

# LETRAN BUSINESS AND ECONOMIC REVIEW



**Letran Business and Economic Review** is an annual scholarly journal of the graduate programs of Colegio de San Juan de Letran-Manila. It is published every October. Articles included in this issue are responsibility of the authors and not of the Editorial Board.

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- 5**                    **THE INFLUENCE OF VIDEO REELS ON CONSUMER  
ENGAGEMENT AND PURCHASING DECISION IN E-  
COMMERCE INPUTS FOR DIGITAL MARKETING  
STRATEGY**  
Abigail Mae Arendain & Ramoncito Javier
- 12**                   **SME’S STRATEGIES FOR ORGANIZATIONAL SUCCESS  
TOWARDS BUSINESS CONTINUITY PLAN AND  
SUSTAINABILITY**  
Rommel T. Ferrer & Ronald Pastrana
- 23**                   **EXAMINING THE EFFECTS OF SOCIAL  
ENTREPRENEURSHIP ON THE SUSTAINABILITY OF  
COMMUNITY PROGRAMS OF SELECTED SOCIAL  
ENTERPRISES IN METRO MANILA**  
Rose Anne Gillo & Jinky P. Batiduan
- 32**                   **ENTREPRENEURIAL OPPORTUNITIES IN  
AQUACULTURE FOR SMALL-SCALE FISHPOND  
OPERATORS IN PONTEVEDRA, CAPIZ TOWARDS  
PROFITABILITY AND SUSTAINABILITY**  
Kear S. Casingal & Dennis Ligan
- 42**                   **DIGITAL BANKING ADOPTION IN SEMI URBAN  
SETTING: A BEHAVIORAL ANALYSIS OF BANK  
CLIENTS IN ANTIPOLO CITY**  
Rien Camille A. Rona & Donabel A. Asuncion



## RESEARCH ARTICLE

*Letran Business and Economics Review* 3(1) 2026, pp. 5-11

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Volume 3 Issue 1

EISSN: 2704-4637

# The Influence of Video Reels on Consumer Engagement and Purchasing Decision in E-Commerce Inputs for Digital Marketing Strategy

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## ABSTRACT

This study explores the influence of video reels on consumer engagement and purchasing decisions in e-commerce, focusing on Filipino online shoppers. The emergence of short-form video content on platforms such as TikTok, Facebook, and Instagram, also changed the way businesses engaged with their consumers. However, despite being a powerful tool to gain high numbers of engagement, it is still uncertain what drives the consumer to complete their purchase, which indicates a gap between engagement and the conversion to sales. Thus, guided by the content creation engagement theory, this study examined what are the key factors that drive consumer engagement and influence their purchase behavior, as well as identifying the barriers that hinder their purchase completion. Using quantitative-descriptive methods, the study collected data from Filipino online shoppers across social media platforms aged 21 years old and above. The results of this study revealed that all factors that influence the consumers' engagement, purchasing decisions, and the barriers that hinder their purchase could be experienced across demographic profiles. Also, results showed that engagement was found to have a stronger impact on overcoming barriers to purchase than on direct purchase intent. By providing a comprehensive understanding of the current landscape and future trends, this study offers valuable insights for marketing professionals, business owners, media practitioners, content creators, and future researchers seeking to navigate the evolving landscape of digital marketing strategically.

**Keywords:** *Digital Marketing, E-Commerce, Video Reels, Social Media, Consumer Behavior*

## INTRODUCTION

Video reels are pivotal in digital marketing, connecting the business to its consumers and driving sales growth, proliferating platforms such as TikTok, Instagram, and Facebook. Since video reels are short and concise, entertainingly delivering information has been leveraged to capture the audience's attention (Zheng, 2022).

When the TikTok app was launched in May 2017 (DTI, 2024), this also reshaped the content creation and led to other platforms adopting this feature and releasing their version (Gregorio, 2024). According to Zhang et al. (2023), by December 2021, the number of short-video application users reached 934 million, accounting for 90.5% of internet users, proving that social media's quick integration into every individual's daily digital usage. The integration of this feature resulted in a successful outcome for these platforms.

As a result, various businesses adopted video reels as part of their marketing strategy to engage with their target audience, aiming to strengthen their brand awareness and increase their sales. However, with the fast-changing trends and quick shifting of consumers' behaviors, it is very challenging for them to consistently gain engagement and grasp their attention to influence their willingness to buy. Meanwhile, video content needs to be concise, visually appealing, and easy to understand in order to produce successful material (Apoorva, 2023). Thus, the shorter the content, the more likely it is to be highly effective in generating more than twice the engagement of

longer videos (Fisher, 2024). Therefore, businesses need to adapt to these trends and be innovative, as short-form video reels remain a powerful tool for driving engagement and increasing sales in the competitive digital marketing landscape.

Despite the high effectiveness of video reels in digital marketing to strengthen consumer engagement, the factors where some consumers engage with video reels hence do not complete their purchase. Therefore, this study aims to address this gap by exploring the stimulus to customer engagement and its relationship to the barriers that constitute consumers' resistance towards completion of online purchasing influenced by a video reel. The objective of the study is to analyze the factors influencing consumer purchasing decisions in response to video reels on social media; identify the barriers preventing consumers from completing their purchases through social media platforms, and to explore the role of demographic factors in purchasing decisions.

## Theoretical Framework

This study will apply the content creation engagement theory and will be published in the 2023 book "Oklahoma City Thunder Book Publishing, Special Edition. This theory emphasizes the importance of content authenticity, high quality, relevance, and interactivity to drive a successful engagement (Rachmad, 2023).

**Authenticity.** Authentic content builds trust and fosters a genuine connection with the audience, which can be achieved through transparency, real customer testimonials, or behind-the-scenes footage.

**Quality.** Videos should have clear visuals, good sound quality, and engaging storytelling, ensuring the content is well-produced and informative.

**Relevance.** Video reels should be in-trend or address specific consumer queries to meet their immediate needs and capture the audience's interest.

**Interactivity.** Video reels can incorporate interactive elements such as challenges or questions to create active participation from the audience through comments, likes, shares, or other forms of user interaction to enhance engagement.

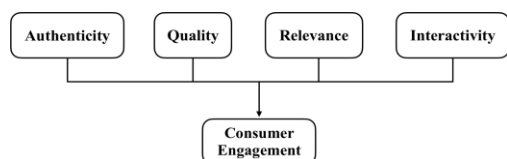


Figure 1. Theoretical Framework

The rise of short-form videos in digital marketing makes this model highly relevant, as video reels use visual appeal, storytelling, interactivity, and emotions to engage consumers. Therefore, these elements align with the content creation engagement theory to understand the need for a strategic approach to not just create compelling content but also to foster and sustain consumer engagement that will influence the consumers' purchasing decisions.

## Review of Related Literature

Collectively, based on the claims of previous studies cited, as social media platforms continuously evolved, video reels also emerged as a powerful tool in digital marketing to drive consumer engagement. Digital marketing highly leverages video reels on platforms such as TikTok, Facebook, and Instagram to connect with consumers (Rietveld et al., 2020). These strategies appeal to small and medium-sized businesses due to their cost-effectiveness. Moreover, visually engaging, emotional, and interactive (e.g. storytelling, relevance, influencer content) features of video reels significantly drive engagement (Dong et al., 2023; Xiao et al., 2023; Moran et al., 2020). Which is supported by various international studies where user participation, enjoyment, perceived benefits, and influencer involvement significantly shaped consumer brand attitudes and purchase intent (Ananda & Halim, 2022). Similarly, in the city of Kathmandu in Nepal, video reels served as tools for product discovery and decision-making (Sarita K.C., 2024).

However, even though video reels are strongly engaging to capture audience attention, various studies also stress that engagement alone does not always guarantee conversion. Factors such as perceived risk, platform usability, checkout complexity, and distrust of exaggerated claims could hinder their ability to complete their purchase (Pitta et al., 2024; Cheng et al., 2024).

In the Philippine e-commerce landscape, with the continuous emergence of technology, social media and mobile internet users are increasing as well which results in the rapid growth of e-commerce in the country together with the continuous changing of trends and consumer preferences for online shopping (Statista, 2023; ITA, 2024). In contrast, issues like fraud, complex interfaces, and misaligned brand content continue to influence consumers' hesitation (Pitta et al., 2024; Eriksson et al., 2021). Consequently, localized content with cultural alignment and authentic endorsements from reliable influencers are more trusted than those with overly refined promotions (Shukri &

Mustaffa, 2023; Mangoma et al., 2022).

Various studies have also emphasized the importance of timing, platform-specific formats, and strategic content planning are key in exploiting the power of short-form videos (Al-Dekany & Vatgar, 2022; Shahbaznezhad et al., 2021). Thus, brands must note to balance between emotional appeal and credibility to suit content cultures across platforms.

Overall, video reels present a significant opportunity to enhance consumer engagement and drive e-commerce sales. To maximize effectiveness, businesses must address existing barriers, optimize their digital marketing strategies, build consumer trust, personalize content, and create seamless online shopping experiences (De Vita, 2024; Retail Dive, 2023).

