergraduate	6	20
	High School Graduate	19	63.33
	High School		
	Undergraduate	2	6.67
	Elementary Graduate	2	6.67
Total		30	100
Civil Status	Single	3	10
	Married	25	83.33
	Widowed	1	3.33
	Separated	1	3.33
	Total	30	100
Household Size	1 to 3	3	10
	4 to 6	21	70
	7 to 9	6	20
	Total	30	100
AVERAGE		6	

Marketing Channels

Five channels were identified in this study regarding the marketing system of tilapia trading in Los Banos. The longest marketing channel has four marketing participants (fish cage owners/operators, harvesters, assemblers, wholesalers, retailers, and consumers). The shortest marketing channel consisted of only wholesalers and retailers who directly sell tilapia to ultimate consumers. Marketing efficiency usually arises in channels with a greater number of participants as the cost build-up becomes heightened for the duplication of services performed. Thus, longer marketing channels correspond to lower marketing efficiency.

Figure 2.

Marketing channels involved in the marketing system of tilapia in Los Banos



Product Flow

Presented in Figure 3 is the flow of tilapia from the fish cage owners/operators to the different traders involved before reaching the end consumers who bought tilapia from Batong Malake Public Market. Based on Figure 17, it was shown that the biggest market of the fish cage owners from Barangay Berinayan came from the buyer-harvesters (91.87%). However, majority of the tilapia that they purchased from the fish cage owners goes to other outlet outside which is about 61,062.5 kilograms or 73.61%. The remaining 15,120 kilograms (18.23%)



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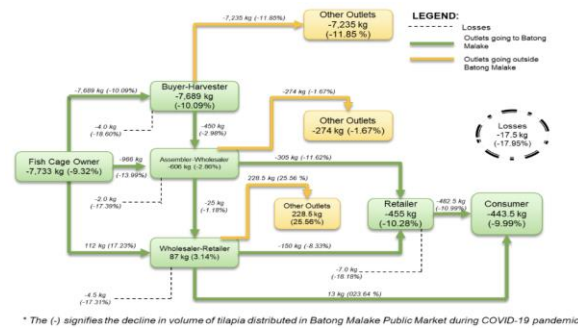
was sold to the assemblers-wholesalers. The buyer-harvesters also incur an average volume loss which is about 0.03% (21.5 kilograms) of the total volume of the tilapia that they have purchased from the fish cage owners. On the other hand, a small portion of the harvest of the fish cage owners were also sold to the assembler-wholesaler which is about 6,9096 kilograms or 7.35% of their total tilapia harvested. In total, assembler-wholesaler purchased 21,216 kilograms (25.58%). However, 19.84% (16,454.5 kilograms) were sold to other outlets outside Los Banos. The remaining volume of 2,625 kilograms (3.16%) was sold to retailers in Batong Malake. The total loss incurred by the viajeros is about 11.5 kilograms (0.01%) in average. Meanwhile, viajeros also sell their tilapia to the wholesaler-retailer with an average volume of 2,125 kilograms (2.56%). The fish cage owners also sell tilapia directly to the wholesaler-retailers but only a small percentage of 0.78% (650 kilograms) because of the additional cost they incurred in marketing tilapia towards the wholesalers. The wholesalers have a total purchased of 2,775 kilograms of tilapia (3.35%). This type of trader has an average loss of 26 kilograms (0.03%) while 1.08% of its volume purchased were sold other outlets outside Los Banos with an estimated volume of 894 kilograms. On the other hand, retailers purchased a total volume of 4,425 kilograms which is about 5.33% of the total volume of tilapia produce by the fish cage owners. They incurred the largest volume of tilapia loss with an average amount of 38.5 kilograms (0.05%). The retailers sell an estimated volume of 4,386.5 kilograms to the consumers while the wholesaler also sell an average of 55 kilograms (0.06%) to the end consumers. All in all, the consumers in Los Banos purchased 4,441.5 kilograms or 5.35% of the total tilapia produced in Berinayan, Laurel, Batangas.

Furthermore, it also shows the product flow of tilapia during the COVID-19 pandemic, the pattern of the flow of tilapia distributed inside and outside Los Banos is the same as before the occurrence of the pandemic. The only difference is that the middlemen involved in the marketing of tilapia purchased lower volume of tilapia produce from the fish cage owners.

It was also previously mentioned that the volume produced during pandemic has declined due to the indirect impact of the virus in the production of tilapia. However, due to the lower volume of tilapia purchased by the trader-respondents has led to the decline in the average volume of tilapia loss (from 102 kilograms down to 80 kilograms).

Figure 3.

The differences in the volume of tilapia distributed before and during COVID-19 pandemic



* The (-) signifies the decline in volume of tilapia distributed in Batong Malake Public Market during COVID-19 pandemic

Payment Flow

Figure 4 shows the flow of payments across each marketing channel identified in the marketing of tilapia from Laurel, Batangas to the end consumers in Los Banos, Laguna. For the channel, fish cage owners sell their produce at a market price of PHP 72.50 to the buyer-harvesters. Meanwhile, the harvesters sell their produce to the assembler-wholesaler for PHP 84.00, with a mark-up price of PHP 11.5. Assembler-wholesalers sell their purchased tilapia to the wholesaler retailers at a price of PHP 100.36 with a markup price of PHP 16.36. Meanwhile, wholesaler retailers sell it to the retailers at PHP 120.05, with a markup price of 19.69. Lastly, the retailers sell it to the end consumers at a market value of PHP 140.00. The same process of pricing was observed on the remaining channels. It can also be observed that the price of the tilapia increases as it goes down to the end consumers. This is due to the marketing practices and post-handling services performed by each middleman, which can also be translated into



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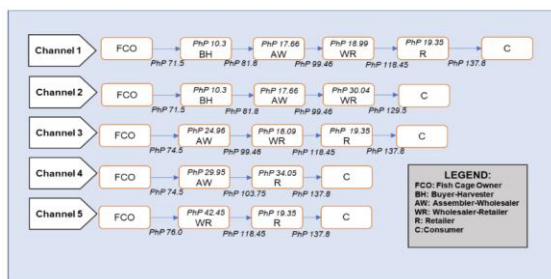
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additional costs incurred on their part. It can also be observed that the profit margin per kilogram of tilapia increases if there are fewer marketing participants involved. The profit margin, which is the markup price added to the price paid by each of the trader-participants, is inversely proportional to the number of marketing participants involved. Thus, the longer the marketing chain, the lower the average profit margin given to each trader.

Furthermore, it also shows the flow of payments across each marketing channel identified in the marketing of tilapia from Laurel, Batangas to the end consumers in Los Banos, Laguna during the COVID-19 pandemic, follows the same trend before the occurrence of the pandemic. The only difference is that the price of the tilapia slightly declined. It still shows that the longer the marketing channel, the lower the average profit margin will be. Thus, it means that the price of tilapia will remain relatively stable despite the occurrence of the pandemic. However, it can also be observed that the profit margin of the traders remains relatively high despite the occurrence of the pandemic

Figure 4

Shows the payment flow and profit margin of the tilapia by the trader-respondents during pandemic



Information Flow

The information flow among the key players in the marketing system of tilapia in relation to its prices and volume requirements is shown in Figure 5. Typically, the information regarding the price of

marine products produced by the fish cage owners and operations is dictated by the traders. Traders, particularly the harvesters, have strong bargaining power towards the tilapia farmers. According to the farmer-respondents, they would rather follow the traders' pricing because they are afraid, they will no longer purchase tilapia produce. In general, fishermen conduct a whisper bidding or locally known as "bulungan" system wherein they choose the trader with the highest price employed by the traders. Traders, on the other hand, set their prices based on market conditions such as consumer demand for tilapia and other fishery products. Based on the interview with the trader-respondents, they mentioned that they usually do price monitoring beforehand in order to decide which harvesters they are going to set for the buyers. For the traders, in general, the volume that they purchase from the farmers is highly dependent on the market demand from the different areas in Batangas, Laguna, Cavite, Metro Manila, Quezon City, and Navotas. It is also important to consider that they are part of the bulungan system, allowing them to be informed of the consumer's demand. Moreover, trader-respondents are usually very strict about the quality of products being given to them, knowing that fish, particularly tilapia, are highly perishable. The quality of the produce is very important because it determines the marketability of the tilapia to the end consumers. Therefore, all the traders involved in the marketing system of tilapia are very particular and meticulous in quality. Thus, it is also one of the reasons why they reject low-quality fish or demand lower prices from the tilapia farmers. Lastly, the information regarding the volume for wholesalers and retailers is dictated by the end consumers as well as by the seasonality and quality of the fisheries products. That is why, at the peak of the COVID-19 pandemic, the price of tilapia dropped to around PHP 120.00 per kilo.



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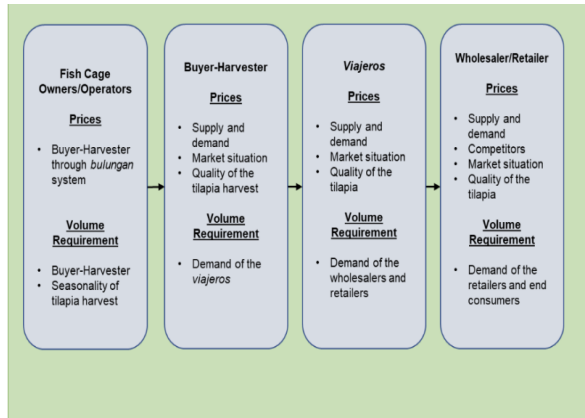
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Figure 5.

Information flow among the key players of tilapia trading in Laurel, Batangas



Marketing Efficiency

Product Losses

Fish losses can be measured quantitatively and qualitatively. Based on the study by Pielago (2016), quantity losses refer to the unsold volume of tilapia due to spoilage or decay, while quality losses refer to the volume of tilapia with inferior or low quality due to deterioration sold at lower prices. These product losses were then converted to their equivalent peso monetary value to have a uniform unit of measure. In term of quantity loss, a total of 97.5 kilograms is shown, which is 0.12% of the total volume of tilapia produced by the fish cage owners/operators. However, despite having a small percentage that is almost negligible to the total volume of tilapia

produced (82,950 kilograms), this loss still greatly affects the marketing expenses of the traders. Furthermore, it can also be observed that the quantity losses are highest at the retail level (38.5 kilograms).

On the other hand, contrary to quantity losses shown previously, the volume of tilapia with low quality was a little bit higher than the volume of tilapia with low quality before the occurrence of the

pandemic. Based on the result of the paired t-test procedure, given the p-values of equal to 0.048631, 0.043258, 0.039645, and 0.037921, the value of quality losses is less than the level of significance. Thus, the null hypothesis is rejected. Therefore, there is a significant difference between the quality losses before and during the occurrence of the COVID-19 pandemic. This may also be related to the indirect impact of the virus on the production prices of tilapia. Based on the interview with fish cage operators, the increase in the price of important inputs such as fingerlings and feeds has led them to cut costs by purchasing inputs (particularly feeds and fingerlings) with lower price, and thus, lower quality.

Table 3

Product losses in terms of quality and its monetary value in Pesos before and during COVID-19 pandemic

TYPE OF TRADER	VOLUME WITH LOW QUALITY (kg)		SELLING PRICE (PhP/kg)		NEW SELLING PRICE (PhP/kg)		PRICE DIFFERENCE		VALUE OF LOSSES (PhP)	
	Before	During	Before	During	Before	During	Before	During	Before	During
B-H	24.2	29.1	84	81.8	75.25	70.75	8.75	11.05	211.75	321.56
A-W	62.5	68.4	100.36	99.46	91.24	87.6	9.12	11.86	570	811.22
W-R	72.45	75.8	120.5	118.45	102.6	98.85	17.9	19.6	1296.86	1485.68
R	84	91.2	140	136.5	120	114.75	20	21.75	1680	1983.6
TOTAL	243.15	264.5							3758.61	4602.06

Marketing Margin

Looking at the marketing margin of the four different types of traders involved in tilapia trading, it can be observed that the marketing margin increases as it reaches the retail level (PHP 575.00 per 50 kilograms to PHP 997.5 per 50 kilograms). Despite the increase in the marketing margin for each participant, the gap between the marketing margin incurred by traders gradually decreases from the buyer-harvesters to the retail level. The gap between the profit margin of the viajeros and the harvester is about PHP243.00. Meanwhile, the gap between the wholesaler and the viajeros is PHP 166.5 while the marketing margin gap between the retailer and the wholesaler is only PhP 13.00 per 50 kilograms of tilapia. According to Narayanakumar and Sathiadhas (2006), a market can be graded as efficient only if the price spread is at a minimum.



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Thus, it can imply that there are marketing inefficiencies on the part of the harvesters and *vijeros* evident in the large gap between their margins. The higher marketing margins claimed by the intermediaries further reduce the market efficiency.

On the other hand, the profit margin during COVID-19 pandemic was also computed and tested using paired t-test. All the p-values of 0.061088, 0.060284, 0.070012, and 0.066924 for the marketing margin of the harvesters, *Viajeros*, wholesalers, and retailers, respectively, are all greater than the level of significance (0.05). Thus, the null hypothesis is accepted. This means, despite the occurrence of the pandemic, there are no significant changes in the marketing margin value before and during COVID-19. This may also imply that the marketing actors have efficient communication because they were able to reduce their selling prices in accordance with the flow of price information starting from the retail level up to the fish cage owners.

Table 4.

Shows the marketing margin per 50 kilograms of tilapia obtained by each of the trader respondents before and during COVID-19 pandemic

TYPE OF TRADER	SELLING PRICE		BUYING PRICE		MARKETING MARGIN	
	PhP per 50 kilograms					
	Before	During	Before	During	Before	During
Buyer-Harvester	4200	4090	3625	3575	575	515
Assembler-Wholesaler	5018	4973	4200	4090	818	883
Wholesaler-Retailer	6002.5	5922.5	5018	4973	984.5	949.5
Retailer	7000	6925	6002.5	5922.5	997.5	967.5

Profit Margin

All the marketing participants had a positive profit margin. Among all the traders, retailers and wholesalers have the highest profit margins of PhP 491.92 and PhP 456.21 per 50 kilograms, respectively. Harvesters incurred the least incentive in marketing tilapia valued at PhP 205.11 per 50 kilograms due to the weight of the marketing cost, considering that this contributed 64.15% of their marketing margin. However, it was also shown in Table 32 that the profit margin as a percentage of

marketing margin is all less than 50% while the marketing cost as percentage of marketing margin is between the range of 50.68% at the retail level and 64.15% at the harvester's level. This further illustrates that the buyer-harvesters incur a lot of marketing expenses. This is due to the fact that buyer-harvesters handle a lot of marketing practices, which in turn, can be translated into additional marketing costs. Furthermore, this can also be attributed to the duplication of services that are necessarily done through specific stages of marketing. As a result, marketing costs exceed profit, making the marketing system inefficient.

On the other hand, the profit as a percentage of marketing cost, or more commonly known as the output-input ratio, was also computed and compared with the opportunity cost of capital as a measure of marketing efficiency. The opportunity cost of capital is 1.124%, which is the prevailing interest rate for on-year time deposits in the bank. Retailers obtained the highest ratio of 97.3%, while harvesters had at least 55.46%. Based on the results, the output-input ratios for all types of traders were too high compared to the opportunity cost of capital (1.125%), which means that all traders earn more than the normal profit.

In order to test if the profit margin was affected by the pandemic, paired t-test was used. Since all the obtained p-values for both marketing margin and output-input ratio are all greater than the level of significance, the null hypothesis is accepted. Therefore, there is no significant difference between the profit margin and output-input ratio before and during the COVID-19 pandemic. The result may also show that marketing tilapia is a lucrative business. That is why the marketing participants involved chose this enterprise because their profitability was not negatively affected despite the occurrence of the pandemic. This means that the tilapia marketing industry remains stable in terms of profitability.



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Table 5.

Marketing Margin, Marketing Cost and Profit Margin (PHP/50 Kilograms) Incurred by the 33 Trader-Respondents Before and During COVID-19 Pandemic

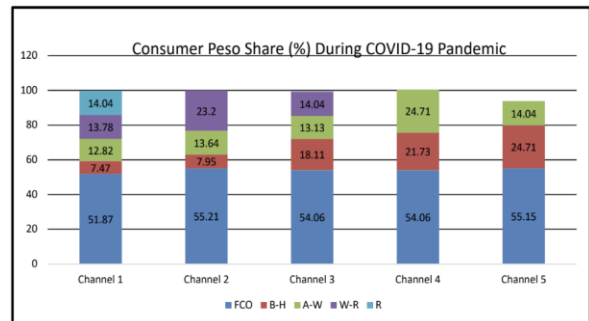
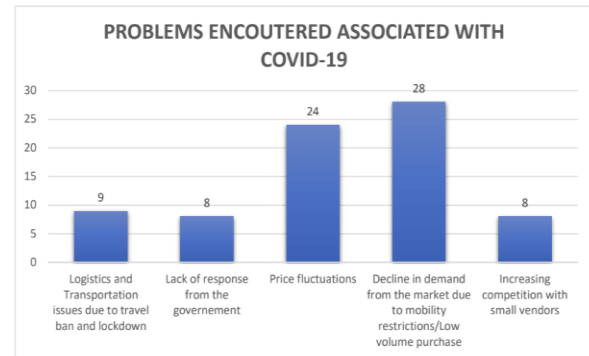
TRADER	MM		MC		PM		MC as % of MM		PM as % of MM		PM as % of MC	
	Before	During	Before	During	Before	During	Before	During	Before	During	Before	During
B-H	575	515	369.89	335.98	205.11	179.02	64.15	65.24	35.67	34.67	55.46	53.28
A-W	818	883	463.1	451.57	354.9	431.43	56.61	51.14	43.39	48.86	76.64	95.55
W-R	984.5	949.5	528.29	482.74	456.21	456.21	53.66	50.84	46.34	48.05	85.6	95.04
R	997.5	967.5	530.58	489.36	491.91	478.14	50.68	50.57	49.32	49.42	97.3	97.71

Breakdown of Consumer Peso

At the height of the COVID-19 pandemic, it can be seen also that the consumer peso shares of the fish cage owners slightly diminished. Before the occurrence of the pandemic, the highest consumer peso share for the fish cage owners was 55.56%, but with the emergence of the virus, it was reduced to 55.21% at its highest peak. The reason is that the consumer's peso was computed by dividing the buying price at which the marketing participants sell their tilapia to the prevailing market price at the retail level. The retail price of tilapia has dropped in 2020, at the height of the pandemic. Thus, it resulted in a slight decline in the consumer's peso share of the tilapia farmers. However, in order to see if the consumer peso share was negatively affected, a paired t-test procedure was conducted. Since the obtained p-value from all the channels and traders is greater than the level of significance (0.05), the null hypothesis is accepted. Therefore, there is no significant difference between the consumer peso share before and during the occurrence of the COVID-19 pandemic. It can still be said that the marketing system is efficient in terms of consumer's share because the fish cage owners still have the highest share among all the marketing participants. Wholesalers and retailers still get the highest share among all the trader participants in different marketing channels. Thus, the pandemic does not affect the efficiency of the tilapia marketing.

Figure 6

Shows the breakdown of consumer peso of the marketing participant before the occurrence of the pandemic



Problems Associated to COVID-19 Encountered by the Traders

Majority of the traders encountered issue regarding the decline in the demand from the market due to mobility restrictions imposed by the government. Designated buying hours and designated buying days, as well as the physical social distancing requirements for consumers, also meant less foot traffic in the wet market. As a result, the traders, particularly the retailers, must lower the volume of tilapia that they usually buy from other traders. The decline in demand also causes the price of tilapia to decrease. Previously, the price of tilapia has always been stable, but at the peak of the pandemic, the original market price of PHP 140.00 per kilo went down to as low as PHP 110 to PHP 120 per kilogram of tilapia.



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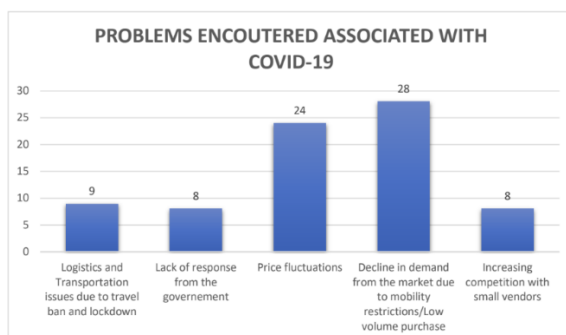
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Although large-scale fish traders did not encounter transportation and logistics issue, small scale fish traders who rely on public transportation and may not have access to necessary permits for mobility, issues of logistics and distribution are a major disturbance to their marketing and distribution operations. According to some wholesaler-respondents interviewed, at the peak of the pandemic in 2020, they will have to momentarily stop their trading operations, particularly in Manila, due to restrictions imposed to stop the spread of the virus. They have also mentioned that the pandemic greatly affects their operations as some of their regular purchasers from rural cities temporarily stop buying from them.

Some other problems include lack of government response. This is attributed to the lack of financial assistance and livelihood assistance in response to the imposition of strict lockdowns that affected the sources of livelihood of the traders. Another issue mentioned by the retailers is the increasing competition between the retail stall owners and fish peddlers.

Figure 7

Problems associated to COVID-19 encountered by the traders



Conclusion and Recommendation

The majority of the key players in the tilapia industry have been engaged in the operation for an average of 19 years. This serves as a strong point for the industry because it implies that the key player in the said enterprise has the skills, knowledge, and experience in fish cage operations, production, and marketing of tilapia and other aquatic commodities raised along with tilapia.

Moreover, the suki system is used by the key players in the tilapia trading industry as enforcement of the market linkage. It can be observed that despite the occurrence of the pandemic, the tilapia industry remains resilient, as shown by the minimal increase in the price, product losses, and marketing efficiency of the tilapia.

In the study, the first channel is considered to be the strongest given that it is the most widely used chain (FCO→BH→AW→WR→R→C) despite having the greatest number of intermediaries involved. Although inefficiencies in the marketing system were already present even before the occurrence of the pandemic, the channels used by the key players had helped in mitigating the negative impact of the pandemic on the tilapia industry.

Information flow using the “bulungan” system contributed positively towards efficient communication between traders. Due to effective communication among marketing participants, the drop in tilapia price has no significant impact on the marketing efficiency of the tilapia industry or the profitability of marketing participants. Thus, after a few months, the tilapia price also became stable at the price of PHP 140.00 at the retail level.

In terms of product loss, the average quantity loss is 0.1 kilograms, which is only 0.11% of the total volume produced. Thus, this indicates that the pandemic does not significantly contribute to the product quantity losses that have occurred at the different stages of marketing the tilapia. However, quality losses at the retailer show a significant



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increase at the peak of the pandemic. This means that the retailers were significantly affected by the pandemic in terms of the value loss due to the increase in the quality losses of tilapia marketed at the retail level. With that, government interventions and interventions must be focused on this level of marketing chain to ensure that the tilapia industry will remain robust amidst the pandemic.

Furthermore, all marketing participants gained a positive profit margin, ranging from PhP 205.11 for the buyer-harvesters to PhP 491.91 for the retailers before the pandemic. Although there has been a slight decline in the profit margin during the COVID-19 due to the slight decrease in the price of the tilapia, the output-input ratio (profit as percentage of marketing cost) ranging from 55.46% to 97.3% is still higher than the opportunity cost of capital, which is 1.1245% (which is the prevailing interest rate for one-year time deposit in the bank), which means that all the marketing participants in the tilapia industry are earning positive profits

Furthermore, all market participants obtained a positive return on investment corresponding to a profitable enterprise, although the fish cage owners' return on investment shows a significant decline in the ROI during the occurrence of the pandemic. However, the ROI values were higher than the opportunity cost of capital (1.1125%), which means that the tilapia is highly profitable.

Based on the results, market and price stability, consumer preference, high demand, profitability, and well-coordinated marketing participants of the tilapia industry are the major influences on how there are little or minimal changes that occur in the industry despite the occurrence of the COVID-19 pandemic. This implies that the tilapia industry shows robustness in adapting to and mitigating negative economic shocks, exemplified by how it was able to recover from the negative effect of the COVID-19 pandemic.

Tilapia being one of the Philippines's second most important farmed fish next to milkfish, has also been identified as one of the sixteen commodities that have been essential in the diet and nutrition of the Filipinos. Furthermore, it was also considered as a pandemic food because of its affordability, good animal protein, and ease of breeding and growing. Thus, there is a need to ensure the tilapia industry's long-term viability. One strategy to achieve industry sustainability is to have an efficient marketing system. However, due to the pandemic's overrunning impact, the tilapia industry's supply chain is disrupted, and players in the marketing system are negatively impacted.

Policy suggestions on enhancing the marketing system to make the fishing industry's supply chain more robust in the aftermath of a pandemic should be made, as it was recognized as one of the supply chain components highly aggravated by the virus. Some of the solutions include the use of alternative market arrangements; the creation of marketing strategies that reduce the need for long-term storage; supply chain access; collaborations with logistics and transportation actors; and lowering unnecessary burden that prevents access to sustainable fishing grounds.

In order to address the problems encountered by the tilapia farmers and traders, recommendation includes the creation of alternative market arrangements, improvement of post-harvest facilities, strengthening of financial structure, and improvement of logistics and transportations. Furthermore, for COVID-19 disaster preparation recommendations for policymaker and practitioners, the following can be implemented: exposure on producing tilapia fingerlings, value addition to tilapia harvest, long-term investment in the fishery sector, consistent monitoring of the tilapia industry, livelihood programs for fish cage operators, and lastly, enabling recovery and pandemic-proof food systems require clean and healthy



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Linking Green Marketing Strategy and Green Supply Chain Management to Understand The Green Consumption Behavior – Purposive Sampling – Qualitative Research

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Abstract

Purpose – This research considers green consumer purchasing behavior when understanding the behavior gap. For this reason, the application of the attitude-behavior-context theory to achieve the purpose of this study is made clear as green marketing and supply chain management is explored from a sustainable viewpoint

Design/methodology/approach – This study uses primary data which is obtained through case study. The unit of analysis in this study is business firms and individuals. The sampling technique is purposive sampling, with the criteria of Green Consumption Behavior that conduct environmentally friendly production processes and consumers who have ever bought green products.

Findings – Industries can change their ability to engage in improving their business performance and green innovation by focusing on three predictors of green business advantages; assimilation, acquisition, and transformation

Practical and social implications – : The influence of greening practices is significant, in fact, for the sustainability of the green economy as it is not only a matter of one function but all the functions of business must go through the greening practices. Sustainability is not about anything that can be created instantly, but a result of long-term stability.

"Pinyapel" is a portmanteau of the Filipino words "pinya" (pineapple) and "papel" (paper). It is made possible through the collaborative efforts of the DCP, Cagayan de Oro Handmade Paper, Nature's Fresh and Ideatechs Packaging Corporation. It is a forward-thinking approach to combat the growing problem of non-biodegradable plastic

A month before the announcement of lockdown in February 2020, Rotex visited the Philippines specifically the production area of LWHPA, and saw the sets of machines and equipment present in the area and some scraped lilies of different colors. The SSF program is one of the flagship programs of DTI that improves MSMEs' competitiveness, productivity, and efficiency by providing better access to technology under a shared system. It helps beneficiaries increase their production, improve product quality

Originality/value – This study analyzes the relationship between GSCM practices in the green



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marketing strategies where there is still a scarcity of consumer purchase on green products. Greening practices have made significant changes in the world with diversified opportunities. This is why many in the world are now practicing green strategies. For example, green practice in supply chain management is the most practiced areas of business

Key Words: Green Marketing Strategy, green supply chain management, green consumption behavior

Relevant SDGs[1] : SDG 12 Responsible Consumption and Production, SDG 13 Climate Action

Introduction

Consumer Behaviour

Consumer behavior is a complex theory (Zhang, Zhang and Zhou, 2021) exploring how consumers make purchasing decisions. In more detail, it refers to the actions of consumers in the marketplace—consumers being individuals, groups, and organizations—and the underlying motives for their actions; so how they select, buy, use, and dispose of goods and services (Zhang et al., 2021). Consumer behavior is applied in this research study within the reference of the purchasing of fashion items.

Green Marketing

Green marketing is a marketing tactic incorporating environmentally safe manufacturing processes, differentiating, pricing, and promotion of goods and services into marketing strategies to satisfy consumers' pro-environmental needs (Govender and Govender, 2016). Govender and Govender (2016) further state that both companies and society have shifted their focus to green marketing as an important area for consumer behavior and development. Green marketing is integral to this research study as the researcher aims to examine the role that green marketing plays in influencing consumer attitude and behavior

Green Supply Chain Management

Chan and Vang investigate the relation among

environmental orientations, the activities of green supply chain management and company's performance. Also, how can this relation balance the competition severity? The research was done based on the outlook to make companies use supply chain management approaches for meeting the different environmental demands of a company's distinguished stockholders. The research also shows the potential of using supply chain management to improve marketing performance (like product design and packaging, marketing communications, channel choice), as an important and on-time job for enriching marketing literature, that, traditionally, its attention is only limited to the outcomes of green supply chain management. This research reveals that company's compatible environment are more likely to use green supply chain management and its approaches. These activities include: strategic use of recycling, transferring and reselling in order to promote the value of materials and products and cooperating with suppliers and customers, input and output activities and green preparations. In addition, the research shows that green supply chain management affects big companies' performance. Among other relevant research, this research draws industrial marketer's attention to the importance of reinforcing cooperation with their customers, so that they can get a higher share of the market and grow in today's highly competitive market.