## Conceptual Framework

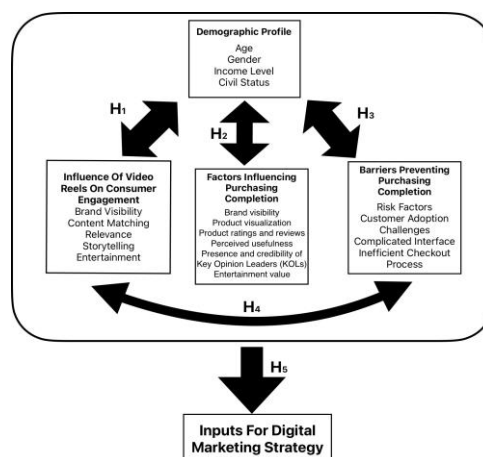


Figure 2. Conceptual Framework

The conceptual framework presented here integrates a visual representation of the relationship among various factors that contribute to the effectiveness of video reels, attributing the core elements such as - authenticity, quality, relevance, and interactivity - influencing the independent variables, which is the consumer engagement and their purchasing decision, mediated by the perceived risks and emotional connection with the brand, and moderated by the different characteristics of various social media platforms, and respondents' demographic profile that affects the effectiveness and direction of these relationships.

## Hypotheses

Based on the existing literature and content creation engagement theory as the main structure and backbone of this study, the following hypotheses are proposed: **H01:** There is no significant difference in consumer engagement with video reels when respondents' demographic profiles (age, gender, income level, and civil status) are considered. **H02:** There is no significant influence of video reels on consumer engagement in terms of brand visibility, content matching, relevance, storytelling, and entertainment. **H03:** There is no significant difference in the barriers that prevent purchase completion when respondents' demographic profiles (age, gender, income level, and civil status) are considered. **H04:** There is no significant influence of video reel attributes (brand visibility, product visualization, product rating and reviews, perceived usefulness, presence and credibility of KOLs, and entertainment value) on the purchase decisions of the respondents. **H05:** There is no significant relationship between the influence of video reels in terms of engagement and purchase decision, and the barriers preventing purchase completion.

## METHOD

### Research Design

The researcher employed an approach of quantitative-descriptive research design to help the researcher obtain reliable data by collecting numerical data for an informed decision in identifying the factors influencing consumer engagement and their purchasing decision.

### Subjects and Study Sites

The respondents of this study were Filipino online shoppers who are engaged with video reels on social media platforms such as TikTok, Facebook, and Instagram. According to Memon et al. (2020), a sample size between 160 and 300 is considered valid for studies involving more than two variables. Since this study involved several independent variables such as video engagement, purchasing decision, and barriers to purchase, the researcher aimed to collect a minimum of 160 respondents and successfully gathered 204 respondents through non-probability convenience sampling gathered in the City of Manila and Caloocan—all participants were social media users, specifically Facebook, TikTok, and Instagram who have made a purchase influenced by a reel or short-form video. However, no formal verification of residence was done since the study focused more on behavior than permanent location. Lastly, respondents must be at least 21 years old to ensure the legality of making online purchase. In the Philippine context, this age range is usually working or earning already, which means they already have the purchasing power and independence in making transactions online, particularly those influenced by a video reel.

On the other hand, respondents who did not meet the criteria are those who are 21 years old and below, those who do not use social media, have not interacted with video reels, never made a purchase online, or have not bought a product due to a video reel.

The researcher utilized a non-probability sampling method, specifically convenience sampling, to recruit participants from various social media platforms. The survey was disseminated through an online invitation link shared on Facebook, Instagram, and TikTok, enabling voluntary participation from any user who came across the link. These platforms were chosen due to their status as highly active digital spaces where Filipino consumers often engage with short-form video content. This approach was adopted for its practicality and accessibility, particularly in reaching a diverse range of digital consumers accustomed to the video reels employed in digital marketing. To determine participant eligibility, a series of screening questions were incorporated into the initial sections of the survey. Participants were asked to confirm their familiarity with online shopping and video reels, as those lacking this familiarity were less likely to complete the survey.

### Research Instruments

This study utilized online surveys as a data-gathering method to investigate the influence of video reels on consumer engagement and their purchasing decisions. The questionnaire consists of thirty-five (35) items in total and divided into six (6) sections containing questions about the respondents' demographic profile, video reel usage, their video reel engagement habits, factors influencing their engagement and purchasing decision, and the barriers that prevent them from purchasing completion. The questions are a mix of multiple choice and a Likert scale format facilitating a comprehensive analysis of how video reels influence consumer engagement and their behavior towards e-commerce. Google Forms was used to conduct the survey online.

The instrument was developed based on various relevant literature that the researcher has gathered with the content creation engagement theory as a framework. Additionally, the final version of the questionnaire was

reviewed and validated by various academic experts in the marketing field to ensure the validity, reliability of its content, clarity, relevance, and alignment with the study's variables. Feedback from the validators prompted several revisions, including the refinement of question wording, the addition of behavior-based and literature-supported items, and the restructuring of engagement-related indicators.

Although no pilot testing or statistical reliability analysis (such as Cronbach's Alpha) was conducted, the instrument's reliability was established through expert review and internal consistency checking during its development. Each question was carefully designed to measure a single variable, reducing ambiguity and overlap among items. These steps ensured that the instrument was valid, reliable, and appropriate for data collection in the context of Philippine e-commerce. Future studies may consider conducting a pilot test and statistical reliability analysis to further enhance the instrument's psychometric properties.

### Data Gathering Procedure

This research utilized Google Form through the generated link and shared on various social media platforms such as Facebook, TikTok, and Instagram. Utilizing the convenience sampling method, where samples are collected conveniently on various social media platforms such as Facebook, Instagram, and TikTok (Ozkaya & Akdur, 2021). The researcher posted Google form's link on various social media platforms to be answered by random individuals, such as millennials, Generation Z, business owners, users who seek entertainment, and content creators who are known to be engaged with video reels and tend to purchase products online will be identified. Two to three days will be allotted for participants to finish the survey. Thus, the researcher gathered the data for 7 days to complete the number of respondents needed. Respondents were guaranteed the privacy of their information, and participation is entirely optional. While this non-probability approach may introduce sampling bias, as participation was limited to social media users who are more digitally engaged. However, this group accurately represents the core population targeted by the study—consumers who regularly interact with video reels and engage in e-commerce transactions. Their demographic and behavioral alignment with the study's focus supports the representativeness of the sample and the validity of the findings within the context of Philippine digital marketing.

### Statistical Treatment of Data

This study employed descriptive statistics to find or show trends or patterns in the data and inferential statistics to examine the relationship between the data gathered and whether differences exist among demographic groups (Cooksey, 2020). Descriptive statistics, such as frequency, percentage, mean, and standard deviation, will summarize the respondents' demographic traits and degrees of video reel involvement. At the same time, inferential statistics was also utilized to test the researcher's hypotheses through various tests such as t-tests and ANOVA to assess engagement differences across demographic profiles of the respondents. Moreover, multiple regression was also used to determine how video elements and respondents' demographic profiles predict their engagement and purchasing decisions, controlling for the multicollinearity of variables. Altogether, these tests are commonly used to test the hypotheses and understand the relationship between variables.

### Ethical Considerations

The study adheres to ethical research principles, ensuring participants' anonymity, privacy, and voluntary participation. Respondents were informed about the study's objectives, their rights, and the confidentiality of their responses before answering the survey. All collected data were securely stored and used strictly for academic purposes, in accordance with the ethical standards of Colegio de San

Juan de Letran and in compliance with the Data Privacy Act of 2012 (Republic Act No. 10173).

## RESULTS

Table 1 indicated that most of this study's respondents were young adults, mostly single, and the majority were female, earning a range of Php20,000-39,999 monthly. This study started at 21 years old to ensure that participants already have the purchasing power to legally purchase online and have their independence when it comes to decision-making considering the Philippines' legal working age is 18, although many people under 21 are still in school and may not yet have a steady job or complete control over their financial and lifestyle decisions.

Respondents agreed that video reels significantly influence engagement, with an overall mean of 3.20 (SD = 0.62). The strongest factor was content matching (M = 3.34, SD = 0.61), indicating that reels relevant to personal interests capture attention most effectively. Authenticity and high-quality content also strongly influenced engagement (M = 3.29, SD = 0.60; M = 3.22, SD = 0.66), alongside storytelling (M = 3.24, SD = 0.59), which helped establish emotional connections with brands. Entertainment (M = 3.11, SD = 0.62) and interactivity (M = 3.02, SD = 0.63) were rated slightly lower but still favorable. These results align with the Content Creation Engagement Theory (Rachmad, 2023) and prior studies stressing the role of relevance, authenticity, and emotional resonance in boosting consumer engagement (Dong et al., 2023; Xiao et al., 2023; Shukri & Mustafa, 2023).

**Table 1 Profile of the Respondents**

	Profile	Frequency	Percentage
Age	21-30 years old	120	58.8
	31-40 years old	54	26.5
	41-50 years old	16	7.8
	51-60 years old	14	6.9
	> 60 years old	0	0
Sex	Male	88	43.1
	Female	116	56.9
Income	Php 20,000-39,999	123	60.3
	Php 40,000-59,999	35	17.2
	Php 60,000, 79,999	11	5.4
	Php 80,000-100,000	11	5.4
	> Php 100,000	24	11.8
Civil Status	Single	129	63.2
	Married	67	32.8
	Widowed	4	2.0
	Separated	4	2.0
<b>Total</b>		<b>204</b>	<b>100%</b>

The data in Table 2 illustrates the respondents' overall positive assessment of the influence of video reels on consumer engagement, with a weighted mean of 3.20, interpreted as "Agree", indicating a moderate to high level of engagement.