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Theoretical Framework

Theory of Reasoned Action and Theory of Planned Behavior

The theory of reasoned action (TRA) was developed by Martin Fishbein and Icek Ajzen (LaMorte, 2019) and explains the relationship between attitudes and behaviors existing in human action (Nguyen, Hens, MacAlister, Johnson, Lebel, Nguyen and Nguyen, 2018). Similarly, Okumah, Martin-Ortega, Novo and Chapman (2020) agree that there are two main factors within the TRA directly affecting people's intentions to act in a certain way: attitude and subjective norms. Where attitude reflects the way people think or feel about a phenomenon (Nguyen et al., 2018), subjective norms refer to people's perceptions surrounding whether people they care about think they should or should not perform the behavior (Okumah et al., 2020). Additionally, Nguyen et al. (2018) state that the TRA is a useful tool in predicting human intention and behavior, especially relating to studies exploring sustainability. Accordingly, the theory of planned behavior (TPB) was established as an extension of the TRA in response to these limitations (Okumah et al., 2020). The TPB thus acknowledges people's 'intentions to behave' that integrates a person's perceived control over their behavior into the TRA model (Okumah et al., 2020). Moreover, to analyze a person's intentions to behave in a particular way, one must understand the motivation driving these intentions; this serves as an indicator of how far people are willing to go to achieve a certain behavior (Ajzen, 1991). The TRA and TPB models are intrinsically linked, and thus the researcher mindfully employs both theories into their research study to uncover corresponding influential factors in human behavior. In light of the above-mentioned facts, Okumah et al. (2020) state that both the TRA and TPB models do not provide a clear view of the cognitive and normative facets of human behavior. In other words, although a person might have a positive intention to perform a specific behavior, it will not necessarily end in the person following through on their positive intention as situational

factors like financial status, time, and accessibility to resources plays a determining role in this endeavor (Okumah et al., 2020)

Attitude-Behavior-Context Theory

Paul Stern created the attitude-behavior-context (ABC) theory in an attempt to address and understand the 'intention-behavior gap' (earlier referenced as the 'attitude-behavior gap') present in modern-day consumers (Okumah et al., 2020). The gap indicates that a major change in a person's intention, like wanting to support environmentally-friendly businesses, often only leads to a small change in the person's behavior. Furthermore, the ABC theory showcases behavior (B) as the outcome of attitudinal (A) variables and circumstantial (C) elements (Okumah et al., 2020). The strength of this theory lies in its attempt to address the complex and dynamic relationship between consumer attitudes and the situational factors affecting them

Literature Review

Joshi and Rahman (2015) conducted an extensive quantitative review of 53 articles surrounding global consumer purchasing behaviors. The reviewed articles in the study proved that consumers tend to have positive attitudes towards protecting their environment and have expressed a demand for green products to various companies (Joshi and Rahman, 2015). Joshi and Rahman (2015) put forward the idea that although there has been an increase in pro-environmental consumer attitudes, there is little evidence to suggest that the actual purchase of green products has increased alongside this increase in positive consumer attitudes. This evidence suggests that although consumers harbor attitudes of environmental concern, it plays a small role in green consumer purchasing behaviors (Joshi and Rahman, 2015). Lastly, the study revealed that consumer emotion and company advertising are the least explored topics within green consumer purchasing behavior.

Grubor and Milovanov (2016) concluded that green



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marketing allows a company to show responsibility for their eco-footprint, which indirectly helps a company's strategic and economic objectives. In turn, green marketing efforts were proven to successfully influence consumers to support sustainable products. The statement can thus be made that consumers support brands they trust (Grubor and Milovanov, 2016). This provides insight to the researcher regarding consumer tendencies to purchase items from brands they know and trust. Additionally, observation of consumer behavior in different markets was conducted by Lippincott (Howard and Glynn, 2007) analyzing sustainable consumer behavior as a result of green marketing efforts and six consumer sustainability archetypes were recognized: (i) campaigners (accept the issue and want to contribute, but are pessimistic about the change), (ii) optimists (accept the issue, want to contribute and believe in change), (iii) followers (ready to change, but do not fully accept the issue), (iv) confused (neutral and confused, but open-minded), (v) unwilling (accept the issue, but not ready to change), and (vi) rejecters (informed, but don't want to change). Howard and Glynn's (2007) consumer sustainability archetypes will be useful for the researcher to use in their study to understand consumer attitudes and behaviors. To conclude Govender and Govender's (2016) study, it was found that respondents felt that green marketing strongly influenced their purchasing behavior towards eco-friendly products that are beneficial for the environment.

Research Philosophy, Framework, Design, and Methodology

The meaning of green business Before explaining the term 'green business', it is obvious to define the term 'green' and 'business' first. The term green has almost the same meaning as sustainability and is often used interchangeably (Yanarella et al., 2009). It is currently used in both relative and absolute terms (Walley and Taylor, 2002). The term 'green' covers a wide range in scope, such as sustainability, scarcity of energy sources, eco-friendly, pollution-free, social or political stability. It focuses on

environmentally friendly activities, such as green practices everywhere in society (Čekanavičius et al., 2014; Bergquist, 2017; Srivastava, 2007).

In addition, the term green has been found in the literature to be more relevant to every aspect of sustainable development (Staniškis, 2011; Bergquist, 2017; Ahlstrom, 2010; Nair and Paulose, 2014; Molenaar and Kessler, 2017; Sarkis et al., 2013, 2011). In this perspective, the terms 'green' and 'business' can be merged into 'Green Business.' According to the key-characteristics of definitions of green business of different scholars, the green business process is analyzed. They focus on green business from different perspectives, some of which resulted in the below definitions. "The definition of green business is becoming undermined by a proliferation of green labeling and standards. These standards are leading some consumers to consider "green labels" to simplify a marketing tool with little significance behind it. The basic concept of a green business lies in business sustainability". (Kabiraj et al., 2010, pp. 24) "Business practices which are evaluated to be environmentally friendly.

Why green business?

Reducing the quantity of wastes, reusing wasted materials, and recycling them as by-product or as raw materials for other products can decrease costs through environment-friendly processes (Gadde et al., 1997). Makower (2014) argues that revenue raising and cost-saving are the benefits of greening. Molenaar and Kessler (2017, p.16) have recognized that businesses derive new benefits from the five different levels of the process through using sustainability standards; operations, procurement, sales & marketing, stakeholder engagement, and sector-wide changes. These benefits include cost reduction, increased profitability, productivity growth, improved reputation, supply security, legal compliance, enabling policy environment, and level playing field. Industries can change their ability to engage in improving their business performance and green innovation by focusing on three predictors of green business advantages: assimilation,



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acquisition, and transformation (Gluch et al., 2009).

Case Study: Cagayan de Oro Handmade Paper: "Pinyapel"

IT'S OFFICIAL: Cagayan de Oro Handmade Paper wins D&AD Future Impact Awards in New York!

The Cagayan de Oro Handmade Paper Crafts' "Pinyapel" was announced today as one of the winners of the D&AD Future Impact Awards for Environment and Sustainability in New York City, USA on November 6, 2019, an annual activity recognizing those who put their creative ideas into world-changing projects, products, and campaign.

The "Pinyapel" is a locally-manufactured specialty paper made out of discarded pineapple leaves from pineapple plantations of Bukidnon. Coined and developed by the DTI - Design Center of the Philippines (DCP), an attached agency of the DTI, the "Pinyapel" is a portmanteau of the Filipino words "pinya" (pineapple) and "papel" (paper). It is made possible through the collaborative efforts of the DCP, Cagayan de Oro Handmade Paper, Nature's Fresh and Ideatechs Packaging Corporation.

It is a forward-thinking approach to combat the growing problem of non-biodegradable plastic.

Laguna Water Lily Production

Poverty is still a problem that threatens the Philippines most especially due to the pandemic. in the midst of community life Los Banos Laguna association brought changes in the socio-economic structure improvement and the welfare of the local community. The mindset of the people is changing; the mindset that is oriented towards increasing income brings the people gradually to abandon their work or small business stores.

A month before the announcement of lockdown in February 2020, Rotex visited the Philippines specifically the production area of LWHPA, and

saw the sets of machines and equipment present in the area and some scraped lilies of different colors. Most of the machines and equipment in the facility which are being used by LWHPA in their water hyacinth production were provided by the Department of Trade and Industry (DTI) under the Shared Service Facility (SSF) program.

The SSF program is one of the flagship programs of DTI that improves MSMEs' competitiveness, productivity, and efficiency by providing better access to technology under a shared system. It helps beneficiaries increase their production, improve product quality, and increase market sales and jobs generation.

After a month-long negotiation, LWHPA accepted the demand of Rotex to be their supplier of scraped lilies. Despite COVID-19 threats, LWHPA was able to produce and export 60,000 pieces of scraped lilies to Taiwan. With the help of DTI, they were provided with Travel Pass, and with the help of the Design Center of the Philippines, they were given guidebooks in coloring the lilies preferred by Rotex.

In terms of raw materials and other suppliers, according to Ms. Adedoja, they took good advantage of the couriers that bring and send raw materials to and from their place that is why getting raw materials and other supplies was not a hindrance for LWHPA to continue their production. Also, with networks from Cavite and Biñan City, Laguna, LWHPA did not have a problem with raw materials and transporting them to and fro.

Figure 1

The Viable System Model [1]





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Theoretical Framework of Green Business Value Chain. This figure presents the theoretical framework of the green business value chain. This theoretical framework will help readers get a complete concept at a glance.

Methodology

This study presents a literature review of different articles focusing on green business published in reputed journals (Ogunyemi and Aktas, 2013; Srivastava, 2007). There is no detailed schedule for the article publication date. We focused not only on green business practices but also on all green business elements separately such as green supply chain management, and green marketing strategy. Published relevant articles were selected by using purposive sampling. A series of research review approaches incorporated on green business strategies include keywords 'green business', 'green supply chain management', 'green marketing strategy'. Most of the research articles were collected from Elsevier, Springer, Wiley, Emerald, Taylor & Francis. The review study investigated the elements of green business, the processes of different components, the benefits of greening, and economy. In addition to resources from those specified publishers, we have collected articles from other publications to gather the necessary information (Ahi and Searcy, 2015).

Non-Probability Sampling

According to Lewis, Saunders, and Thornhill (2009:212), non-probability sampling is a method of sampling where the probability of each case being selected is unknown. Nonprobability sampling methods are used for in-depth research studies focusing on small, often niche, samples taken from a population for a particular purpose or to answer a specific research question (Lewis et al., 2009:213). The researcher chose a non-probability sampling method to gain in-depth insights into the proposed research questions.

Purposive Sampling

A non-probability sampling method of purposive sampling was employed in this research study (du Plooy-Cilliers et al., 2014). Purposive sampling enabled the researcher to use her judgment when selecting a sample that shares specific characteristics (Lewis et al., 2009:213; du Plooy-Cilliers et al., 2014; Dudovskiy, 2012). This assisted the researcher in drawing an information-rich sample that helped yield unique insights.

Semi-Structured Interviews

A qualitative data collection method of semi-structured interviews was employed in this research study to gain an in-depth understanding of consumer perceptions surrounding the fast fashion industry in the modern world. Semi-structured interviews are considered non standardized and often referred to as qualitative research interviews (Maree, 2020). A semi structured interview is characterized by a series of open-ended questions that can be probed and clarified by the researcher to further understand the participant's understanding of the phenomenon in question (Maree, 2020).

Thematic Analysis

A thematic analysis method was applied to analyze the findings derived from the semi structured interviews. Thematic analysis is a popular qualitative data analysis method commonly used to categorize phrases and ideas into themes (Bhandari, 2020). This type of analysis is best for this research study as the findings were neatly organized to accurately showcase different participants' opinions and views.

Data Results and Analysis

Effect of Green Marketing on Millennials and Generation Z

Participants claimed that green marketing efforts are scrutinized due to the heavy amount of



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greenwashing in today's society as more and more companies want to be eco-friendly to appeal to the masses. Thus, green marketing does not seem to affect participants' purchasing behavior as they view it as greenwashing and capitalizing from something that is meant to have a good purpose. However, all participants did claim that if they were confronted with a normal, not specifically green product, and an environmentally-friendly fashion item, they would gravitate more towards the environmentally-friendly item—depending on the price. That being said, environmentally friendly products tend to be more expensive, and this sees the participants wanting to support eco-friendly products but choosing not to due to high prices and often having to go out of their way to find these items.

Joshi and Rahman's (2015) research study found that although consumers may harbor attitudes of environmental concern, this attitude only plays a small role in green purchasing behavior. However, Moody's (2020) study revealed that consumers only need a small amount of knowledge of environmental concerns and wellbeing to change their behavior in favor of being pro-environmental. With regards to green marketing, Govender and Govender (2016) analyzed the effect of green marketing on consumers' purchasing behavior and deduced that green marketing positively affects green purchasing decisions. Govender and Govender (2016) also state that although green marketing is effective in persuading people to purchase eco-friendly products. In this research study, green marketing appears to be ineffective in getting people to purchase eco-friendly fashion items over its lesser eco-friendly counterpart, thereby negating the findings in Govender and Govender's (2016) research study.

Two theories of consumer behavior were assigned to analyze the empirical findings—the TRA/TPB theory and the ABC theory. The TPB theory acknowledges people's 'intentions to behave' and examines the motivations behind these intentions, measuring how far a person is willing to go to achieve a certain behavior (Okumah et al., 2020;

Ajzen, 1991). On the other hand, the ABC theory indicates that an attitudinal behavior gap exists between a person's perceived attitude and actual behavior—such as a person displaying interest in supporting environmentally-friendly businesses, but only a small change in the person's behavior towards this attitude is documented (Okumah et al., 2020). The strength of this theory lies in its attempt to address the complex and dynamic relationship between consumer attitudes and behaviors and the situational factors affecting these choices. In this research study, the assumption can be made that pro-environmental behavior will be acted upon more readily if situational factors play a weak role in deciding a person's consumerist behavior. On that account, situational factors include the cost of an item and the effort placed in purchasing

Questions and Answers

1. Do you consider yourself an eco-conscious person? Being an eco-conscious person is really not updated to most Filipinos. That is why I asked if there are people who are aware of being eco-friendly. There are 2 participants that are eco-conscious both are Millennials and 1 are Gen Z, they are claiming to not be eco-conscious.
2. Do you purchase green items like cups, dividers, paper sheets, etc. that are 80-90% biodegradable and what is your reasoning behind it? All of the participants claimed to purchase green products. This was due to participants being eco-conscious
3. Do you believe that green marketing influences your decision to buy certain items? All three participants—one Generation Z and two Millennials—stated that green marketing influenced them to purchase environmentally-friendly items which make a positive impact on the planet

Discussion, Conclusions, Recommendations

The influence of greening practices is significant, in fact, for the sustainability of the green economy as it



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is not only a matter of one function but all the functions of business must go through the greening practices. Sustainability is not about anything that can be created instantly, but a result of long-term stability. However, some business functions have been well-established in greening practices. These greening practices have made significant changes in the business world with diversified opportunities. This is why a considerable number of large companies in the world are now practicing green strategies. For example, green practice in supply chain management is the most practiced area of business. The integration of social, environmental, and economic policies plays vital roles in the development of green business. A link between organizing, managing, and executing every element of business is highly recommended. There are various benefits of practicing greening strategies

Because the sample mainly consisted of students, they cannot always afford to buy items that are 100% sustainable, although they've got a desire to do so. Green marketing also proved to be a useful tool to get people who are already environmentally conscious to purchase eco-friendly items, but in this research study, green marketing does not appear to have a big impact on changing consumer behavior to become more sustainable

The findings from this research study proved the validity of the ABC theory as the majority of participants displayed an eagerness to consume and support eco-friendly items, however, this attitude

towards eco-friendly items is often not acted upon due to unaffordability and inconvenience. When provided with the option to purchase an ecofriendly item, all of the participants would ideally purchase the eco-friendly item, but due to external situational factors, this choice is seldom chosen

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Effects of Promotional Marketing Activities Implemented by Medical Representatives on Sales Performance of Selected Pharmaceutical Companies in Taguig and Makati City

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ABSTRACT: This research aims to assess the correlation between promotional marketing activities and the sales performance of the selected pharmaceutical companies in Taguig and Makati City.

A survey was conducted to collect data from medical representatives. The data gathering was limited to 405 respondents. Sales representatives specializing in fields other than medical were not included in the shortlist of respondents. Due to the COVID-19 General Community Quarantine guidelines and restrictions in the area, the researcher made use of the Google Forms in the distribution of the questionnaire. The survey aims to gather information about the personal profile, company profile, sales achievements, and different promotional marketing activities. Statistical tools such as Frequency Distribution, mean computation, Correlation and Chi-Square method are used in this research. The results show that there is a significant correlation between the evaluation on the Effectiveness of the Promotional Marketing Activities and company Sales Performance as regarding monthly and quarterly sales achievement as well as monthly and quarterly sales growth achievement. Highest educational attainment, number of years as a medical representative and number of years in the company are significant factors that affect the level of effectiveness of promotional activities while gender has no significance. The medical representatives have assessed all Promotional Marketing Activities in terms of Product Presentation, Round Table Discussion, Continuing Medical Education, Pre-Clinic and In-Clinic Activities, and Product Sampling as Effective factors. Based on the results, the researcher proposes recommendations. First, companies must initiate sales training programs for medical representatives. It is proven that workers who are trained from time to time are more likely to be satisfied with their job compared to those who are not. Secondly, increase the frequency of visits to doctors to increase the level of commitment to recommend the product. Another recommendation is the scientific based approach. It is suggested that pharmaceutical companies exert more effort in giving tokens and other forms of appreciation to the physicians. Lastly, continuous research for improvements is also vital in maintaining the effectiveness of promotional marketing. This research is opening the doors to other researchers who are interested in conducting research in the pharmaceutical industry in the Philippines.

Keywords: promotional marketing, medical representative, round table discussion, sales growth, achievements, product sampling, product presentation, sales performance, correlation



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Introduction

The pharmaceutical industry innovates, creates, manufactures, and produces pharmaceutical drugs for medication purposes, may it be generic or branded. These are always subject to patents, testing, safety, and efficiency of drugs. Marketing efforts for the pharmaceutical industry toward physicians gain more attention over the years. Lots of marketing strategies are adopted by the pharmaceutical companies like promotions through the physicians that include continuous medical education sponsorship, product presentation/sampling, journal advertisement and other activities that help these companies increase the acceptability of products.

Pharmaceutical companies can reach their target market—Physicians through Medical Representatives. Pharmaceutical industries invest significantly in their sales force, which is allocated among physicians¹. Medical Representatives sell the medicines personally by sharing the features of the products. Different sets of activities are provided by the company. This is considered as a strategy to achieve the target sales and goals of the company. In line with these points, the researcher found it relevant to conduct an extensive study on the effects of these promotional marketing activities implemented by medical representatives on their sales performance. The study is more interesting since there are limited studies and literature related to the topic.

Promotion is an important part of the marketing mix as it gives enough information to the consumers about the features of the product and its place in the market². Marketing factors are important and should be prioritized. These factors include the packaging of the product, name of the brand, smooth flow of the logistics activities, promotion, permanent exhibitions, and sponsors, among others³. Marketing strategies help improve the cash flows of the company by minimizing the cost related to customer risk and it creates alliances. It also helps in maximizing the profit of the companies through

innovation and technology. Moreover, good branding is one of the assets that are made through marketing. Marketing helps increase customer retention of the products. These factors can be affected by marketing and sales. Therefore, marketing and sales both help in increasing the revenue of an organization⁴.

The price breakdown of drugs is also identified in the study. This includes the banking fees, quality assurance testing, tariff, taxes, transportation costs, and wholesale and retail mark-ups. Additional overhead costs, insurance and freight costs could add to the costs of the price of the drugs reaching to almost double of the original cost of the drug. Most of the ingredients for drugs in the Philippines came from other countries. Toll systems are widely used by the local drug manufacturing. This includes the production being outsourced from other countries.

Medical representatives (med reps) establish good relationships with the physicians by being friendly, giving gifts, and other favors just to persuade the physicians to prescribe their drugs. Med reps undergo proper training for assessing the physicians' perception and personalities that can be used in managing their knowledge about the drugs they sell. Another method is executing trials for a product near the purchase point is a good way to lead the sales movement⁵.

Product, Place, Price, and Promotion are considered as marketing strategies. Promotion includes any kind of communication utilized by a business unit to give a good impression of its products and services. Promotion is widely used by different businesses to disseminate information, influence, and update the consumers about their products and services. With proper execution of promotion, promotion helps businesses introduce its products and services to the people, increase the profit, greater awareness of the public and build a good reputation.

In terms of round table discussion, medical representatives could invite physicians to a meeting led by an academic physician, or someone who is



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known in a community. The speaker is given a token of appreciation or professional fee from the sponsoring company. These “thought leaders” or “KOLs” could do talks at education events; they were significant in pushing unauthorized usages, promoting disease awareness, and molding insights of a drug's features and side effects, as well as insights about drug competition.

In terms of continuing medical education, which was sometimes sponsored by pharmaceutical companies and carries marketing information. These marketing messages may be hard to determine due to the exaggerated identification of the severity of the specific condition. There were times that the target drug was not yet available in the market. It might happen many years after the drug was approved.

In terms of pre- and -in-clinic activities, medical representatives may bring food, tokens of appreciation, or business opportunities, anything that could be of influence for the physicians. These gifts should have a great effect on people. In the physician-medical rep relationship, in exchange for the gifts from medical representatives, physicians could make use of the products promoted by the medical reps.

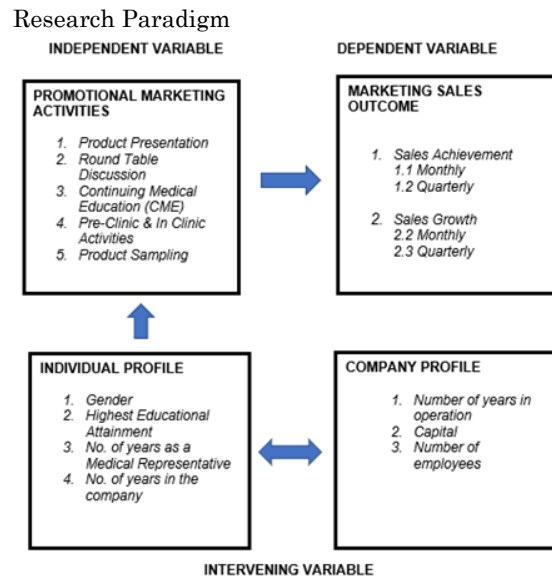
In terms of product sampling, influencing the trial of the product to purchase was an effective way of achieving great sales. There were customers who tried the sample and bought the product right away. Product sampling was an effective tool in promoting the products and patients are grateful for these samples.

Despite the possible similarities with the past research, the researcher found it necessary to find out if the findings of these studies would still hold true to the chosen industry of the researcher for the present study. The present study may affirm or negate the claims of the past research, to formulate supporting or new principles, which would be the contribution of this study to the field of knowledge.

Experimental Method/S

Method of Research

Figure 1



The study was purported to assess the correlation between Promotional Marketing Activities and the Sales Performance of selected Pharmaceutical Companies in Taguig and Makati City. The first frame includes the list of Promotional Activities implemented by Medical Representatives such as Product Presentation, Round Table Discussion, Continuing Medical Education (CME), Pre- and -in-clinic Activities, and Product Sampling.

The second frame is for the possible Marketing Outcomes of these activities which include Sales Achievement and Sales Growth Achievement. The last two frames show the company profile and individual profile. The company profile includes operational years, capital, and manpower. The Individual profile includes information on gender, educational attainment, years of experience as a Medical Representative, and years of experience in the Company.



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Since the study's main objective is to know the effects of these promotional marketing activities implemented by medical representatives on their sales performance, the descriptive research method was employed to accomplish this study. Descriptive research methods are used in determining the population. This is commonly used to obtain accurate data to be used in hypotheses and address other situations related to the subject of the study. This method of research includes proper analyses, interpretation, comparisons, and identification of trends and relationships.

Survey is the main design used in this research. This is to further analyze the correlation between the dependent and independent variables. This approach includes a questionnaire to the target sample ⁷. In this study, the researcher made use of the survey questionnaire to gather data about the Effects of Marketing Activities implemented by Medical Representatives on their Sales Performance.

Specifically, it sought answers to the following research questions.

1. What is the profile of the medical representatives in terms of the following:
 - 1.1. Personal Profile
 - 1.1.1. Gender;
 - 1.1.2. Highest Educational Attainment;
 - 1.1.3. Number of Years as Medical Representative; and,
 - 1.1.4. Number of Years in the Company?
 - 1.2. Company Profile
 - 1.2.1. Operational years;
 - 1.2.2. Capital;
 - 1.2.3. Manpower?
2. How do the respondents assess the level of effectiveness of the promotional marketing activities in terms of the following aspects:
 - 2.1. Product Presentation;
 - 2.2. Round Table Discussion;

- 2.3. Continuing Medical Education;
 - 2.4. Pre-Clinic and In-Clinic Activities; and,
 - 2.5. Product Sampling?
3. Is there any significant difference in the respondents' assessment of the level of effectiveness of the promotional marketing activities when they are grouped according to profile?
4. How do the respondents assess the sales performance of the company in terms of the following aspects:
 - 4.1. Sales Achievement;
 - 4.1.1. Monthly;
 - 4.1.2. Quarterly;
 - 4.2. Sales Growth Achievement;
 - 4.2.1. Monthly;
 - 4.2.2. Quarterly?
5. Is there any significant correlation between the effectiveness of promotional marketing activities and sales performance?

Population, Sample Size, and Sampling Technique

The population was composed of Medical Representatives from a company located in Taguig and Makati City. Since the researcher does not have the data about the total population of the study, the sample size was determined using Cochran Formula. The said statistical formula allowed the researcher to determine the ideal sample size given the desired precision level, confidence level and the proportionalities in the attributes of the sample. The



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Cochran Formula was shown below:

$$n_0 = \frac{Z^2 pq}{e^2}$$

$$= \frac{((1.96)^2 * 0.5 * 0.5)}{(0.05)^2}$$

Where:

e = desired level of precision (i.e., margin of error)

p = estimated proportion of the population which has the attribute in the research question

q = 1 - p

Z = z-value found in the Z-table

Since the researcher did not have much information on the actual number of Medical Representatives, the maximum variability was obtained by assuming that 50% of these Medical Representatives, so p = 0.5. The researcher ascertained a 95% confidence level, and at least 5% margin of error. The z-value of 95% confidence level, as per the normal table, is 1.96.

This study as well as its findings shall be deemed beneficial to the following sectors.

Medical Representatives. This could help them understand the importance of implementing promotional marketing activities in achieving sales targets as achieving sales is tantamount to getting incentives.

Medical Doctors. This could help them identify the factors influencing their preferences in terms of prescriptions.

Product/Marketing Manager. Information provided by the study could be important research material that will help them create better and more effective Promotional Marketing programs.

MBA Program. This study could contribute to the prior studies and research made by PUP College of Business Administration Graduate Students about effective and

efficient marketing strategies.

Pharmaceutical Company. This could serve as a basis in determining the effectiveness and significance of implemented promotional marketing activities in terms of sales performance.

Academe. The insights obtained from this study may prove to be relevant and timely to the business graduates and even educators who plan to engage in Sales and Marketing, especially in Integrated Marketing Communications, Communications and Relationship Marketing, Digital Marketing and Consumer Behavior.

MBA Program. This study shall be an addition to the studies and research made by PUP College of Business Administration graduate students on effective and efficient marketing promotional strategies, especially in the pharmaceutical industry.

Data Gathering Procedure

This research focused primarily on the Promotional Marketing Activities implemented by Medical Representatives and the effects of these activities on their sales performance. Other aspects of work that may have an effect on how they perform were not included in the study. The primary respondents in this study are medical representatives. The data gathering was limited to 405 respondents. Sales representatives specializing in fields other than medical were not included in the shortlist of respondents.

Moreover, the researcher had limited geographical coverage in this study as the respondents were obtained from selected Pharmaceutical Companies located in Taguig and Makati City. Due to the COVID-19 General Community Quarantine (GCQ) guidelines and restrictions in the Area, the researcher opted to facilitate the distribution of



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survey questionnaires online through Google Forms. The study is also limited only to the results of the personal assessments made by the respondents based on the survey questionnaire prepared by the researcher.

Communications were disseminated among the respondents to seek their permission to answer the questionnaire. They were given assurance that the information obtained from them shall be used strictly for the purpose of the study. The questionnaire, in Google Form, was distributed to the selected respondents working in Pharmaceutical Companies located in Taguig and Makati City. As much as the researcher wanted to distribute a physical copy of the survey questionnaire to the target respondents, the said companies were temporarily not accepting visitors due to the Community Quarantine protocols brought about by the COVID-19 pandemic.

Upon acquiring the recommended number of respondents in the survey, the researcher tabulated the responses and submitted them to her statistician for the appropriate statistical treatment in identifying the answers to her research problem and questions. Computed responses were then placed on the table and prepared for interpretation and analysis.

Statistical Tools

The statistical techniques and methods below were used in the study. The researcher, through the aid of an expert, determined the appropriate tools depending on the analytical requirements of data.

1. Frequency Distribution. This was used to get the percentage of profile of the respondents regarding their marketing activities being implemented, target sales and actual sales.
2. Mean. It is the average of each factor listed in the questionnaire.
3. Correlation. It is a tool to determine the degree of coordination between two or more

variables. The test of correlation was used in determining the relationship that exists between the quality of promotional marketing activities and marketing sales outcome. A Pearson-r will be used. In measuring the linear correlation between X and Y variables, the Pearson product-moment correlation coefficient was used.

4. Chi-Square. It is a measure of the difference between the observed and expected frequencies of the outcomes of a set of events or variables ⁸. In the study, this mathematical formula was used to determine the significant difference in the medical representatives' assessment of the effectiveness of promotional strategies and their profiles.

RESULTS AND DISCUSSION

Table 1

Summary of Frequency and Percent Distribution of Medical Representatives in Terms of the Variables

Gender	Frequency	Percent
Male	127	31.4
Female	250	61.7
LGBTQIA+	28	6.9
Total	405	100

Educational Attainment	Frequency	Percent
Bachelor's Degree	366	90.4
Master's Degree	35	8.6
Doctorate Degree	4	1
Total	405	100



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No. of Years as Medical Representative		
Below 1 year	56	13.8
1 to 3 years	102	25.2
4 to 6 years	136	33.6
above 6 years	111	27.4
Total	405	100

No. of Years in the Company		
Below 1 year	104	25.7
1 to 3 years	150	37
4 to 6 years	81	20
above 6 years	70	17.3
Total	405	100

No. of Years in Operation		
<5years	17	4.2
5 to 10 years	5	1.2
11 to 15 years	2	0.5
16 to 19 years	2	0.5
20 years and above	379	93.6
Total	405	100

Capital		
<₱50M	10	2.5
₱50M to ₱99M	4	1
₱100M to ₱249M	2	0.5
₱250M to ₱499M	101	24.9
₱500M and above	288	71.1
Total	405	100
No. of Employees		
<50	8	2
50 to 99	2	0.5
100 to 249	11	2.7
250 to 499	208	51.4
500 and above	176	43.5
Total	405	100

Most of the respondents in this study are female. This may imply that female medical representatives comprised a large portion in the pharmaceutical sales industry. Based on a study, women are more likely to achieve higher sales targets if they are satisfied with the job ⁹.

Evidently, there are more respondents in this study who have a bachelor's degree. This may imply that most of the respondents have obtained a good education. Medical reps play a vital role in the industry. Education is an important key in determining the competencies of the adults ¹⁰.

According to a study, the most important factor in determining satisfied and unsatisfied employees is the opportunity for development. A satisfied employee is more likely to reach the ideal skills



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match to his/her profession. Positive outlook towards his profession can also develop ¹¹.

According to the report the rate of employee turnover is related to less employee job satisfaction. Job satisfaction is important in an organization as it can lead the employees to greater commitment to the job development and could lower the chances of employees leaving the organization ¹².

A higher number of the respondents work in a company which has been in operation for 20 or more years. This may imply that a large portion of the respondents are from a more stable, big or multinational company. In the Philippines, ingredients are mostly imported from other countries. Locally, drug manufacturing companies are done through a toll system wherein the production is being outsourced through other companies and third-parties ¹³.

Majority of the respondents work in a company which has a capital of ₱500,000,000 or more. This may imply that a large portion of the respondents are from multinational companies with more than ₱500,000,000 capital.