Among the indicators, the highest-rated item was "I am more engaged with video reels that are relevant to my interests" (M=3.34, SD=0.61), falling under "Strongly Agree", suggesting that content relevance is the most influential factor in driving engagement. Other indicators that received high scores include "Video reels that are authentic and relevant" (M=3.29) and "Video reels help me form an emotional connection with the brand" (M=3.24), emphasizing the importance of authenticity and storytelling in fostering consumer connection and engagement.

Indicators related to interactivity (M=3.02) and product showcase (M=3.11) also received positive feedback, though to a slightly lesser degree, suggesting that while these elements contribute to engagement, they are secondary to relevance and emotional appeal.

**Table 2 Factors Influencing Consumer's Engagement**

Indicators	Mean	SD	Interpretation
<b>Brand Visibility</b>			
I am more engaged with video reels more than traditional advertisements.	3.15	.60	Agree

Video reels that are authentic and relevant are more likely to capture my attention.	3.29	.60	Strongly Agree
High-quality videos make me more likely to consider a purchase.	3.22	.66	Strongly Agree
<b>Content Matching</b>			
I am more engaged with video reels that are relevant to my interests.	3.34	.61	Strongly Agree
<b>Relevance</b>			
Video reels that encourage interaction (call-to-actions, challenges, questions) are more appealing.	3.02	.63	Agree
<b>Story Telling</b>			
Video reels help me form an emotional connection with the brand.	3.24	.59	Strongly Agree
<b>Entertainment</b>			
Product showcases in video reels entices me to buy.	3.11	.62	Agree
<b>Weighted Mean</b>	<b>3.20</b>	<b>.62</b>	<b>Agree</b>

Legend: 3.25 – 4.00 – Strongly Agree (SA)/Highly Engaged (HE) 2.50 – 3.24 – Agree(A)/Engaged (E) 1.75 – 2.49 – Disagree/Low Engagement (LE) 1.00– 1.74 – Strongly Disagree (SD) /Very Low Engagement (VLE)

Table 3 shows that demographic factors such as age, sex, income, and civil status do not significantly affect how consumers engage with video reels, indicated by the p-values of .200, .252, .551, and .385, which are below the .05 level of significance which resulting to the acceptance of the hypothesis in each of the variables. This suggests that video reels influence consumer engagement in a broadly consistent manner across demographic groups, implying that video reel strategies may be equally effective across diverse audiences.

**Table 3. Difference on the Factors Influencing Engagement when Grouped According to Profile**

Variables	Computed	p-value	Decision	Conclusion
Age	Engagement .156	.200	Do Not Reject Ho	Not Significant
Sex	Engagement 1.14	.252	Do Not Reject Ho	Not Significant
Income	Engagement .76	.551	Do Not Reject Ho	Not Significant
Civil Status	Engagement 1.02	.385	Do Not Reject Ho	Not Significant

Note: significant at .05

As shown in Table 4, the overall weighted mean of 3.01 suggests that respondents agree that video reels influence their purchase decisions.

The highest-rated elements were: "The credibility of the KOL affects my willingness to buy" (M=3.39, SD=0.57) and "I consider the product's usefulness before I make a purchase decision" (M=3.37, SD=0.60). These fall under "Strongly Agree", indicating that perceived usefulness and the credibility of key opinion leaders (KOLs) are the strongest drivers of purchase decisions when consumers watch video reels.

Entertainment value and product visualization (e.g., product showcases) received strong "Agree" ratings (M=3.16 to 3.22), confirming that enjoyable and informative content supports positive purchase intentions.

Brand familiarity scored the lowest (M=1.63), indicating that brand recognition alone does not significantly influence purchasing decisions in the context of video reels. This may suggest that consumers prioritize the content and credibility of the message over mere brand awareness.

**Table 4. Elements of Video Reels Influencing Purchase Decision**

Indicators	Mean	SD	Interpretation
<b>Brand Visibility</b>			
I am more likely to buy the product if I know the brand.	1.63	.60	Strongly Disagree
<b>Product Visualization</b>			
A brief product showcase on video reels entices me to purchase it.	3.18	.65	Agree
I prefer to purchase the product in-store rather than online after seeing a video content about it.	2.93	.77	Agree
<b>Product rating and reviews</b>			
I rely on the video's volume of comments, likes, and shares when I buy online.	3.02	.62	Agree
<b>Perceived Usefulness</b>			
I consider the product's usefulness before I make a purchase decision.	3.37	.60	Strongly Agree
<b>Presence and Credibility of KOLs</b>			
The credibility of the KOL affects my willingness to buy.	3.39	.57	Strongly Agree
I am more likely to buy a product if the video reel includes a credible KOL review.	3.17	.65	Agree
<b>Entertainment Value</b>			
I am more likely to purchase a product if the video reel is engaging, unobtrusive, and enjoyable.	3.16	.62	Agree
Video reels influence my purchasing decisions more than traditional ads.	3.22	.63	Agree
<b>Weighted Mean</b>	<b>3.01</b>	<b>.51</b>	<b>Agree</b>

Legend: 3.25 – 4.00 – Strongly Agree (SA)/Highly Engaged (HE) 2.50 – 3.24 – Agree(A)/Engaged (E) 1.75 – 2.49 – Disagree/Low Engagement (LE) 1.00– 1.74 – Strongly Disagree (SD) /Very Low Engagement (VLE)

**Table 6 Barriers Preventing Purchase Completion**

Indicators	Mean	SD	Interpretation
<b>Risk Factors</b>			
I am concerned about the security and privacy of my personal and payment information.	3.46	.65	Strongly Agree
I find it hard to trust sellers or brands when buying through social media platforms.	3.09	.68	Agree
I am skeptical of exaggerated or misleading product claims in video reels.	3.27	.58	Strongly Agree
I am less likely to purchase if the brand does not align with my beliefs and values.	3.25	.67	Strongly Agree
<b>Consumer Adoption Challenge</b>			
I hesitate to buy from social media platforms because I am unfamiliar or uncomfortable with the purchasing process.	2.83	.78	Agree
<b>High Price Concern</b>			
I am less likely to complete my purchase if I feel the product is overpriced compared to similar options online.	2.79	.86	Agree
<b>Complicated Interface</b>			
I find it difficult to navigate or understand how to complete purchases on some social media platforms.	2.59	.89	Agree
<b>Insufficient Checkout Process</b>			
I would be more likely to complete my purchase if the checkout process on social media platforms were convenient and straightforward.	3.30	.61	Strongly Agree
<b>Weighted Mean</b>	<b>3.27</b>	<b>.65</b>	<b>Strongly Agree</b>

Legend: 3.25 – 4.00 – Strongly Agree (SA)/Highly Engaged (HE) 2.50 – 3.24 – Agree(A)/Engaged (E) 1.75 – 2.49 – Disagree/Low Engagement (LE) 1.00– 1.74 – Strongly Disagree (SD) /Very Low Engagement (VLE)

Table 5 presents the differences in the assessment of the video reel elements influencing purchase decisions when respondents are grouped by profile variables. The results reveal that none of the demographic variables—age (p = 0.425), sex (p = 0.352), income (p = 0.495), and civil status (p = 0.385)—show statistically significant differences at the 0.05 level. This suggests that the influence of video reels on purchasing decisions is consistent across different demographic groups.

**Table 5. Differences in the Assessment of the Elements of Video Reels Influencing Purchase Decision When Grouped According to Profile**

Variables	Computed	p-value	Decision	Conclusion	
Age	Purchase	.156	.425	Accept	Not Significant
	Decision			Ho	
Sex	Purchase	1.14	.352	Accept	Not Significant
	Decision			Ho	
Income	Purchase	.76	.495	Accept	Not Significant
	Decision			Ho	
Civil Status	Purchase	1.02	.385	Accept	Not Significant
	Decision			Ho	

Note: significant at .05

Table 6 summarizes the barriers that prevent purchase completion among consumers interacting with video reels in e-commerce platforms. The overall weighted mean of 3.27 indicates that respondents strongly agree that there are notable obstacles to completing purchases.

The top barriers include: Concerns over data security and privacy (M = 3.46); Skepticism towards exaggerated product claims in video reels (M = 3.27), and Misalignment between brand values and personal beliefs (M = 3.25).

While still significant, other challenges such as unfamiliarity with the purchase process (M = 2.83), high price sensitivity (M = 2.79), and complex interface design (M = 2.59) received lower, yet still agreeing, responses. Interestingly, the checkout process stood out, with respondents strongly agreeing (M = 3.30) that a more streamlined and user-friendly checkout on social media platforms could increase their likelihood of purchase completion.

Table 7 displays the results of tests for significant differences in how respondents assess barriers preventing purchase decisions, grouped by their demographic profiles.

For age, the computed value is 1.05 with a p-value of 0.373, which is above the 0.05 threshold; For sex, the computed value is 0.75 with p = 0.451; For income, the computed value is 0.92 with p = 0.455; For civil status, the computed value is 1.47 with p = 0.223.

In all cases, the p-values exceed 0.05, so the null hypothesis (Ho) was accepted across all demographic variables. This means no statistically significant differences exist in how respondents perceive barriers to completing purchases when grouped by age, sex, income, or civil status.