This may imply that a large portion of the respondents are from multinational companies, an organization or enterprise doing business in more than one country with employees 250 to 500 and above. Multinational companies play a role in creating new kinds of job and therefore contribute to employment generation and increase quality of life of the employees ¹⁴.

In Table 1, a summary of the frequency and distribution of Medical Representatives with different variables is shown. It is discussed in the Remarks column the interpretation of each result. In the Frequency and Distribution table, it can be determined which variable contributes most in the variable and which contributes the least.

Table 2

Level of Effectiveness of the Promotional Marketing Activities in Terms of the following variables

	In terms of attendance of participants	In terms of topic related to practice/current medical trend	In terms of participants feedback (increase the level of awareness and understanding to the product)	In terms of level of commitment to recommend the product	Grand Mean
Product Presentation					
Mean	4.37	4.06	3.97	3.66	4.01
Interpretation	Very Effective	Effective	Effective	Effective	Effective
Round Table Discussion					
Mean	4.35	4.01	3.94	3.63	3.98
Interpretation	Very Effective	Effective	Effective	Effective	Effective
Continuing Medical Education					
Mean	4.35	4	3.92	3.65	3.98
Interpretation	Very Effective	Effective	Effective	Effective	Effective

Promotional techniques toward the physicians help them learn and witness the features and effectiveness of the new drugs through marketing communication ¹⁵. The round table discussion is a tried and tested method of KOL engagement, used throughout the industry to great success. Most roundtables begin with a presentation of evidence, which is then debated. The doctors usually debate by examining the evidence given and adding their own experience and knowledge to assess how it should be interpreted. Continuing education is often sponsored by pharmaceutical companies that are also carriers of marketing information. This information may be difficult to determine due to the exaggerated terms of the severity of the specific condition.

In Table 2, a summary for the results of Level of Effectiveness of the Promotional Marketing Activities in Terms of the following factors are indicated. The level of effectiveness of each variable is determined by computing the mean. This could help in determining which way is the most effective in Marketing promotion.



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Table 3

Level of Effectiveness of the Promotional Marketing Activities in Terms of the following variables

	Product Presentation	Round Table Discussion	Continuing Medical Education	Pre-Clinic and In-Clinic Activities	Product Sample	Overall
Gender	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant
Highest Educational Attainment	Significant	Significant	Significant	Significant	Significant	Significant
Number of Years as Medical Representative	Significant	Significant	Significant	Significant	Significant	Significant
Number of Years in Company	Significant	Significant	Significant	Significant	Significant	Significant
Number of Years in Operation	Not Significant	Not Significant	Not Significant	Not Significant	Significant	Significant
Capital	Significant	Significant	Significant	Significant	Significant	Significant
Number of Employees	Significant	Significant	Significant	Significant	Significant	Significant

Through the marketing activities, pharmaceutical companies can easily communicate their newly developed products and promote these products to the consumers and physicians. This informs the physicians and patients about the efficiency and effectiveness of the drug which further reduces the uncertainties of the physicians and consumers in the adoption of the drug.

Moreover, product sampling is a marketing activity which helps the respondents introduce both new and existing products to their target doctors. First, consumers are persuaded into trying the product and purchase it right away. It is confirmed that 35% of the consumers who were able to try the product sample will also buy the sampled one in the same event. Consumers feel a social pressure upon the trial of the product and so they decided to purchase the sampled product¹⁶. Variables that have significant differences with the factor when grouped can be treated as very effective when it comes to the level of effectiveness in the promotional activities.

Table 4

Test of Significant Relationship between the Assessment of the Effectiveness of the Promotional Marketing Activities

	Product Presentation	Round Table Discussion	Continuing Medical Education	Pre-Clinic and In-Clinic Activities	Product Sample	Overall
Monthly Sales Achievement	Significant	Significant	Significant	Significant	Significant	Significant
Quarterly Sales Achievement	Significant	Significant	Significant	Significant	Significant	Significant
Monthly Sales Growth Achievement	Significant	Significant	Significant	Significant	Significant	Significant
Quarterly Sales Growth Achievement	Significant	Significant	Significant	Significant	Significant	Significant

The result shows that effectiveness of the promotional marketing activities correlates positively with the monthly sales achievement of selected pharmaceutical companies in Makati and Taguig City. Empirical evidence exists through the coordination of marketing strategies and sales performance and how it affects the entire performance of the business. Sales performance is positively affected by marketing and sales tandem. Short- or long-term sales goal, it is proven that promotion plays a big role in the success of marketing activities. It is used to make the consumers aware and informed of the products and services the company offers. It involves different platforms that can be used to disseminate the marketing message to the consumers¹⁷. An increase in sales within a period can be shown in sales growth and is useful for the company to know for them to determine whether the demand for a company's product needs to grow or not. Promotional marketing activities play a vital role in monthly sales growth achievement.

Evidently, effectiveness of promotional marketing activities correlates positively with the quarterly sales growth achievement of selected



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pharmaceutical companies in Makati and Taguig City. Quarterly sales growth is at least 3 months positive sales growth vs last year's same quarter, compared to monthly sales growth which is only one month sales growth vs last year's same month.

Conclusion

Most of the respondents are females, bachelor's degree holders, have been working as medical representatives for 4 to 6 years, and have been employed for 1 to 3 years in their present company. As for the profile of their company, the majority are working in companies which have been in operation for 20 years or more years; with a capital of ₱500,000,000 or more; and with 250 to 499 employees.

The medical representatives have assessed all Promotional Marketing Activities in terms of Product Presentation, Round Table Discussion, Continuing Medical Education, Pre-Clinic and In-Clinic Activities, and Product Sampling as Effective.

The level of effectiveness of the promotional marketing activities when tested against the profile of the medical representatives have resulted to the following: when grouped according to gender, no significant difference is found, but when grouped according to highest educational attainment, number of years as a medical representative, number of years in the company, the assessments are statistically significant. As for the level of effectiveness of the promotional marketing activities when tested against the profile of the company where the medical representatives work reveals that when grouped in terms of number of years of company operations, the assessments on Product Presentation, Continuing Medical Education, and Pre-clinic and In-clinic activities have no statistical significance, but the assessments on Round Table Discussion and Product sampling are statistically significant. In terms of Capital and Number of Employees, statistical significance was found in the respondents' evaluations.

The medical representatives have assessed the company Sales Performance in terms of Sales Achievement and Sales Growth Achievement as Very Satisfactory. There is a significant correlation between the evaluation on the Effectiveness of the Promotional Marketing Activities and company Sales Performance as regards monthly and quarterly sales achievement as well as monthly and quarterly sales growth achievement.

Recommendations

Companies must initiate sales training programs for medical representatives.

Employees have the chance to grow and enhance their capabilities and skills through training. The medical representatives' role is crucial since they are the one who discuss the features and benefits of a product to doctors, any misinformation during detailing will lead to drug misuse that will greatly affect the image or reputation of the company.

It is proven that workers who are trained from time to time are more likely to be satisfied with their job compared to those who are not. The training programs help in molding the employees positively and developing them to be fit to their job. Through these training programs, employees can have self-assurance, career growth and a positive outlook to the company. The goal of these programs is to enhance the skills of the employees and their potentialities. It is observed that the average tenure in the company of the respondents participating in the survey is between 1 to 3 years only. This will help to create an employee's attachment and feeling of belongingness to the organization.

Increase frequency of visits to doctors to increase the level of commitment to recommend the product.

All Promotional Marketing Activities identified, in terms of level of commitment to recommend the product has obtained the lowest weighted mean. It is suggested that medical representatives focus on gaining the commitment of the doctors by being



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always visible to them. Basically, the job of a medical representative is to meet physicians.

It is also highly recommended that companies pay attention to the regular visitation of medical reps. It would be ideal that the manager or whoever is supervising medical reps would arrange regular meetings with the physicians. It is also recommended that there be medical reps assigned in a certain area to maintain the visiting schedule to the physicians. Documents like profiles of doctors and work plans can also be used.

Scientific Based Approach

It is suggested that pharmaceutical companies exert more effort in giving tokens and other forms of appreciation to the physicians. Continuous medical education is an important factor in the recommendation of drugs. Findings have repeatedly confirmed that doctors are keener to understand the information and it is a great chance for pharmaceutical companies to focus more on CME and scientific materials. Both the promotional inputs work on disseminating the scientific input to the doctor. Hence, pharmaceutical companies could allocate more budgets on CME meetings where doctors get convinced about the product, because CME is mainly conducted by a professional doctor.

It is also recommended that pharmaceutical companies gather key opinion leaders in the pharmaceutical industry to disseminate the marketing message of the product. This is also known as the indirect pulling strategy.

Have a full implementation of promotional marketing-initiated activities and programs.

Both supervisors and medical representatives should observe and monitor the implementation rate of all marketing activities or programs. 100% implementation of these activities will help the company achieve their sales performance.

The investing activities of pharmaceutical

companies can be based on the market situation. The basic promotion is that spending on the right group of practitioners will lead to higher return on the prescription and higher revenue for the company.

It is proven that promotional marketing activities of companies highly affect their sales performance. There should be a balance in the promotion approach of the product managers to the physicians and focus mainly on the planning, execution, and control to obtain substantial results.

Conduct further research on the topic

This research is opening the doors to other researchers who are interested in conducting research in the pharmaceutical industry in the Philippines. The areas that they can drive the research are on other factors which influence doctors to prescribe the drugs such as quality of the product, price factor, company profile, country where the product originated and product research. Especially the therapeutic areas like cancer, nephrology, and rheumatology are highly practicing bio pharmaceutical products. This could be another important research study for the companies in the field. Overall, this could serve as a trigger for the industry to do further research studies using the results from the tests conducted.

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Exploring Compassionate Capitalism in the Case of Philippine Corporations

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Abstract

Purpose – To explore whether the bigger Philippine companies manifest “compassionate capitalism” in their social action since the start of the Covid-19 pandemic.

Design/methodology/approach – A grounded theory methodology is being employed, whereby the annual reports of the firms are content analyzed and interpreted

Findings – There is evidence of compassionate capitalism in Philippine top corporations, via the generous Corporate Social Responsibility projects and activities in the areas of Arts and Culture, Disaster Resilience, Education, Enterprise Development, Environment, Financial Inclusion, and Health. All the companies in the study were found to have generously allocated funds and manpower to Covid-19 pandemic response. However, the Philippines’ top corporations have a long way to go before achieving “gracious growth”.

Research limitations/implications – The study has depended on the League of Corporate Foundations (LCF) for a listing of the major corporate foundations in the Philippines, and its data analysis is limited to the disclosures and financial statements available on the companies’ websites and on the internet. The use of qualitative data in the future is highly recommended, to enhance and provide more clarity and support for the concept of “compassionate capitalism”.

Practical and social implications – Points to the need for government, business and civil society to come up with more collaborative efforts, and the need for a more solid national CSR agenda.

Originality/value – It is a good update on how CSR is evolving in the Philippines.

Key Words: Corporate social responsibility, Compassionate capitalism, Philippine corporations

Introduction

The Covid-19 pandemic has had important impacts and implications for most spheres or sectors of the business world. It is now known that the pandemic has posed massive health, economic, social, and

environmental challenges to the entire human population. Covid-19’s scope of impact has ranged from the world, to various countries, to cities, and to various stakeholder sectors of societies, to organizations of all types and sizes, and especially businesses which represent the heartbeat of most economies. Employees, consumers and communities



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have been the most significantly affected, but other stakeholder groups are being impacted as well (Carroll, 2021).

The pandemic has transformed activities related to Corporate Social Responsibility (CSR). Due to lockdowns in many countries, states and cities, businesses in many sectors have been significantly and, sometimes irreparably, damaged along with their supply chains, their ability to provide goods and services and especially jobs. Many of these businesses have failed and gone out of existence. The Covid-19 pandemic has been and continues to be an unprecedented financial shock to global economies. It has created concurrent disruptions in an organic world economy. The infectious disease has reduced the supply of labor. Productivity has been affected as well. Business closures, suspensions, and lockdowns have caused disruptions in supply. Layoffs and the loss of income from illness, confinements, unemployment and deteriorated economic predictions have reduced household consumption and business firms' investments. Though many CSR writers do not speak often of economic responsibility, as it is often taken for granted, this category of responsibility has become highlighted and urgent during, throughout, and after the pandemic. Corporations must face the threat of the pandemic by adjusting their operation under the new pandemic conditions: keeping their personnel, customers, suppliers, and other stakeholders safe, and protecting their profitability at the same time. This complex problem consists of an urgent call for firms to express their social sensitivity and implement urgent CSR programs for their employees and for society (Carroll, 2021; Panagiotopoulos, 2021).

The global pandemic has put CSR to the test: companies have shifted their priorities by focusing on helping the society, and are striving to reset their CSR thinking and initiatives to accommodate this crisis. This urgent CSR activity of firms due to the pandemic belongs neither to the tactical nor to strategic CSR policy. It is about a totally new kind of CSR, a hybrid between tactical and strategic CSR.

It consists of the result of firms' reactions and response to a totally new phenomenon, a worldwide pandemic that has likewise caused a global recession. More deliberative decision-making will be needed. There are no longer simple decisions when Covid-19 factors present themselves in strategic decisions. All told, the board's job and strategic decision-making responsibilities have become exceedingly more demanding and it is expected that these pressures will outlive the current outbreak of the pandemic (Carroll, 2021; Panagiotopoulos, 2021).

Already before the global pandemic, many companies worldwide were starting to redefine the purpose of businesses: that firms ought to be both morally and socially responsible as well as profitable. Benioff & Southwick (2004) document corporations they run where "integrated philanthropy" is practiced. Although they do generously fund nonprofit endeavors, their philanthropy is not merely a matter of writing a check and volunteering for a day or two. The spirit of community service permeates both companies on many levels. Employees and executives alike get involved, on their own and through events coordinated by the companies in partnership with nonprofit agencies. Many corporations across the globe have done this through the creation of foundations as their CSR arm. Thus, there is now significant potential for corporate foundations to become active players within the founding corporations' CSR. This happens primarily because corporate foundations have the potential to act as boundary organizations and facilitate collaborative action between businesses and NGOs through convening, translation, collaboration and mediation (Herlin & Pedersen, 2013).

Such CSR has given birth to a new model of philanthropy, which sees business and community needs as closely aligned and encourages companies to make serving the community a central focus. The new model says that philanthropy must be woven into every thread of corporate existence so that it becomes a part of the cultural fabric and cannot be



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pulled out without pulling apart the corporation itself. Organizations that have service as a core value of their culture will see both intrinsic and external returns (Benioff & Southwick, 2004). The term ‘**compassionate capitalism**’ had begun to emerge, referring to these socially sensitive global corporations that have been placing CSR front and center, by placing a percentage of corporate equity into a public charity and encouraging a percentage of employee time to be used for community service.

This era of ‘**compassionate capitalism**’ is characterized as an era that believes that organizations must be both morally and socially responsible and profitable. Specifically, it entails (1) Contributing to community/society, (2) Developing employees, and (3) Creating community within the organization. In other words, profit can no longer be the only purpose of a business (Ellis, 2002/2003). The post-pandemic variant of this ‘compassionate capitalism’ seems to be exemplified by Brunello Cucinelli (director and chief executive of his eponymous Italian brand Brunello Cucinelli) in his push for "economic, moral, ethical and cultural sustainability" through what he calls humanistic capitalism and human sustainability (Zargani, 2021).

Taking on an interpretivist research philosophy, this paper wishes to understand whether the bigger Philippine companies manifest “compassionate capitalism” in their social action since the start of the Covid-19 pandemic. In particular, a grounded theory methodology is being employed, whereby the annual reports of the major corporate foundations are content analyzed and interpreted to seek evidence of “compassionate capitalism” among Philippine corporations.