**Table 7 Difference on the Barriers Preventing Purchase Decision When Grouped According to Profile**

Variables	Computed	p-value	Decision	Conclusion	
Age	Engagement	1.05	.373	Do Not	Not Significant
				Reject Ho	
Sex	Engagement	.75	.451	Do Not	Not Significant
				Reject Ho	
Income	Engagement	.92	.455	Do Not	Not Significant
				Reject Ho	
Civil Status	Engagement	1.47	.223	Do Not	Not Significant
				Reject Ho	

Note: significant at .05

The results in Table 8 indicate that there is a strong, positive correlation between engagement and barriers,  $r = .510$ ,  $p < .001$ , which leads to rejection of the null hypothesis. This suggests that as consumers' engagement with video reels increases, they tend to perceive more barriers to completing a purchase (or more sensitively acknowledge such barriers).

There is a weaker but still significant positive correlation between purchase decision and barriers,  $r = .186$ ,  $p = .009$ , also leading to rejection of the null hypothesis. Thus, a higher tendency toward purchase decisions is associated with greater recognition or concern regarding barriers.

These results suggest that both engagement and purchase decision are significantly associated with consumers' perceptions of the barrier

preventing purchase completion, though the strength of the relationships differs.

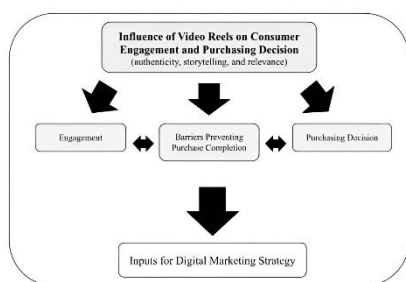
**Table 8. Relationships of Engagement and Purchase Decision to Barriers Preventing Purchase Completion**

Variables		Pearson-r	p-value	Decision	Conclusion
Engagement	Barriers	.510	.000	Reject Ho	Significant
Purchase Decision	Barriers	.186	.009	Reject Ho	Significant

Note: significant at .05

Summarizing all the tables, results indicate that no significant differences exist in engagement and purchase decisions when respondents are grouped by demographic variables such as age, sex, income, and civil status ( $p > .05$ ). This suggests that video reels influence consumers similarly across demographic segments.

However, a strong positive correlation was found between engagement and perceived barriers ( $r = .510$ ,  $p < .001$ ) and a weaker but still significant correlation between purchase decision and barriers ( $r = .186$ ,  $p = .009$ ). These findings imply that as engagement with video reels increases, consumers become more aware of purchase barriers, particularly regarding trust, security, and the convenience of the online buying process.



**Figure 3. Influence of Video Reels on Consumer Engagement and Purchasing Decision**

Overall, findings clearly indicate that key elements of video reels, such as authenticity, storytelling, and relevance, play a crucial role in driving consumer engagement. This aligns well with the theoretical framework of content creation engagement theory, which highlights these elements as central to consumer interaction and significantly impacts the barriers to purchase.

Research by Dwivedi et al. (2021) and Yoon et al. (2019) further emphasizes that authenticity and emotional resonance in video reels are essential for building consumer trust and enhancing engagement. However, despite strong engagement, factors such as privacy concerns, complicated checkout processes, and a general lack of trust still hinder consumers from completing their purchases.

Interestingly, the data showed that demographic factors had little effect on either engagement or these purchase barriers, which contrasts with the findings of Gu et al. (2022), who suggest that the effectiveness of a video reel depends on its target audience. Therefore, this study suggests that the quality of content and the overall user experience are more important than audience demographics in converting engagement into actual sales.

This aligns with the claims made by Ananda and Halim (2022), who argue that interactivity, relevance, perceived benefits, and engagement with a credible influencer shape consumer attitude toward brands and influence their buying behavior. Furthermore, supporting research from Dong et al. (2023), Xiao et al. (2023), and Moran et al. (2020) highlights that visually engaging, emotional, and interactive elements of a video reel significantly drive consumer engagement.

## DISCUSSION

The demographic data suggest that the respondents are predominantly young, female, single individuals with moderate income levels, which provides important context for understanding their perspectives and responses in relation to the objectives of the study.

The findings indicate that video reels effectively influence consumer engagement, particularly when they deliver authentic, relevant, and emotionally resonant content. These results support the study's framework and suggest that content quality—particularly in terms of relevance, authenticity, emotional impact, and storytelling—has a more significant effect on consumer engagement than demographic factors. The results also provide actionable insights for marketers and content creators seeking to improve engagement through tailored video reel strategies on platforms such as TikTok, Facebook, and Instagram. Dong et al. (2023) and Xiao et al. (2023) affirm that relevance, storytelling, and emotional connection of content play a significant role in influencing consumer engagement. Shukri & Mustaffa (2023), also emphasize the importance of high-quality and emotionally resonant content increases consumer engagement, as they can relate to the content. Furthermore, these findings also align with the framework, Content Creation Engagement Theory (Rachmad, 2023), highlighting that authenticity, interactivity, relevance, and quality of the content are key elements in driving consumer engagement.

Results of the difference on the factors influencing engagement when grouped according to profile revealed that there is no significant difference on the factors influencing consumer's engagement on e-commerce when grouped according to profile. This is supported by the results in the study of Xiao et al. (2023) that content quality and emotional appeal consistently generate engagement across diverse audiences.

Results indicate that video reels influence purchase decisions primarily through credible endorsements, perceived product usefulness, and engaging content. Consumers' purchasing decisions are significantly influenced by high-quality and authentic content, particularly when it is presented by trusted and credible key opinion leaders. Additionally, the perceived usefulness of the product plays a crucial role in addressing the question, "Why do I need to buy this product?". According to Shukri and Mustaffa (2023) and Cheng et al. (2022), high-quality, credible, and engaging content fosters favorable consumer perceptions. Video reels should not only be emotionally engaging but also feature clear product visualization and informative elements to effectively influence purchase decisions across digital platforms.

Differences in the assessment of the video reel elements influencing purchase decisions when respondents are grouped by profile variables showed no statistically significant differences at the 0.05 level. This suggests that the influence of video reels on purchasing decisions is consistent across different demographic groups.

Risk factors and trust issues are the most critical barriers preventing purchase completion, highlighting that perceived risk significantly affects consumers' reluctance to complete their transactions, followed by the pricing fairness and operational efficiency, supporting the findings of Pitta et al. (2024) emphasizing the factors such as perceived risk, customer adoption challenges, high price concerns, and the overall business environment prevents consumers from completing their purchase.

There is no significant difference in the barriers preventing purchase completion among the consumers of e-commerce when grouped

according to profile. Dwivedi et al. (2021), Oruç and Aydin (2022), and Teves (2021), emphasized that concerns such as perceived risk, security issues, usability challenges, and high-price sensitivity are experienced across all demographic segments. These common barriers are considered universal obstacles in the context of online shopping.

Engagement and purchase decisions are significantly associated with consumers' perceptions of barriers, although to varying degrees. The stronger correlation between engagement and barriers may reflect that more active and discerning consumers are both highly responsive to content and more critical of potential risks. Meanwhile, the weaker relationship with purchase decisions suggests that while barriers are acknowledged, they do not necessarily outweigh consumers' motivation to buy.

According to Cohen's (1988) interpretation of effect size for correlation coefficients, the relationship between engagement and perceived barriers ( $r = .510$ ) indicates a strong positive effect, meaning that highly engaged consumers tend to be more aware of potential risks and constraints in e-commerce transactions. Conversely, the correlation between purchase decision and barriers ( $r = .186$ ) reflects a small effect, suggesting that while perceived barriers have some influence on purchase behavior, their impact is relatively minor compared to engagement. These effect size interpretations highlight that engagement exerts a more substantial behavioral influence than purchase decision when related to perceived barriers, reinforcing the role of content-driven engagement as the primary driver of consumer awareness and intent in online shopping contexts.

## CONCLUSION

As this study aimed to examine the influence of video reels on consumer engagement and purchasing decisions in e-commerce, with a specific focus on Filipino online consumers, the findings indicate that elements such as authenticity, storytelling, and relevance in video reels significantly drive engagement. These results align with the content creation engagement theory, which emphasizes the role of quality, relevance, and emotional connection in fostering meaningful consumer interactions.

While engagement is critical, the study also revealed that high engagement alone does not guarantee purchase completion. Barriers such as privacy concerns, complex checkout processes, and exaggerated claims continue to hinder consumers from finalizing transactions. Additionally, demographic variables showed minimal impact on engagement or purchase behavior, suggesting that content quality and platform usability have a stronger influence than factors such as age, gender, or income.

The study further affirms that interactivity, perceived benefits, and credible influencers contribute positively to consumer attitudes and purchasing behavior. Visually engaging and emotionally resonant video content holds long-term strategic value—not only for promotion but also for building deeper consumer-brand relationships over time.

These insights underscore the responsibility of digital marketers to produce high-quality, relatable, and emotionally compelling video content while simultaneously addressing operational barriers to purchase. Media practitioners and content creators must prioritize storytelling, visual design, and platform optimization. Meanwhile, e-commerce platforms and business owners should focus on improving platform security, simplifying the checkout process, and building trust throughout the customer journey.