Literature Review

Compassionate Capitalism

The term ‘**compassionate capitalism**’, as used in this paper, seems to have been coined by Marc Benioff (co-founder, chairman and co-CEO of Salesforce),

when he spoke of a move away from mere philanthropy toward the **integrated corporation** which creates value for its shareholders and its stakeholders alike. Its value is fully distributed not only to its leadership, but to the communities in which it operates, and the global community as a whole. Benioff (2002) proposed to companies that they: 1) Place a percentage of corporate equity into a public charity; 2) Encourage a percentage of employee time to be used for community service; and 3) Return a percentage of profits to the global communities served. Companies that practice ‘compassionate capitalism’, such as the Salesforce Foundation which carries out Salesforce’s vision, offer integrated philanthropy within both local and global communities where the companies have a presence. The firms make philanthropy and community service a part of the corporate culture: even in downturn times, when they are worried about keeping afloat and survival, they do care whether they are donating to the homeless shelter down the street or matching their contribution to their preferred Cancer Society.

Eberle (2010) describes the term ‘compassionate capitalism’ as being of a Judeo-Christian nature. He asserts that people were to be fruitful and rule over the earth. Each person was expected to tend his or her own garden. People were expected to take responsibility for their own sustenance, provisions and life. Then they were to go beyond personal care and steward the earth. In addition, people were to have compassion and care for the widow, orphan and poor. Based on the belief that people are created in the image of God, each person is worthy of care. This is coupled with the belief that God rewards those who help the needy.

Companies that practice ‘compassionate capitalism’ see the need for a clearly defined mission that drives philanthropic giving, just like the corporation’s business side. This mission need not necessarily be strategic, but it should be something where the company can make an impact, not just with its checkbook, but with its employees and expertise. Their philanthropic and workplace programs need to



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be interwoven into the fabric of the business. Part of this is to take a careful look at the focus the company has in corporate giving. The key is to determine the key areas of focus and review that periodically. For HP, for example, the focus areas are: education and e-inclusion, whereas for Microsoft, these are: expanding opportunities through technology access, strengthening nonprofits through technology, developing a diverse technology workforce, and building community through corporate funding and matching employees' individual giving (Benioff & Southwick, 2004).

Despite the billions of dollars in corporate philanthropy given to the homeless, hungry, sick and abandoned of this world—consider the Bill & Melinda Gates Foundation's announcement in mid-2022 to increase its annual payout by 50% over pre-pandemic levels, to \$9 billion annually by 2026—, thousands of protesters line the streets outside of the World Economic Forum and in many other places, calling for an end to the negative consequences of 'globalization' and asking for more help. Indeed, a rhetorical question has been asked: What if Microsoft's giving had been started 25 years ago, upon its founding, rather than at the culmination of a lifetime's achievement? What if Gates also donated 1 percent of his employees' time to the communities they serve, unleashing a true "army of compassion" of tens of thousands of smart, capable people around the world? (Benioff & Southwick, 2004). Brunello Cucinelli, talking passionately about ethics, has spoken about "**gracious growth**" and his preference for revenues to rise by no more than 8-10% a year, and EBITDA (earnings before interest, taxes, depreciation and amortization) margins to stay at 16-17%. That, he says, is enough to sustain workers, shareholders and the environment ("Popenomics", 2019).

In any case, individual companies' ability to respond effectively to the post-Covid pandemic economy may rest on four key indicators: (1) levels of public consumption; that is, the percentage of citizens who report buying goods and services in public places; (2) citizens' confidence they can protect themselves

from the virus; (3) percentage of citizens who support full-time, in-person schooling—a condition that has significant workforce implications—allowing parents who cannot work at home to be able to maintain full employment; and (4) citizens' willingness to receive a Covid-19 vaccine as it comes available to them. These four conditions were identified in research by the Franklin Templeton-Gallup Economics of Recovery study, and it can be seen that consumers and employees are key to the recovery (Carroll, 2021).

Grounded Theory approach

Scholars in the fields of business ethics and CSR have taken on a range of philosophical and empirical approaches, including historical approaches as well as normative and behavioral methodologies, quantitative, qualitative and experimental perspectives, and grounded theory and case methodologies. Since grounded theory is usually recommended to research unexplored areas, where there is a lack of defined variables or concepts, this paper utilizes ground theory as a research paradigm. Grounded theory is an inductive general research method that can be systematically applied to qualitative and/or quantitative data to arrive at a conceptual core category. Since 'compassionate capitalism' is a rather recent term or category, this paper will take an inductive approach. Grounded theory analysis seeks to produce a social theory of a phenomenon based on the relational experiences of participants. Grounded theory, a qualitative approach that aims at theory generation rather than theory testing, provides a methodological way to make sense of and explain the manifestation of contextualized leadership (Bevan & Carrasco, 2017; Kempster & Parry, 2011). Thus, this paper studies the data from companies' annual reports, especially the reporting on CSR projects and activities, and seeks to draw out categories from these, hoping to find evidence of CSR of the 'compassionate capitalism' kind, and to confirm or modify the categories of the theory that have already been developed.



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Research Question and Methodology

This paper takes on an interpretivist research philosophy, whereby the author wishes to understand whether the bigger Philippine companies manifest “compassionate capitalism” in their social action since the start of the Covid-19 pandemic. In particular, a grounded theory methodology is being employed, whereby the annual reports of the corporate foundations are content analyzed and interpreted to seek evidence of “compassionate capitalism” among Philippine corporations. The documents of corporate foundations are used, since there is now significant potential for corporate foundations to become active players within the founding corporations’ CSR. Owing to their embeddedness in various networks, which include other foundations and NGOs as well as representatives from the private and public sectors, corporate foundations possess knowledge and information that can be useful for the parent company. Thanks to their position at the boundary of several sectors, corporate foundations have the potential to conduct important boundary work and facilitate collaborative action between the founding company and its external stakeholders (Herlin & Pedersen, 2013).

Limitations of the Study

The main limitations of this study are: (1) it has depended on the League of Corporate Foundations (LCF) for a listing of the major corporate foundations in the Philippines, and (2) its data analysis is limited to the disclosures and financial statements available on the companies’ websites and on the internet. This seems to be a general limitation for CSR research in the Philippines, as the overall online CSR disclosure of Philippines’ top companies is below average (Briones, 2020). Likewise, the use of secondary data may have limited the understanding and interpretation of the concept of “compassionate capitalism”.

Data Results and Analysis

Analysis reveals that one common practice among Philippine companies is their engagement through a variety of systematic modes of community involvement, particularly through partnerships and foundations. They attend to a wide range of stakeholders, among them, the community, employees, customers, and environment (Briones, 2020). On inspection of the Annual Reports (or foundations’ websites in the absence of annual reports) for the period 2020-21 for selected corporate foundations, one sees copious evidence of generous Corporate Social Responsibility projects and activities. The League of Corporate Foundations (LCF), a network of the largest operating and grant-making corporate foundations and corporations in the Philippines, recognized in 2021 the top CSR awardees through its CSR Guild Awards. These awards are in the following categories: 1) Arts and Culture, 2) Disaster Resilience, 3) Education, 4) Enterprise Development, 5) Environment, 6) Financial Inclusion, and 7) Health. Awards are also given to the best collaborative projects (Abad, 2021; Briones, 2020). The following theoretical propositions are hereby made:

‘Compassionate Capitalism’ is evident in the Philippines’ top corporations through the substantial expenditures by their respective corporate foundations.

Disaster Resilience: All of the corporate foundations studied generously gave to relief operations in 2020 and 2021 during times of natural disasters. Disaster relief and rehabilitation (along with education, health, livelihood and economic development) has historically received top priority in the CSR investments and activities of Philippine corporate foundations. The Corporate Network for Disaster Response exists in the Philippines as a coalition of some 50 business organizations and foundations that institutionalize disaster response mechanisms (AIM RVR Center for Corporate Responsibility, 2005).



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Ayala Foundation (cf. Appendix 2, awarded the CSR Guild Award by LCF for 2021) has built and nurtured partnerships with public and private groups, civil society, and Ayala Corp. to achieve impact, scale, and sustainability for everyone involved. It prides itself in being the first organization in the Asia Pacific region to receive Level One Certification from Social Value International (<https://www.socialvalueint.org/>) which is a global network of practitioners, enterprises, professionals and change makers who are committed to achieving social and environmental progress, while ensuring the success of their organizations. Disaster risk reduction and management in corporations has lately taken on a strategic nature, in that foundations seek to empower internal communities through improvements in processes and resources, and to help company teams become more efficient and effective in their respective roles, thus creating communities that are productive, creative, self-reliant, and proud to be Filipino.

Education: All of the corporate foundations studied are heavily involved in the education sector, through scholarships and investments in digital technology (to help in the shift to the “new normal” education). Philippine Business for Social Progress (PBSP) reports that the education sector has historically been the largest recipient of corporate giving. The main channels of companies are the schools and educational institutions (AIM RVR Center for Corporate Responsibility, 2005). In the post-pandemic “new normal”, this assistance has taken on a new nature: that of empowering students and educational institutions to deliver and maximize learning in the “hybrid” environment, especially the virtual/online delivery mode. Knowledge Channel Foundation (cf. Appendix 2, awarded the CSR Guild Award by LCF for 2021) created the **Knowledge Channel Training in the New Normal (KCTINN)** which consists of, among others, an intensive 3-day training on how to use and maximize Knowledge Channel’s video lessons as key learning tools in the new normal. It aims to create and foster positive learning experiences even without face-to-face

interactions and encourages support from the parents in assisted instruction. The **KCTINN** is the only professional development program of its kind in the Philippines that brings together Knowledge Channel-prescribed and tested distance learning pedagogies and Knowledge Channel’s localized and contextualized multimedia learning resources. Participant schools taking the program receive a Knowledge Channel’s Portable Media Library of around 2,000 video lessons, educational games, and other learning resources.

Enterprise Development: Many governments around the world, in collaboration with the private sector, support enterprise development activities designed to promote healthy local enterprise, thus building skills and assisting in the success of high-potential but unsupported economic actors. The **agriculture sector** in the country is worth pointing out. Economic growth in the Philippines has been dampened by economic policies that have favored capital over labor, and import-substituting industries over agriculture, and that have led to underinvestment in the human capital of the poor (AIM RVR Center for Corporate Responsibility, 2005). It is, thus, remarkable that a good number of corporate foundations have heavily invested financial and manpower resources in empowering farmers and farming communities. For example, Jollibee Foundation’s Farmer Entrepreneurship Program engages partners to help organize small-scale farming communities all over the Philippines. The program sharpens their technical skills and business acumen, and links them with institutional markets for increased and steady income. In 2021, the Foundation focused on training them on how to become more resilient amidst the pandemic. Since the program’s launch in 2008, 17 farmer groups have delivered close to 9 million kilos of vegetables to the Jollibee Group, equivalent to more than ₱360 million worth of sales. In 2021, Farmer Entrepreneurship Program farmer groups were able to deliver 486,000 kilos of vegetables.

Energy and Environment: Pilipinas Shell Foundation (cf. Appendix 2, awarded the CSR Guild



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Award by LCF for 2021) has adapted its activities to the times and to the needs of its communities. Its “Save, Invest, Nurture Access to Green Energy” (SINAG) Program has provided over 4,000 individuals in far-flung communities with access to energy. The Foundation turned over the maintenance and operations of the Mayteged Microgrid Power System (consisting of a windmill and 15kVA solar power generator) to the Mayteged Energy Association (MEA), a people’s organization. For proper maintenance of the facility, 31 MEA members were trained in basic electrical maintenance and solar technology, as were residents of Sitio Alabaguen in Barangay Port Barton, San Vicente, Palawan. The residents have now taken responsibility for maintaining and extending the reach of the grid, connecting a total of 203 households and helping to power up 12 community institutions. These efforts are part of the Foundation’s continuing work to help bridge far-flung communities towards progress through the provision of cheaper, cleaner, more efficient, and sustain-able energy.

Financial Inclusion: Financial inclusion is about providing all Filipinos access to affordable and client-centered financial services that can help them build a better life for themselves and their families. Digital technology can significantly reduce transaction costs and expand reach, making it possible and even compelling for banks and other financial institutions to serve the hugely untapped low-income market. Sun Life Foundation (cf. Appendix 2, awarded the CSR Guild Award by LCF for 2021), through its Sun Pera-Aralan, helps Filipino teachers have a brighter financial tomorrow. The program utilizes behavioral design to promote and develop positive and practical daily money habits that do not disrupt the teachers’ routine and workload. Since its inception in 2019, the program has helped over 34,171 teachers to stretch their salary until the next payday and gradually lessen indebtedness. It was initially launched in public schools in Muntinlupa, Paranaque, Makati, and Malabon, and is currently running in Manila, Marikina, and Quezon City.

Arts and Culture: Ayala Foundation (cf. Appendix 2, awarded the CSR Guild Award by LCF for 2021) has long been a veritable patron of the arts and culture in the country. Its Ayala Museum—one of the leading private museums in the country—makes Philippine history, art, and culture accessible to the public through engaging exhibitions and exciting cultural programs. It is home to the country’s first Digital Gallery, allowing guests to digitally explore objects from the museum and library collections. Its Filipinas Heritage Library houses contemporary and rare volumes on Philippine art, history, and culture; vintage recordings of Philippine music; vintage photographs; and maps, periodicals, and multimedia materials. Likewise, it has attended to the many indigenous peoples across the country, such as the Iraya Mangyans, the Lake Cebu Indigenous Women, the Maranos in Marawi, etc. Corporate patronage of the arts and culture can provide benefits in terms of valuable reputational perks and visibility, in addition to an immeasurable benefit to national and historical heritage.

Post-pandemic, the Philippines’ top corporate foundations have substantially contributed to protecting citizens from the virus, especially through vaccination.

Since 2020, all the corporate foundations have dedicated a special section on “Covid-19 Response” in the annual reports. Post-pandemic, the literature suggests that citizens’ confidence they can protect themselves from the virus, and citizens’ willingness to receive a Covid-19 vaccine as it comes available to them are part of the conditions identified in ‘Economics of Recovery’ research (Carroll, 2021). All the companies in this study were found to have generously allocated funds and manpower to Covid-19 pandemic response. The response consisted of, among others, financing the vaccination of their employees and their families, providing frontliners with personal protective equipment (PPE) and families needing assistance with relief goods, assisting hundreds of hospitals and medical institutions across the country with medical equipment and PPE, continuing their mission of



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bringing social development to marginalized sectors amid lockdown restrictions, and generally working with the government to address the pandemic situation in the country.

Unilab (cf. Appendix 2, awarded the CSR Guild Award by LCF for 2021), through its Alagang Unilab corporate advocacy program, is committed to making primary healthcare accessible to communities. Grounded on bayanihan, Unilab works closely with partners and volunteers to ensure sustainability and impact. Its **Doctors for Others** program is a platform to enable young health care workers to reflect and build their capacity to be responsive to the needs of the country and to be able to serve beyond the clinics and hospitals. **Ideas Positive** is the country's premier youth engagement program for innovative solutions to health issues in communities. **Project Inclusion** enables communities to improve access to opportunities for Persons with Disability, towards a more inclusive and barrier-free Philippines. **STEM+ PH** is the flagship Program of Unilab Foundation that helps build a future-ready Philippines, by enabling innovators to create solutions for development problems using integrated STEM principles.

The Philippines' top corporations have a long way to go before achieving "gracious growth" as suggested by Cucinelli.