Ultimately, in today's competitive and fast-paced digital environment, bridging the gap between attention and action requires more than compelling content—it demands frictionless, secure, and trustworthy shopping experiences. This study provides actionable, localized insights to support the development of digital marketing strategies that not only engage but convert, contributing to both academic literature and real-world e-commerce practice in the Philippine context.

## Implications

Based on the findings that this study has shown, suggested here are the following implications providing a timely insight into the evolving role of video reels in shaping consumer behavior, highlighting the study's relevance to various sectors of the digital marketing industry, media practitioners, and businesses.

The results of this study emphasize the importance of producing an authentic, relevant, conveying compelling story, and entertainment as key factors in influencing engagement across demographics. This suggests that marketing professionals should prioritize content-driven strategies over demographic segmentation. Video reels that are interactive, emotionally compelling, and of high quality are more successful at drawing viewers in and swaying their decisions to buy.

Businesses and online retailers should note that even though engagement plays a significant role in earning the consumers' attention, it does not mean that this always leads to completed purchases. Taking attention beyond marketing strategies such as the operational barriers (perceived risks, platform complexity, and inefficient checkout processes) should also be considered to bridge the gap between engagement and actual sales.

Key Opinion Leaders (KOLs) and influencers play a critical role in fostering consumer trust and connecting brands with their audiences. The findings indicate that consumers prioritize credibility, authenticity, and relatability in the content creators they engage with in video reels. Therefore, this study suggests that media practitioners should emphasize producing not only entertaining content but also brand-aligned, value-driven material that reflects the brand's strong integrity and commitment to its identity.

This study will contribute to the limited number of localized research on Filipino online shoppers and can be used as a foundation for further explorations such as the long-term effects of video engagement, platform-specific behavior of consumers, and the emergence of AI through video content or augmented reality being integrated into marketing strategies to deepen the understanding of online consumer behavior.

This study enables consumers to better understand the technical and psychological factors that influence their purchasing behavior by highlighting the critical components that impact engagement and the obstacles to purchase. This helps the consumers to be more aware, knowledgeable, and cautious when making purchases online, especially when watching videos.

Overall, these implications go beyond the creative aspect of digital marketing which this study is implying to achieve in closing the gap between consumer engagement and sales. To be able to achieve that, businesses must integrate seamless platform usability, build consumer trust, and optimize operational functionality into their overall strategic marketing approach.

## Recommendations

In light of the study's findings and the implications, the following recommendations are suggested to further enhance digital marketing strategies by utilizing the power of video reels to strengthen the Philippines' e-commerce industry. These recommendations are intended

for marketing professionals, media practitioners, content creators, business owners, and future researchers aiming to improve consumer engagement and address barriers that influence consumer's purchasing decisions and hinder their purchase completion with localized, data-driven insights to understand the influence of video reels on consumer engagement and purchasing behavior. The recommendations aim to bridge the gap between engagement and actual sales, leveraging the influence of video reels in social media platforms focusing on the Philippines.

For marketing professionals and business owners are encouraged to invest in producing high-quality, emotionally resonant video reels that align with the values and lifestyles of their audience by incorporating creative storytelling and authenticity in content to foster long-term relationships with consumers. Additionally, to explore collaborations with credible and well-known Key Opinion Leaders (KOLs) from their targeted niche or community to enhance brand trustworthiness, authenticity, and credibility. However, strategic marketing should not just focus on planning content strategies to captivate consumer engagement. This must also include operational considerations for smoother, more secure, and user-friendly platform functionality ensuring consumer ease of usage and bridging the gap between engagement and actual sales which remains a challenge in today's digital landscape. By addressing both creative and operational aspects, businesses could create more seamless shopping experiences for consumers, helping them to turn high-engagement video reels into actual sales.

For media practitioners and influencers, this study encourages them to produce video reels that are not only entertaining but also authentic, relatable, and informative that aligns with the brand's image. Furthermore, it is imperative to avoid misleading or exaggerated claims that could undermine consumer trust and foster skepticism towards the brand or its products. Given their status as trusted online voices, it is essential to acknowledge that these individuals can significantly influence consumer trust and purchasing decisions when their messaging is relevant, transparent, and consistent with audience expectations.

This study then recommends a deeper exploration of various short-form video reels (e.g., reviews, tutorials, storytelling, influencer-led content) affecting specific consumer segments' engagement and conversion, considering product categories such as fashion, electronics, or home essentials. As well as investigating the emergence of AI-generated content or augmented reality in influencing consumer behavior towards video reels in digital marketing. By comparing the effectiveness of video reels on Facebook, Instagram, and TikTok, researchers may also look at platform-specific reactions to video reels and improve their audience targeting and content distribution tactics.

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## RESEARCH ARTICLE

*Letran Business and Economics Review* 3(1) 2026, pp. 13-22

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Volume 3 Issue 1

EISSN: 2704-4637

# SME's Strategies for Organizational Success Towards Business Continuity Plan and Sustainability

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## ABSTRACT

This study explores the strategies employed by Small and Medium Enterprises (SMEs) in achieving organizational success through the integration of Business Continuity Planning (BCP) and sustainability practices. Using a qualitative phenomenological approach, the research examined the lived experiences of SME owners and employees in Makati to understand how the four components of BCP—People, Processes, Premises, and Providers—shape resilience during disruptions such as the COVID-19 pandemic. Findings revealed that effective communication, continuous training, and responsive feedback mechanisms enhance organizational adaptability, while risk assessment, technological integration, and efficient resource management strengthen business operations. The study further identified workplace adaptability, environmental considerations, and strong supplier partnerships as crucial factors influencing continuity and long-term sustainability. Based on these insights, a strategic framework was proposed to guide SMEs in developing resilient, sustainable, and competitive business continuity strategies.

**Keywords:** *Business Continuity Plan, SMEs, Sustainability, Organizational Success, Resilience*

## INTRODUCTION

Small and medium-sized enterprises (SMEs) exhibit structural vulnerability to market volatility and experience higher failure rates than larger firms (Menina, 2023). The COVID-19 pandemic intensified these weaknesses, as supply chain disruptions, declining demand, and mobility restrictions significantly constrained SME operations across developing economies (Asian Development Bank [ADB], 2025). Setiawati and Mastarida (2023) similarly observed that prolonged uncertainty forced many SMEs to scale down or cease operations. In the Philippines, limited digital infrastructure further hindered the transition to remote and digital business models (ADB, 2025). These conditions highlight a fundamental structural gap: many SMEs lack formalized resilience systems and integrated continuity strategies necessary to withstand systemic disruptions.

Despite these challenges, SMEs remain essential to economic growth, employment generation, and inclusive development. Their continued contribution, however, depends on strengthening long-term sustainability. Increasing environmental pressures, regulatory requirements, and stakeholder expectations necessitate the integration of sustainable practices into core business operations. As noted by Setiawati and Mastarida (2023), sustainability has become a strategic determinant of competitiveness, influencing firms' access to markets, supply chains, and critical resources.

In addition, digital transformation and innovation have emerged as key determinants of organizational survival and resilience. Mishrif and Khan (2023) emphasize that technological adoption enhances operational efficiency and competitiveness, while Priyono et al. (2024) identify digital transformation as a driver of organizational agility during crises. However, access to digital infrastructure, financial capital, and technological expertise remains uneven, particularly among SMEs in developing economies. Consequently, SME responses

to disruption are often reactive and fragmented rather than guided by structured continuity frameworks (Setiawati & Mastarida, 2023).

The pandemic underscored the importance of embedding resilience and sustainability within a coherent strategic framework. Business Continuity Planning (BCP) has been identified as a critical mechanism for anticipating risks, maintaining operational stability, and preserving stakeholder confidence during disruptions (Syahribulan et al., 2025). Nevertheless, empirical research examining structured business continuity components in developing-country contexts remains limited. In the Philippines, infrastructural and institutional constraints continue to impede the adoption of formal continuity systems among SMEs.

Accordingly, this study contextualizes the Business Continuity Framework within Philippine SMEs and examines how its core dimensions—People, Processes, Premises, and Providers—collectively influence organizational resilience and sustainability. By integrating continuity and sustainability perspectives, this research contributes to theoretical development and provides evidence-based insights to support SME resilience and long-term sustainability in emerging economies. This study is anchored in the Business Continuity Framework (BCF) and Contingency Theory, which collectively explain how small and medium-sized enterprises (SMEs) develop resilience and sustain operations under conditions of uncertainty. These complementary perspectives provide structural and contextual foundations for understanding organizational continuity and long-term sustainability.

## Business Continuity Framework

The Business Continuity Framework conceptualizes organizational preparedness as a systematic and proactive approach to maintaining essential operations during and following disruptive events. Beyond recovery, it emphasizes anticipation, mitigation, and adaptive capacity. Herbane (2022) and Linnenluecke (2022) argue that resilience reflects an organization's capacity to absorb disruptions while preserving core functions and strategic direction. In this context, Business Continuity Management (BCM) institutionalizes preparedness by integrating risk awareness and response mechanisms into routine organizational processes.

Empirical evidence underscores the strategic importance of structured BCM practices. Arosio et al. (2023) demonstrate that formalized continuity systems enhance SME preparedness through integrated risk assessment and response planning. Battisti et al. (2023) further note that systematic identification of vulnerabilities and contingency measures strengthens financial stability and customer retention. In resource-constrained environments, structured continuity frameworks provide essential guidance for minimizing operational and reputational risks (Chowdhury et al., 2022). Collectively, these findings position business continuity as a critical capability for sustaining organizational performance under volatile conditions.

This study operationalizes the Business Continuity Framework through four interrelated dimensions: People, Processes, Premises, and Providers.

People refer to leadership competence, employee capability, and stakeholder engagement, which collectively influence adaptive decision-making and recovery effectiveness. Leadership preparedness is particularly critical in SMEs, where decision-making authority is often centralized (Pettit et al., 2024).

Processes encompass formalized workflows, risk management systems, and documented recovery procedures that enhance coordination and response efficiency. Integrated operational and risk management practices contribute significantly to organizational resilience (Ivanov & Dolgui, 2023).

Premises include physical infrastructure and digital systems that support operational continuity. Technological readiness, such as digital platforms and remote work capabilities, enhances organizational flexibility during disruptions.

Providers refer to external partners, suppliers, and value-chain actors whose reliability influences organizational vulnerability. Diversified and collaborative supplier networks reduce supply chain disruptions and support sustained operational performance (Ivanov & Dolgui, 2023).

### Contingency Theory and Contextual Adaptation

While the Business Continuity Framework identifies essential structural components, Contingency Theory explains variations in their effectiveness. The theory posits that organizational performance depends on the alignment between internal structures and external environmental conditions (Meyer et al., 2023). There is no universally optimal continuity model; effectiveness is contingent upon situational factors, including firm size, resource availability, technological capability, and market dynamics. For SMEs, continuity strategies must therefore be context-specific rather than standardized. Adaptive alignment between organizational structures and environmental conditions is essential for achieving resilience.

### Integrated Theoretical Perspective

The integration of the Business Continuity Framework and Contingency Theory provides a comprehensive explanation of SME resilience. The Business Continuity Framework defines the structural foundations of continuity—People, Processes, Premises, and Providers—while Contingency Theory emphasizes the importance of contextual

alignment in determining their effectiveness. Structural preparedness establishes the basis for resilience, whereas contextual adaptation determines its sustainability.

Accordingly, this study posits that SME sustainability depends not only on the presence of continuity mechanisms but on their strategic alignment with organizational and environmental conditions. This integrated framework guides the empirical examination of how SMEs develop and implement contextually appropriate continuity strategies to enhance resilience and ensure long-term sustainability.

### Review of Related Literature

The COVID-19 pandemic significantly disrupted small and medium-sized enterprises (SMEs), exposing structural vulnerabilities related to workforce availability, supply chain continuity, and financial stability. SMEs account for more than 90% of businesses worldwide and contribute substantially to employment and economic activity; however, their limited financial reserves, technological capacity, and operational flexibility make them more susceptible to external shocks compared to larger organizations (Kraus et al., 2022). The pandemic revealed systemic weaknesses in SME preparedness, particularly in maintaining operational continuity during prolonged disruptions. Herbane (2022) argues that such crises exposed deficiencies in continuity structures, highlighting the necessity for proactive risk management and continuity planning. Although Kraus et al. (2022) emphasize SMEs' vulnerability during disruptions, Arosio et al. (2023) demonstrate that organizations with structured business continuity planning (BCP) mechanisms experienced faster recovery and operational stabilization, suggesting that resilience is strongly influenced by preparedness and strategic continuity frameworks.

Business continuity planning serves as a strategic framework that enables organizations to maintain essential functions during crises while supporting long-term organizational viability. According to Arosio et al. (2023), BCP aligns immediate response actions with long-term operational objectives, ensuring continuity of service delivery and facilitating systematic recovery. Furthermore, recent research highlights that effective BCP extends beyond risk mitigation and incorporates technological innovation, stakeholder coordination, and sustainability-oriented practices to strengthen organizational adaptability (Battisti et al., 2023; Sullivan-Taylor & Wilson, 2025). Similarly, Sullivan-Taylor and Wilson (2025) emphasize that continuity planning enhances adaptive capacity by enabling organizations to anticipate risks, respond effectively, and reorganize operations under uncertain conditions. These findings collectively suggest that BCP is not merely a reactive measure but a strategic capability that supports organizational resilience, operational stability, and long-term sustainability.

Central to effective BCP implementation are the four interrelated components: People, Processes, Premises, and Providers. The People component refers to the workforce's skills, preparedness, and adaptability, which are essential for maintaining operational continuity during disruptions. Employee competence, crisis awareness, and leadership support enhance organizational responsiveness and recovery capacity. The Processes component encompasses operational procedures, contingency protocols, and communication systems that ensure continuity of critical functions. Clearly defined and adaptable processes enable organizations to respond efficiently and minimize operational interruptions. The Premises component refers to the physical and technological infrastructure required for operations, including facilities, equipment, and digital systems, which support continuity through redundancy, remote work capabilities, and infrastructure resilience. Finally, the Providers component includes external stakeholders such as suppliers, contractors, and service

partners, whose reliability directly affects supply chain stability and operational continuity. Studies by Chowdhury et al. (2022) and Ivanov and Dolgui (2023) emphasize that supplier coordination, diversified sourcing, and collaborative partnerships significantly enhance supply chain resilience and reduce disruption risks. Collectively, these four components function as an integrated system that strengthens organizational preparedness, enabling SMEs to sustain operations, recover more efficiently, and maintain long-term performance.

The integration of business continuity planning with sustainability represents an emerging strategic paradigm in organizational management. Sustainability-oriented BCP enables SMEs not only to survive disruptions but also to enhance adaptive capacity, improve resource efficiency, and maintain long-term competitiveness. Sullivan-Taylor and Wilson (2025) argue that continuity planning contributes to sustainable organizational development by promoting proactive risk management, stakeholder engagement, and strategic adaptability. Consequently, BCP supports both immediate operational recovery and long-term organizational success, reinforcing the link between continuity preparedness, resilience, and sustainability outcomes.

Despite the growing body of literature on SMEs, pandemic disruptions, and business continuity planning, significant gaps remain. Existing studies primarily focus on general resilience strategies or examine BCP in large organizations and developed economies, limiting the applicability of findings to SMEs in developing countries. Furthermore, many studies adopt qualitative or descriptive approaches, which provide limited empirical evidence on the measurable effects of specific BCP components. In particular, there is insufficient quantitative research examining the combined and individual contributions of the four core BCP components—People, Processes, Premises, and Providers—to organizational success and sustainability. This gap is especially evident in the Philippine context, where SMEs operate under distinct economic, structural, and environmental conditions. Addressing this gap is critical to understanding how continuity planning components influence SME resilience and sustainability, thereby providing empirical evidence to support strategic continuity planning and long-term organizational success.

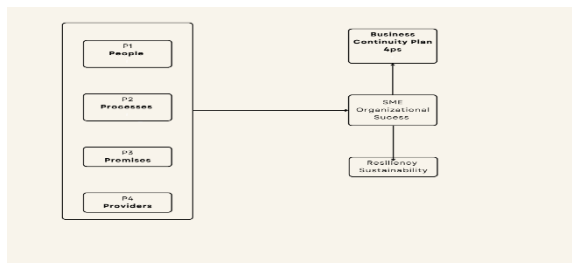


Figure 1. Conceptual Framework

### Conceptual Framework

This study adopts a conceptual framework that explains how the core components of Business Continuity Planning (BCP)—People, Processes, Premises, and Providers—influence the organizational success and sustainability of small and medium-sized enterprises (SMEs). These components represent critical operational domains that shape an organization's preparedness, response capability, and recovery during disruptions. Herbane (2022) asserts that effective continuity planning enhances organizational resilience by integrating human, operational, infrastructural, and external resource capacities.

The **People** component encompasses workforce competencies, leadership capability, communication effectiveness, and employee preparedness, all of which are essential for coordinated decision-making and effective crisis response. Linnenluecke (2022) and Battisti

et al. (2023) emphasize that employee training, leadership effectiveness, and organizational learning significantly strengthen adaptive capacity and organizational resilience.

The Processes component refers to operational workflows, risk assessment procedures, contingency protocols, and internal control systems that ensure continuity of essential business functions. Arosio et al. (2023) found that structured continuity procedures and risk management systems contribute to faster recovery and improved operational stability during disruptions.

The Premises component includes the physical and digital infrastructure required to sustain business operations, such as facilities, equipment, and technological systems. Sullivan-Taylor and Wilson (2025) highlight that technological readiness and resilient infrastructure enable organizations to maintain operational continuity and support long-term sustainability.

The Providers component involves external stakeholders, including suppliers, contractors, and service providers, whose reliability directly affects supply chain continuity and operational performance. Ivanov and Dolgui (2023) and Chowdhury et al. (2022) emphasize that supplier diversification and collaborative partnerships enhance supply chain resilience and organizational stability.

Collectively, these components form an integrated framework that strengthens organizational preparedness, enhances resilience, and supports long-term sustainability. Herbane (2022) notes that organizations with comprehensive continuity planning are better positioned to withstand disruptions and maintain performance. This framework guides the present study in examining how the core components of BCP influence SMEs' ability to sustain operations, recover from disruptions, and achieve long-term organizational success in dynamic and uncertain environments.