"**Gracious growth**" ("crescita garbata" in Italian) is a management philosophy that enables a company to protect the earth's ecosystem while realizing long-term realistic profitability. This unique philosophy, coined by Brunello Cucinelli, aims to bestow honor to earth by positioning the company as a custodian of creation. This is achieved by setting sustainable and fair objectives of growth and profit. It also means that economic value produced for shareholders is in equilibrium with the value created for people and the planet (Liedong et al., 2022). Brunello Cucinelli has suggested that, for "**gracious growth**" to be achieved, revenues are not to rise by more than 8-10% a year, and EBITDA margins should stay at no more than 16-17%. That,

he says, is enough to sustain workers, shareholders and the environment ("Popenomics", 2019).

Based on some calculations, the Philippines' top companies have a long way to go before achieving "gracious growth" as suggested by Cucinelli. For the years 2020-21, only the Lucio Tan Group, Puregold, and Universal Robina (cf. Table 1) strictly meet those requirements. As Benioff and Southwick (2004) suggest: "Sustain your philanthropy even when the company is going through tough times. Responsible companies that plan to be around for a long time should pace their philanthropy inversely to the marketplace, that is, they should maximize their philanthropic efforts during economic downturns". This guideline is admittedly very difficult to follow: it would require no less than heroism on the part of organizations and business leaders.

Table 1

Corporate Foundations' performance according to the 'Cucinelli standard'

(Php000s)	not > 16-17%	not > 16-17%	not > 8-10%	
Name	EBITDA2020	EBITDA2021	Rev. increase	
LT Group	8%	51%	(3.45)%	✓
Puregold	9%	9%	(2.67)%	✓
Universal Robina	17%	16%	3.29%	✓

Conclusions and Recommendations

The Philippines' major corporate foundations have contributed rather magnanimously to social service in the country, through their CSR activities in the following areas: 1) Disaster Resilience, 2) Health, 3) Education, 4) Enterprise Development, 5) Environment, 6) Financial Inclusion, and 7) Arts and Culture. For the year 2020, the foundations studied spent at least P4.5 billion in expenditures (based on 6 companies' financial statements that the author has managed to cull). During the pandemic, in particular, the rush to aid those most affected was impressive. The number of beneficiaries (individuals, communities), the number of natural resources conserved or renewed, the facilities constructed or renovated, and the amount of



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donations championed could be incalculable.

Despite this finding notwithstanding, the Philippines' top corporations have a long way to go before achieving "gracious growth" as suggested by Cucinelli ("Popenomics", 2019). This finding seems to corroborate the assertion by PBSP that the assistance and contributions of some private firms tend to be sporadic and short term in nature. It is, thus, recommended that government, business and civil society come up with more collaborative efforts and that a more solid national CSR agenda be adopted (AIM RVR Center for Corporate Responsibility, 2005). In order for true "compassionate capitalism" to reign in Philippine business, an ethical framework that embraces community service should be adopted, to strengthen a company in good times and bad, thus imbuing leaders and employees with the understanding that they're part of something bigger than themselves (Benioff & Southwick, 2004).

Likewise, there is a need to improve the level of CSR reporting: corporate foundations should regularly issue annual reports and make financial statements available, as well as update the CSR section of their websites for stakeholders and researchers to be informed of their CSR activities. Alongside CSR disclosures, a more relevant social value measurement system should be adopted by companies, such as that utilized by Social Value International, in order to more effectively measure and manage the social value and impact they create.

For further exploration of this topic, the use of qualitative data in the future is highly recommended, to enhance and provide more clarity and support for the concept of "compassionate capitalism." The use of quantitative/secondary data to interpret the concept, as is the case in this paper, may not be conclusive enough to correlate the variables.

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Determining the Motivating Factors of Filipino Senior Entrepreneurs to Become Self-employed and Continue Working

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Abstract

Purpose – Beyond determining the motivations of Filipino senior entrepreneurs, we would like to highlight the benefits of this phenomenon on senior citizens and society. Particularly, senior entrepreneurship empowers older Filipino citizens and promotes economic independence, active aging, and social inclusion.

Design/methodology/approach – We conducted a literature review and analyzed the contents to find common themes and the research gap. This research used the push-pull motivation model for its theoretical foundation and an exploratory and descriptive design. Using convenience and snowball sampling, we sent an online questionnaire to senior entrepreneurs aged 60 years and over and applied paired samples T-test to analyze the results.

Findings – Filipino senior entrepreneurs are generally pulled to become entrepreneurs and pushed to continue working. Although the results show that these are not statistically significant, the narrower confidence interval range of the results of the second hypothesis on becoming entrepreneurs makes it more likely (than the first hypothesis on continuing to work) that the difference between pull and push factors has little significance.

Research limitations/implications – Purposive and snowballing sampling could have limited the results and responses. A more systematic approach, such as networking with local government units, would have been ideal. Lastly, enrich responses by using a mixed-method approach and creating a Tagalog version of the survey instrument.

Practical and social implications – Most literature on senior entrepreneurs focuses on developed economies and western countries, but few highlight findings from developing nations, including the Philippines. Results from this research could encourage the private sector and local policymakers to investigate senior entrepreneurship and consider its long-term benefits on seniors, society, and the economy.

Originality/value – Scholarly research on senior Filipino entrepreneurship and senior Filipino entrepreneurs is limited. This paper aims to contribute to studies profiling older Filipino entrepreneurs, of which there is little information, and their entrepreneurial motivations.

Key Words: Senior entrepreneurship, senior entrepreneurs, Filipino senior entrepreneurs



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Relevant SDGs: SDG 1 No Poverty, SDG 5 Gender Equality, SDG 8 Decent Work and Economic Growth, SDG 10 Reduced Inequalities

Introduction

He sat quietly at one end of a long table. He moved quickly, with hands deftly weaving together strips of paper to form a basket. Pretty soon, he had several of them in front of him. In various sizes, too! When we asked him why he was making so many baskets, he replied, “They are for sale.”

By all accounts, one would imagine this man in his 20s or even in his 30s. Sorry to disappoint you. Lolo Yuri was barely past 60 years old when we met him in a home for the elderly in early 2019. Fast forward to 2020. We had the opportunity to work with women home-based workers in a non-profit organization (NPO). Imagine our surprise when we found out that many of the members had been self-employed for at least 30 years! Lolo Yuri and the women at the NPO are what are referred to as senior entrepreneurs, “someone over a certain age who starts or operates a small or medium-sized enterprise” (Weber & Schaper, 2004). Looking back, we believe it was these random encounters with creative and enterprising seniors that inspired us to investigate this wonderful world of senior entrepreneurship.

Demographic and economic developments have generated a burgeoning enterprise among present-day older adults in the name of senior entrepreneurship (Hudson & Goodwin, 2014). Extant literature defines senior entrepreneurship as people aged 50 and over starting up in business (Curran & Blackburn, 2001; Kautonen et al., 2008). A search for scholarly articles revealed that this movement has been going on for several years now in developed countries such as the United States (Van Der Zwan et al., 2016), Canada (Kerr, 2017), Australia (Maritz & Eager, 2017a; Perenyi et al., 2018), and some countries in the European Union, as well as in emerging countries such as Pakistan

(Usman et al., 2016), Lebanon (Dgheim & Saad, 2019), and Chile (Jesús et al., 2020).

Further literature review revealed that senior entrepreneurship is studied from many perspectives (Pilkova et al., 2014). However, the two most common research areas focus on its importance, especially regarding socio-economic benefits and the seniors who drive the movement.

Scholars and policymakers are increasingly emphasizing the importance of promoting senior entrepreneurship as a strategy to tackle socio-economic challenges emerging from aging populations such as, employment equity, age discrimination, and lack of attractive employment options (Kibler et al., 2014; Maritz & Eager, 2017; Martin & Omrani, 2019). According to Kautonen (2008), promoting entrepreneurship is a prospective policy option to prolong the working lives of older people and reduce older-age unemployment.

As to scholarly research on senior entrepreneurs, variables often discussed to describe these individuals include the labels they are called, as well as demographic characteristics such as age, gender, educational attainment, and previous work experience. Despite abundant resources attempting to capture these details, Ratten (2019) observed a lack of coherent definitions and frameworks. She said this could be partly due to senior entrepreneurship being studied as individual businesses rather than focusing on the characteristics of the cohorts themselves.

Meanwhile, past studies on the motivations of senior entrepreneurs have mostly focused on developed countries. Various findings suggest senior entrepreneurs turn to self-employment because of freedom and autonomy (Backman et al., 2019), better-earning opportunities (Dawson & Henley, 2016), more possibilities for innovation (Ratten,



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2019; Singh & DeNoble, 2003), and work-life balance, among others. Others launched their business venture due to unemployment, redundancy, and a lack of job or career prospects (Kirkwood, 2009).

The focus of our research is on the motivation of Filipino senior entrepreneurs. Particularly, what compels them to take the risk and start a business after reaching retirement age? Do they do so to be financially independent, to remain active, to pursue a life-long dream? Similarly, why do they want to continue working during their prime years? Evidence indicates that self-employed seniors are likely to continue working than their wage-and-salary counterparts because of personal fulfillment, work flexibility, and continued contribution (Kerr, 2017; Zissimopoulos & Karoly, 2003). Lastly, what characterizes Filipino senior entrepreneurs? Most research suggests that older entrepreneurs are generally male and educated (Gray & Smith, 2020).

Significance of the Study

After completing this research, we hope to add more insights to the still-growing number of scholarly works regarding senior entrepreneurship. Similarly, we hope to contribute to studies profiling Filipino older entrepreneurs and their motivations. Ultimately, we envision a research paper that would encourage the private sector and local policymakers to investigate senior entrepreneurship and weigh for themselves its long-term benefits to seniors, society, and the economy.

For the private sectors and their partner agencies, they could develop customized interventions that include technical support and information and resources specific to older adults interested in pursuing self-employment (Halvorsen & Morrow-Howell, 2017). An example is an entrepreneurship program in Australia (Maritz & Eager, 2017) that features face-to-face and online training initiatives.

Meanwhile, local policymakers could make senior entrepreneurship a more prominent element in

active labor market policies, like those implemented in several member countries of the Organization for Economic Cooperation and Development (OECD) (Hudson & Goodwin, 2014). Pilková & Reháč (2017) suggested that well-designed government programs increase the inclusiveness of older people in the entrepreneurial activity of the general population, thereby allowing them to remain active, integrated, and functioning members of society (Matos, 2018).

Literature Review

Senior entrepreneurship is slowly but steadily getting the attention of scholars and policymakers alike. Because of the steady growth in this field, it is critical to have a basic understanding of this type of entrepreneurship. That said, this section will include the definition and importance of senior entrepreneurship, a description and the characteristics of senior entrepreneurs, factors that motivate this cohort, and their barriers to success.

Definition of Senior Entrepreneurship

Past studies defining senior entrepreneurship yielded various definitions. Kautonen et al. (2008) broadly defined it as the act of “establishing a new business enterprise or becoming self-employed when aged 50 or over.” Similarly, Fachinger (2019) described it as transitioning to self-employment in older age. Ahmad et al. (2014) defined it as the practice of switching to an entrepreneurship career when one has already retired or opted for early retirement.

Importance of Senior Entrepreneurship

According to Isele & Rogoff (2014), the economic impact of the businesses started and managed by senior entrepreneurs is big. Seniors create jobs not just for themselves, but for people of all ages. They contribute not only to the local but also to the national economy. Senior entrepreneurship also plays a relevant role in the social development of countries by reducing unemployment (Maâlaoui,



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2019) and easing reliance on subsidies and social welfare benefits (Marin et al., 2020). Lastly, it improves an older person's quality of life because they remain active and continue to contribute to society (Hudson & Goodwin, 2014; Martin & Omrani, 2019).

Senior Entrepreneurs and Their Variations

The senior entrepreneur is called a variety of labels: second-career entrepreneur (Baucus & Human, 1994), the early retiree as an entrepreneur (Singh & DeNoble, 2003), senior entrepreneur (Maritz & Eager, 2017; Seymour, 2002), elderly entrepreneur (Zhang, 2008); grey entrepreneur (Weber & Schaper, 2004), gray entrepreneur (Harms et al., 2014; Stirzaker & Galloway, 2019); seniorpreneur (Martin & Omrani, 2019; Weber & Schaper, 2004), older entrepreneur (Isele & Rogoff, 2014; Kibler et al., 2014; Small, 2011), silver entrepreneur (Halvorsen & Morrow-Howell, 2017), third-age entrepreneur (Kautonen, 2008; Kautonen et al., 2011), and later-life entrepreneur (Halvorsen & Morrow-Howell, 2017; Kerr, 2017).

Following the assorted labels, past studies also provide multiple definitions of senior entrepreneurs. Harms et al. (2014) described them as those who become self-employed at a mature age. Meanwhile, Matos (2018) and Dgheim & Saad (2019) say they are individuals who created or took over a business during the second part of their careers at age 50 and over. Lastly, Kibler et al. (2014) describe older entrepreneurs as those who have never started a firm before (novice entrepreneur) or are serial or portfolio entrepreneurs.

Proponents of senior entrepreneurship believe older entrepreneurs have what it takes to succeed because of their extensive and collective professional experience, human capital, social networks, financial reasons, and willingness to take risks.

Characteristics of the Senior Entrepreneur

The definition of old is often culturally biased and hard to define (Bögenhold, 2016; Ratten, 2019). To date, research remains undecided regarding the age range constituting an older entrepreneur (Kenny & Rossiter, 2018). Entrepreneurship literature describes seniors as those between 55 to 64 years old (Pilkova et al., 2014). Ahmad et al. (2014) described silver entrepreneurs to be as young as 45 years old. Others count aged 60 and above as gray entrepreneurs (Bögenhold, 2016; Goldberg, 2000). However, a consensus is evolving around the age of 50 years (Curran & Blackburn, 2001; Damman & Van Solinge, 2018; Drăguşin et al., 2017; Isele & Rogoff, 2014; Karoly & Zissimopoulos, 2004; Kautonen, 2008) or just shortly past it (Garcia-Lorenzo et al., 2020; Kenny & Rossiter, 2018; Kibler et al., 2015; Perenyi et al., 2018; Seymour, 2002; van der Horst et al., 2017).

Regarding gender, Weber & Schaper (2004), Kautonen et al. (2011), and R. J. Stirzaker (2017) noted that generally, older entrepreneurs are predominantly male. Similarly, Halvorsen & Chen (2019) reported senior entrepreneurs are more likely to be male, white, and have higher levels of human, social, and financial capital. Indeed, while gender has no bearing on senior novice entrepreneurs, habitual or serial entrepreneurs are often male (Tervo, 2014).

Past literature on senior entrepreneurship portrays older entrepreneurs to possess lower levels of post-secondary education than other population groups (Martin & Omrani, 2019; Weber & Schaper, 2004). Pilkova et al. (2014) found that older entrepreneurs are more inclined to value previous work experience than skills and knowledge obtained through formal education. Kautonen's (2008) research also uncovered that people with higher levels of education are more easily recruited by large companies, thus reducing their interest in becoming an entrepreneur (Jesús et al., 2020).



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Although sharing similar birth years, senior entrepreneurs are by no means a homogenous group (Halvorsen & Morrow-Howell, 2017; Stirzaker, 2017; Stypinska, 2017; Zhang, 2019). Differences exist within this broad age group (Stirzaker, 2017) because of different demographic and socio-economic backgrounds (Zhang, 2019), work history and personality profiles (Halvorsen and Morrow-Howell, 2017), and inequalities stemming from various life-course trajectories (Stypinska, 2017).