## METHOD

The data were analyzed using thematic analysis, a method commonly used in phenomenological research to identify and interpret patterns within qualitative data. This approach was appropriate as it enabled systematic examination of participants' lived experiences and the identification of themes related to SME resilience and business continuity during crises.

Participants were selected through maximum variation purposive sampling to capture diverse experiences across industries and organizational contexts. The inclusion criteria required at least five years of experience working in or managing SMEs within the National Capital Region. A sample size of eight to ten participants was targeted to ensure depth and richness of experiential data, consistent with phenomenological research standards.

The analysis followed a structured and iterative process. Interview recordings were transcribed verbatim, and transcripts were repeatedly reviewed to ensure familiarity with the data. Significant statements and relevant descriptions were identified and coded. These codes were then grouped into categories based on similarities and refined into broader themes that captured the essence of participants' experiences. The themes were reviewed, interpreted, and aligned with the research objectives to provide a comprehensive understanding of SME resilience strategies.

Ethical standards were strictly observed. Participants provided informed consent and were informed of their right to withdraw at any time. Confidentiality and anonymity were ensured through the use of

pseudonyms and the removal of identifying information. All data were securely stored and used solely for academic purposes.

### Research Instrument

Data were collected using a semi-structured interview guide consisting of open-ended questions designed to explore the experiences, strategies, and perspectives of SME owners and managers regarding business continuity and sustainability. The interview guide was developed based on the study's research objectives, conceptual framework, and relevant literature on business continuity planning and organizational resilience.

To ensure content validity and clarity, the interview guide underwent expert review by two field specialists with expertise in business management and research methodology. Their feedback focused on the relevance, clarity, and alignment of the questions with the study objectives. Minor revisions were made to improve question wording, sequence, and comprehensiveness. In addition, pilot testing was conducted with two SME representatives who were not included in the final sample. The pilot test helped identify ambiguous questions and improve the logical flow of the interview. Necessary refinements were made based on their feedback to enhance the reliability and effectiveness of the instrument.

The interview guide included open-ended questions that allowed participants to freely share their experiences. Sample interview questions included: (1) Can you describe how your business responded when disruptions occurred? (2) What strategies did you implement to ensure the continuity of your operations? (3) What challenges did you encounter, and how did you address them? (4) How did your employees, suppliers, or partners contribute to sustaining your business? (5) What lessons did you learn that helped strengthen your business continuity and sustainability?

Interviews were conducted through an online platform to ensure accessibility and convenience. With participants' informed consent, all interviews were audio-recorded to ensure accurate and complete data capture. The researcher also took detailed field notes during and after each session to document observations, contextual details, and initial reflections.

To ensure confidentiality and data security, all recordings and transcripts were stored in password-protected digital files accessible only to the researcher. Participants were informed of the purpose of the recording and their right to decline or withdraw at any time without penalty. Additionally, the researcher maintained a reflexive journal throughout the data collection process to document methodological decisions, personal reflections, and emerging insights, thereby enhancing the credibility, transparency, and trustworthiness of the study.

### Assumptions of the Study

The researcher assumes that the participants provide truthful and accurate accounts of the challenges they experienced and the strategies they implemented during periods of disruption. It is further assumed that participants are able to clearly recall their operational experiences and articulate their responses, which is essential in a phenomenological inquiry. The study also assumes that the selected small and medium enterprises (SMEs) have implemented some form of continuity strategy, whether formal or informal, in response to operational challenges. Additionally, it is assumed that the disruptions encountered had measurable effects on business operations, influencing decision-making processes and overall performance. These assumptions establish the necessary research conditions for gathering reliable and meaningful data.

### Data Analysis

The analysis began with epoche (bracketing), during which the researcher engaged in reflexive journaling to set aside prior assumptions. Horizontalization followed, wherein all significant statements relevant to the phenomenon were identified from interview transcripts and journal notes and treated with equal value. Redundant statements were removed to establish invariant constituents.

These constituents were clustered into meaning units, forming thematic representations grounded in participants' narratives. Textural descriptions were developed to capture what participants experienced, while structural descriptions explained how the experiences occurred within specific contexts. The integration of these descriptions resulted in a composite statement reflecting the essence of the phenomenon.

Data saturation was reached after 15 in-depth interviews, indicated by recurring themes and the absence of new experiential meanings.

Trustworthiness was ensured through member checking, maintenance of an audit trail (transcripts, memos, and reflexive notes), peer debriefing, and triangulation of interview and field note data.

## RESULTS AND FINDINGS

**Table 1. Thematic Findings**

Key Statements	Codes	Minor Theme	Major Theme
<i>"We use group chats and weekly meetings, but sometimes messages get lost."</i>	group chats, weekly meetings, and miscommunication	Communication practices and barriers	Communication as a Driver of Efficiency and Challenges
<i>"I attended a skills training last year which helped me manage new tools at the site."</i>	upskilling programs, training impact	Training as capacity-building	Training as Organizational Adaptability
<i>"Clients often give suggestions, and we adjust based on their feedback."</i>	client feedback, adjustments, improvement	Constructive feedback utilization	Feedback as a Tool for Continuous Improvement
<i>"We monitor our cash flow regularly and keep backup suppliers."</i>	financial monitoring, backup suppliers	Proactive risk prevention	Risk Management Practices in SMEs
<i>"Adopting new software helped us track projects faster."</i>	digital tools, efficiency improvement	Benefits of technology adoption	Technology Integration for Competitiveness
<i>"We struggle with limited manpower, so we often multitask."</i>	manpower shortage, multitasking	Resource limitations and trade-offs	Resource Management and Sustainability
<i>"We reorganized the workplace to comply with new safety protocols."</i>	workplace adjustments, compliance	Flexible workplace practices	Workplace Adaptability
<i>"Bad weather delayed the project, so we rescheduled tasks."</i>	weather disruptions, rescheduling	Adaptive responses	Navigating Environmental Factors
<i>"After every project, we document lessons learned for future use."</i>	process documentation, lessons learned	Systematic improvement practices	Continuous Improvement for Competitiveness
<i>"We prioritize funds for projects that give higher returns."</i>	financial prioritization, project-based allocation	Effective allocation practices	Strategic Resource Allocation
<i>"We keep an emergency fund in case of delays or shortages."</i>	contingency fund, backup plan	Preparedness for disruptions	Contingency Planning and Resilience
<i>"We rely on trusted suppliers who deliver on time."</i>	reliable suppliers, partnership trust	Strengthening supply chain partnerships	Supply Chain Management

*"I make sure that resources are properly allocated every day. We avoid wasting materials and ensure equipment is maintained so we don't spend extra. We also look for suppliers with sustainable products."*

cost-efficiency, resource allocation, sustainable sourcing

Profitability and Sustainability Alignment

Strategic Leadership for Sustainable Organizational Success

development—covering safety standards, digital tools, and updated construction techniques—enhances workforce readiness. One owner remarked, *"When workers are trained, they adjust faster to changes."* Another shared, *"Mistakes decrease when people know exactly what to do."*

Inadequate training, by contrast, resulted in delays, inefficiencies, and quality issues. These findings reinforce literature suggesting that human capital development strengthens adaptive capacity and long-term competitiveness in SMEs (Garcia-Morales et al., 2021). Training enhances not only technical proficiency but also organizational resilience by enabling rapid response to disruptions.

### **Theme 3: Feedback as a Tool for Continuous Improvement**

Feedback mechanisms—though often informal—served as tools for operational refinement. Participants described post-project evaluations, supervisor comments, and client feedback as essential for preventing recurring errors. One participant stated, *"We review what went wrong so we don't repeat it next time."* Another emphasized, *"Client feedback helps us improve before small issues become big problems."*

This embedded learning culture fosters accountability and incremental improvement. The findings support continuous improvement theory, which emphasizes feedback loops as drivers of organizational learning and performance enhancement (Argote & Miron-Spektor, 2019).

Collectively, communication, training, and feedback reinforce one another as human-centered pillars of continuity. Communication enables coordination, training strengthens capability, and feedback sustains learning. Together, these themes reflect a resilience-oriented culture grounded in adaptability and shared responsibility. Within the Business Continuity Framework, the People component functions as the primary enabler of operational stability during both routine and disruptive conditions.

### **Process Components (Themes 4–6)**

The Process component focuses on operational systems and managerial practices that support continuity and efficiency. These themes capture how SMEs manage risks, integrate technology, and allocate resources to sustain operations. Participants described processes as structured yet adaptive mechanisms that enable organizations to anticipate disruptions, coordinate activities, and maintain workflow stability. Risk management, technology integration, and resource management emerged as critical operational capabilities that enhance efficiency, reduce vulnerability, and strengthen organizational resilience. These process-oriented practices enable SMEs to maintain continuity despite operational uncertainties and external disruptions.

### **Theme 4: Risk Management Practices in SMEs**

Risk management practices were primarily experience-based rather than formally codified. Participants identified supplier delays, weather disruptions, labor shortages, and financial constraints as recurring threats. One contractor shared, *"You learn from experience. When something happens once, you prepare for it next time."*

Mitigation strategies included contingency planning, expense monitoring, preventive safety measures, and maintaining backup suppliers. Early risk anticipation was frequently cited as essential for cost control and schedule protection. These findings reflect research indicating that SMEs often adopt informal yet proactive risk management approaches rooted in managerial experience (Verbano & Venturini, 2013).