Motivations of the Senior Entrepreneur

Pull and Push Motivation Factors

Individuals starting businesses are undoubtedly motivated by a complex mix of "pull" and "push" factors (Cooper & Dunkelberg, 1987; Gimmon et al., 2018; Kirkwood, 2009; Marin et al., 2020). These, in turn, may be explained by motivations arising from intrinsic or extrinsic drives or both (Carsrud & Brännback, 2011). **Intrinsic or pull motivation** refers to a personal interest in an entrepreneurial task while **extrinsic or push motivation** refers to an external reward that follows certain behavior. Push and pull motivations are not mutually exclusive. Internally, individuals may be motivated to succeed and accomplish a goal, whereas externally, they may be motivated to obtain wealth and status (Elfving, 2008 cited in Carsrud & Brännback, 2011).

Some of the most common pull factors cited in general entrepreneurship literature include higher earnings, personal growth, and autonomy (Gray & Smith, 2020; Kautonen, 2008). Others include to realize a dream, increase income, and maintain a healthy balance between personal and social activities (Jesús et al., 2020; Kibler et al., 2014; Weber & Schaper, 2004). Meanwhile, individuals are pushed to become self-employed because of

unemployment, age discrimination, or lack of satisfaction in their professional activities (Kautonen, 2008; Singh & DeNoble, 2003). Others take this path because of a reduction in their wages; they got fired, passed over for a promotion, or concluded that their organization was not going anywhere (Cooper & Dunkelberg, 1987).

Pull Motivations of Senior Entrepreneurs

The motivations of the senior cohort can also be described by the "pull" and "push" motives (Kautonen, 2008; Pilkova et al., 2014). In this literature review, it is evident that pull factors heavily influence many senior participants to engage in entrepreneurial activity. Some older entrepreneurs become self-employed because they want to build a business based on their previous work experiences (Bögenhold, 2016; Tervo, 2014). There are also older entrepreneurs who are motivated because of independence, start-up rewards, career success, and the satisfaction derived from running a business (Kerr, 2017).

Some older people want to stay active (Maritz et al., 2015; Matos & Amaral, 2017) in business activities and the only way to do that beyond the socially accepted age for hiring employees is to start their venture (Kautonen et al., 2011). In addition, older people may be used to having a source of income and are interested in monetary gain (Ratten, 2019; Singh & DeNoble, 2003). Starting a business provides a way to maintain or supplement their preferred lifestyles (Kautonen et al., 2011; Martin & Omrani, 2019; Singh & DeNoble, 2003).

Marin et al. (2020) noted factors that could motivate older people to become entrepreneurs may be due to the support from their social environment. The



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favorability of the business environment also impacts seniorpreneurs' behavior (Kautonen, 2012; Martin & Omrani, 2019). They are said to be more encouraged to engage in entrepreneurial activities – go after business opportunities (Matos & Amaral, 2017) – when they hear positive results arising from successful new business ventures. Lastly, older entrepreneurs become self-employed simply because they want to learn and gain new knowledge (Ratten, 2019) and to further develop their abilities and experiences (Harms et al., 2014; Kautonen, 2008).

Push Motivations of Senior Entrepreneurs

From pull factors, we now move to an overview of the factors that push older entrepreneurs into starting their businesses. There are fewer compared with the ones we have just discussed. One of the most obvious reasons is related to age. Older individuals are pushed from traditional labor markets because of employment equity, age discrimination, lack of promotion and training opportunities (Kautonen et al., 2011), and lack of attractive employment options (Maritz et al., 2015; Singh & DeNoble, 2003).

Another push factor is related to financial security. Seniors turn to entrepreneurship because of insufficient retirement funds and inadequacies in pension entitlement (Weber & Schaper, 2004). Others, for practical reasons, want to earn an income and secure their future (Kenny & Rossiter, 2018; Usman et al., 2016) and earn to meet the needs of their family (Halvorsen & Chen, 2019; Usman et al., 2016).

There is a saying by Napoleon Hill, an American self-help writer, that goes like

this: "The road to success may be, and generally is, obstructed by many influences which must be removed before the goal can be reached." This saying could not be truer for some older entrepreneurs who, despite their eagerness to set up their own business, feel that the road to success is littered with roadblocks.

Framework and Methodology

The **push-pull motivation model** was used in this study to determine the motivations of the Filipino senior entrepreneurs. As evidenced by past studies, this model addresses the numerous motivation factors of senior entrepreneurs (Kautonen, 2008). For example, the older Canadian career and later-life entrepreneurs in the study of Kerr (2017) revealed they were predominantly motivated to work for themselves, but for divergent reasons. These include independence, start-up rewards, career success, the satisfaction derived from running a business, work-life balance, and personal fulfillment. Pull factors were also evident in the study of Matos & Amaral (2017). Their participants, senior Portuguese entrepreneurs, wanted to start their own company because they identified business opportunities, wanted to remain active, develop their ideas, and gain more independence.

Not all senior entrepreneurs feel the same as their peers. In the study of Kenny & Rossiter (2018), the older unemployed individuals they interviewed in select European countries were pushed to start a business to earn an income and secure their future. Similarly, the older Pakistani entrepreneurs in the study of Usman et al. (2016) revealed they decided to become self-employed for financial security and family-related needs.

Conceptual Framework

The proposed framework shows how the push-pull model could determine the motivations of Filipino senior entrepreneurs.



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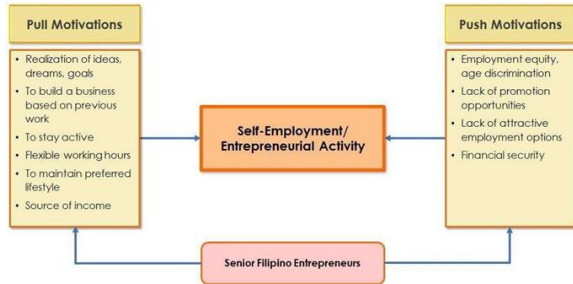
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Figure 1

The Conceptual Framework



Senior entrepreneurs are pulled to self-employment because of the realization of their ideas and dreams, opportunity to build a business and stay active, flexible work hours, and opportunity to gain a source of income so they could maintain a preferred lifestyle. Meanwhile, older entrepreneurs are pushed to set up a business because of experiences from the workplace arising from age discrimination, lack of promotion opportunities, and lack of attractive employment options. Financial security also pushes older individuals to entrepreneurship.

The box underneath, “Senior Filipino Entrepreneurs,” pertains to the fact that this group is not homogenous (Halvorsen & Morrow-Howell, 2017) and that differences exist among the members (Stirzaker, 2017) that may influence their motivations to become self-employed. In addition, pull and push motivations are not mutually exclusive, and therefore, Filipino senior entrepreneurs can be pulled, pushed, or both to perform an entrepreneurial act (Carsrud & Brännback, 2011).

Based on the abovementioned framework, our proposed hypotheses are the following:

- H1: Pull more than push factors strongly motivate career entrepreneurs to become self-employed.
- H2: Pull more than push factors strongly motivate career entrepreneurs to continue working.

Methodology and Design

We utilized descriptive research for our research design. Specifically, we deployed an online questionnaire, which was adapted from an anchor article (Kerr, 2017). The questionnaire was formatted to enable the researchers to (1) collect the required details describing the senior respondents and (2) determine motivating factors regarding self-employment and continuing to work.

Because of the challenges of looking for this cohort, we relied on convenience and snowball sampling methods. We requested referrals and potential subjects who were willing to participate in our research.

Data Analysis and Results

We conducted a Paired Samples T-Test to determine whether there is a significant difference in the motivating factors of senior entrepreneurs to become self-employed and continue working.

Survey Results – Demographic Characteristics

The results indicate the responses of 33 senior entrepreneurs. The average age of the group is 66.6 years. Collectively, they have been operating their businesses for an average of 23 years, starting around age 40. The study yielded more female (54.55%) than male respondents. Significantly, more than half (72.73%) are married, and most are college graduates (72.73%). Almost all, or 93.94%, are career entrepreneurs, meaning they have been managing and deriving income from their businesses long before officially becoming "senior citizens."

Regarding how involved they are in their ventures, 61.76%, or a little more than half of the group, consider themselves "full-time" self-employed individuals. The rest are working part-time, lending some credence to the senior entrepreneurship literature that older entrepreneurs embrace this form of work because it endows them with work-life



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balance and greater control over their day-to-day schedule (Funken & Gielnik, 2017; Karoly & Zissimopoulos, 2004; Kerr, 2017).

Most of the respondents, or 84.85%, own and hold management positions in their businesses, which span a variety of industry sectors. Almost a third, or 27.27%, are in 'traditional' sectors such as education, finance and insurance, HR and consulting, and manufacturing. This information supports previous literature findings that state later-life entrepreneurs are predisposed to pursuing business ventures that capitalize on skills gained from previous work experience (Bögenhold, 2016; Kautonen et al., 2011; Ratten, 2019; Tervo, 2014).

Most senior entrepreneurs (27.27%) enter the wholesale and retail sector (also known as buy and sell) business. However, the participants did not elaborate on what it is that they trade. Interestingly, 30.30% of the participants ticked the "Others" box in the online survey. Their additional responses provided an assortment of answers. These include a flower shop, an events company, a real estate consultancy business, a marketing agency for the real estate industry, travel and tours, and a renewable energy business, among others. Like those who pursue traditional ventures post-retirement, the action of this group supports earlier literature studies. Specifically, that older entrepreneurs are pulled into self-employment to pursue a business idea, achieve a dream, or attain a personal goal (Gimmon et al., 2018; Kautonen, 2008; Maritz, 2015).

Do senior entrepreneurs work alone or in a team? Based on their replies, almost 85% of the respondents hire at least one more person to help them with operations and carry out the work. The small number of hired employees implies this group of senior cohorts could be operating either micro or small enterprises. According to research, micro-enterprises hire fewer than 10 employees, small enterprises 10 to 49 employees, and medium-sized enterprises 50 to 249 employees (Entrepreneurship - Enterprises by Business Size - OECD Data, n.d.).

Survey Results – Motivations

The next part of this analysis will focus on results showing what motivates Filipino senior entrepreneurs to be self-employed and continue working. We used descriptive statistics to derive the mean of the pull and push motivation factors to answer the following hypotheses.

H1: Pull more than push factors strongly motivate career entrepreneurs to become self-employed. Although the results show that pull ($M=4.49$) more than push ($M=4.42$) factors strongly motivate senior entrepreneurs to become self-employed, their mean differences are not statistically significant, with $p\text{-value} = 0.730$ and 95% CI $[-0.263, 0.486]$.

H2: Pull more than push factors strongly motivate career entrepreneurs to continue working.

The hypothesis is not supported as push ($M=4.45$) more than pull ($M=4.37$) strongly motivates senior entrepreneurs to continue working. Similarly, the mean differences are not statistically significant, with a $p\text{-value} = 0.424$ and 95% CI $[-0.313, 0.118]$.

For clarification, pull factors under motivations for becoming self-employed comprise personal fulfillment, independence, and work-life balance. Higher income is a push factor. According to findings, senior entrepreneurs rate independence as the most influential motivator to become self-employed. "Independence" refers to wanting to be their boss and earning an income independently instead of receiving a salary (Funken & Gielnik, 2017).

Regarding motivations for continuing to work, senior entrepreneurs gave the highest mark for personal fulfillment among the pull factors. Personal fulfillment pertains to attaining a personal goal (Gimmon et al., 2018; Kautonen, 2008; Maritz, 2015). However, when it comes to overall motivation



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factors, the surprising answer is that financial need, a push factor, inspires more than pull factors to continue working. This insight, then, negates that pull more than push factors influence their actions.

In the context of this study, senior entrepreneurs are most motivated when starting their businesses ($M=4.59$). As their entrepreneurial career develops, they continue to demonstrate satisfaction, but this motivation decreases as the business progresses ($M=4.24$). Moreso, the reality and challenges of running a business affect even the most seasoned senior entrepreneurs, as can be seen with the overall satisfaction with business ($M=3.79$).

Discussion, Conclusions, and Recommendations

The results and discussion from the previous section represent a first attempt to assess the demographic characteristics and motivations of Filipino senior entrepreneurs. Pull more than push factors strongly motivated the participants in this research to become self-employed. However, push more than pull factors strongly motivate career entrepreneurs to continue working, at least in this study, thus negating the claims of previous authors. However, we should be cautious in generalizing these insights as the mean differences of these dimensions are not statistically significant.

The first hypothesis examines whether pull factors have a stronger effect than push factors in motivating later-life entrepreneurs to become self-employed. Their respective means indicate that this is so. However, the results of their paired-sample T-test, which assumes no difference between their means, or the difference of their means is zero, failed to reject the null. Their 95% confidence interval also embraces the null at $M = 0$ with 0.749 as the difference in the lower and upper bound.

On the other hand, the second hypothesis determines whether pull more than push factors strongly motivate career entrepreneurs to continue working. Their means say otherwise. Like the first hypothesis, the results indicate a failure to reject the

null and a confidence interval that includes a mean difference of zero. Still, the difference in the lower and upper bound at a 95% confidence interval is 0.431, indicating that such a difference is narrower or shorter than the results of the first hypothesis.

That is, the confidence interval of the results in the first hypothesis warrants more than the results of the second hypothesis for a repeat of the survey with a larger sample size. Although it may not guarantee statistically significant results, it could provide a more precise estimate than the original study (Cumming, 2014). Likewise, the narrower confidence interval range of the results of the second hypothesis makes it more likely (than the first hypothesis) that the difference between pull and push factors has little significance.

However, it does not preclude dismissing the information provided by the individual dimensions of push and pull. Independence, for instance, is the highest factor for senior entrepreneurs to become self-employed, while personal fulfillment dominates the motivation to continue working. From a policy standpoint, these motivation factors can be prioritized in enticing seniors to become entrepreneurs and continue working.

Other than motivations, it may be worthwhile to conduct further research and explore the impact of entrepreneurship on the health and well-being of seniors, like the findings of Stoyanov (2021), to add to the theoretical knowledge. This suggestion stems from other pull factors, e.g., independence, work-life balance, and greater control and flexibility over schedules. How do these translate into older entrepreneurs' general well-being? In the study of Zhu et al. (2021), the responses of senior entrepreneurs revealed they achieved subjective well-being, such as satisfying their expected goals and fulfilling their need for autonomy. In addition, they also achieved objective well-being, manifested by new and fascinating lifestyles and developing a sense of mental health that enabled them to help members of society.



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Methodologically, purposive and snowballing sampling could have limited the results and responses. A more systematic approach is advised, e.g., networking with local government units with a sizable number of senior citizens. Diversify research by conducting the study outside Metro Manila. Using a structured questionnaire precluded identifying other motivation factors. A mixed-method approach could address this shortcoming and modify the instrument to make it more suitable for the local landscape, e.g., create a Tagalog version.

As a result of the findings, we provide two practical recommendations. First, explore the possibilities of measuring senior entrepreneurs' contributions at the local and economic levels. Almost 85% of the respondents hire employees, clearly demonstrating they operate businesses sizable or demanding enough to require additional help. As Isele & Rogoff (2014) said: not only do seniors create jobs for themselves, but they also create jobs for others. Self-employed seniors contribute not only to the local but also to the national economy.

Second, conduct a study on what information and training senior entrepreneurs wish they knew before starting their business (Minarcine & Shaw, 2016). Although entrepreneurs possess work experience and have an idea of what ventures to pursue, they admit being ill-equipped in other areas of running a business, e.g., marketing. During our investigation, we came across niche groups catering to senior learners. Gaining knowledge of their learning needs could guide the private sector and their partner agencies in producing customized interventions to support a diverse group of older adults in starting and managing successful ventures (Halvorsen & Chen, 2019).

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