### **Theme 5: Technology Integration for Competitiveness**

Technology adoption significantly influenced operational coordination. SMEs utilizing project monitoring software and digital reporting systems reported improved transparency and faster decision-making. As one participant stated, *"With digital tracking, we see problems*

The themes were generated following a phenomenological thematic analysis approach aimed at capturing the essence of participants' lived experiences. Interview transcripts were transcribed verbatim and repeatedly reviewed to achieve data immersion and holistic understanding. Significant statements relevant to business continuity and operational experiences were identified and extracted as meaning units. These meaning units were then carefully coded and clustered into related categories based on shared meanings and experiential similarities. Through an iterative interpretative process, these categories were synthesized into broader themes that reflect the common structures of experience across participants. This process ensured that the resulting themes authentically represent the participants' perspectives while aligning with the study's focus on the core components of the Business Continuity Plan and organizational success.

### **People Components (Themes 1–3)**

The People component captures themes related to workforce capability, communication effectiveness, training, and organizational learning. These themes reflect how human factors influence operational continuity and organizational resilience in construction SMEs. Participants consistently emphasized that employees are not only responsible for executing tasks but also play a critical role in maintaining coordination, adapting to changes, and improving operational processes. Communication, training, and feedback collectively shape workforce competence, responsiveness, and adaptability. These human-centered practices enable SMEs to sustain operations despite disruptions, resource constraints, and environmental uncertainties.

### **Theme 1: Communication as a Driver of Efficiency and Operational Challenges**

Communication emerged as a central mechanism for coordinating construction activities. Participants consistently described it as foundational to task delegation, workflow alignment, and client engagement. Common platforms included group messaging applications, phone calls, written reports, and on-site meetings. As one participant explained, *"If communication is clear, the project moves smoothly. Everyone knows their role."* Another added, *"Most delays start when instructions are misunderstood."*

However, communication practices were largely informal. The absence of structured documentation systems, message tracking, or formal reporting hierarchies often led to duplicated work and rework. A manager noted, *"Sometimes we rely too much on verbal instructions, and that causes confusion later."* This duality reflects both agility and vulnerability. While informality enables speed, it also weakens accountability.

This finding aligns with prior research indicating that SMEs often privilege flexibility over formal documentation to maintain responsiveness (Ivanov & Dolgui, 2023). Yet, excessive reliance on informal exchanges may compromise operational control and continuity planning.

### **Theme 2: Training as Organizational Adaptability**

Training was consistently framed as a strategic investment rather than an operational cost. Participants emphasized that continuous skill

*immediately.”*

Conversely, limited technological capability led to inefficiencies and delayed reporting. The findings corroborate literature suggesting that digital transformation enhances SME competitiveness and crisis responsiveness (Bouwman et al., 2019). Technology thus serves as a structural support mechanism for process continuity.

#### **Theme 6: Resource Management and Sustainability**

Effective resource management, encompassing manpower, materials, time, and finances, was identified as a core determinant of project success. Participants described deliberate efforts to forecast material needs, optimize labor allocation, control costs, and minimize waste. Given the limited budgets of many SMEs, resource inefficiency was equated with direct financial loss.

Sustainability, within this context, is achieved through strategic resource use rather than large-scale environmental initiatives.

Resource management emerged as a determinant of financial sustainability. Participants emphasized forecasting material needs, optimizing labor deployment, and minimizing waste. One manager noted, *“Every wasted material is lost profit.”*

Sustainability, in this context, was operational rather than environmental—focused on efficiency and cost discipline. These findings align with resource-based theory, which posits that strategic resource utilization underpins sustained competitive advantage (Ramley, 2026).

The process-related themes collectively demonstrate how operational discipline supports resilience. Experiential risk management reduces uncertainty, technology enhances coordination, and strategic resource allocation preserves financial stability. Together, they operationalize continuity principles through proactive planning and efficiency-driven execution.

#### **Premises Components (Themes 7–9)**

The Premises component captures themes related to the physical and environmental conditions influencing operational continuity. Participants emphasized that construction SMEs operate in dynamic and often unpredictable environments that require constant physical and operational adaptation. Workplace adaptability, environmental responsiveness, and continuous improvement emerged as essential capabilities that allow organizations to maintain productivity despite external disruptions. These themes highlight the importance of environmental awareness, operational flexibility, and organizational learning in sustaining continuity within physically demanding and environmentally sensitive work settings.

#### **Theme 7: Workplace Adaptability**

Construction environments require constant physical and operational adjustments. Participants explained that site layouts, workflows, and safety protocols are frequently modified based on project scope, space limitations, and external conditions. During periods of health disruption, such as the COVID-19 pandemic, SMEs adopted additional safety measures and adjusted work arrangements to maintain operations (Awais, 2023).

Construction environments require constant adjustment. Participants described modifying site layouts, workflows, and safety measures in response to project demands and health regulations. During the COVID-19 pandemic, additional protocols were implemented to maintain productivity. As one respondent stated, *“We had to reorganize the site to keep everyone safe and still meet deadlines.”*

Adaptability of physical space and procedures enabled operational continuity despite disruption.

#### **Theme 8: Navigating Environmental Factors**

Environmental forces—such as extreme weather, traffic congestion, and regulatory constraints—were recognized as external vulnerabilities. One participant explained, *“Weather is beyond our control, but we adjust our schedule to minimize delays.”*

SMEs mitigated these risks through proactive scheduling and flexible planning. This finding supports resilience theory, which emphasizes anticipatory adaptation in response to environmental uncertainty (Duchek, 2020).

#### **Theme 9: Continuous Improvement for Competitiveness**

Continuous improvement emerged as a deeply embedded organizational practice. Participants described documenting lessons learned, reviewing completed projects, and refining operational strategies to enhance future performance. Consultants emphasized that this ongoing evaluation allows SMEs to remain competitive, reduce recurring errors, and improve efficiency.

Participants described documenting lessons learned and refining procedures after project completion. A consultant shared, *“Each project teaches us something that improves the next one.”* Continuous evaluation strengthened efficiency and reduced recurring errors.

This practice reinforces dynamic capability theory, which highlights learning and reconfiguration as mechanisms for sustained competitiveness (Teece, 2018).

The premises-related themes highlight spatial, environmental, and evaluative adaptability. Workplace flexibility, environmental responsiveness, and systematic learning collectively enhance organizational resilience. These factors demonstrate that continuity extends beyond internal systems to include physical and contextual adaptability.

#### **Provider Components (Themes 10–12)**

The Provider component focuses on external and managerial support systems that sustain organizational continuity. These themes reflect how SMEs allocate resources strategically, prepare for disruptions, and manage supply chain relationships. Participants emphasized that effective resource allocation, contingency planning, and supplier reliability are essential for maintaining operational stability. These external and managerial support mechanisms enable SMEs to reduce vulnerability, maintain workflow continuity, and sustain project completion despite resource constraints and supply chain uncertainties.

#### **Theme 10: Strategic Resource Allocation**

Strategic allocation of limited resources was identified as a critical managerial function. Participants emphasized prioritizing high-impact tasks, assigning workers based on skill levels, and minimizing material waste. These decisions directly influence project timelines, cost control, and overall profitability.

Participants emphasized prioritizing high-impact tasks and aligning labor assignments with skill levels. One owner stated, *“We assign people where they are strongest to avoid delays.”* Effective allocation ensured productivity despite resource constraints (Traboulsy, 2023).

#### **Theme 11: Contingency Planning and Resilience**

SMEs rely heavily on contingency measures to withstand unexpected disruptions. Participants described maintaining emergency funds, securing alternative suppliers, preparing safety stock, and establishing backup workflows. These measures enable SMEs to respond quickly to unforeseen expenses, supply shortages, and operational interruptions. Emergency funds, backup suppliers, and safety stock were common resilience strategies. As one participant explained, *“You must always*

have Plan B." These measures reflect preparedness and redundancy—core principles of business continuity planning.

### Theme 12: Supply Chain Management

Supply chain reliability was consistently identified as critical to project continuity. Participants stressed the importance of trustworthy suppliers who deliver materials on time and maintain open communication. Long-term relationships built on transparency and mutual trust help minimize delays and reduce operational risk (Okeke, 2024)

Reliable supplier relationships were critical for preventing disruptions. Participants stressed trust, transparency, and long-term partnerships. One manager noted, *"If your supplier is dependable, half your worries are reduced."*

Supply chain challenges, such as price fluctuations, transport delays, and material shortages, were recognized as major threats, reinforcing the need for diversified and dependable supplier networks.

### Organizational Success Component (Theme 13)

The Organizational Success component represents the integrative outcome of effective people management, operational processes, environmental adaptability, and external resource coordination. Participants consistently identified leadership as the central force guiding organizational direction, decision-making, and sustainability. Strategic leadership enables organizations to align short-term operational priorities with long-term sustainability goals, ensuring continuity, resilience, and organizational growth.

### Theme 13: Strategic Leadership for Sustainable Organizational Success

Strategic leadership emerged as the unifying force behind organizational success, sustainability, and resilience. Owners and managers described the need to balance immediate project demands with long-term organizational goals. Decision-making was guided by considerations of financial stability, operational efficiency, environmental responsibility, and workforce well-being.

Leaders support sustainability by implementing resource-efficient systems, encouraging open communication, fostering team involvement, selecting reliable and sustainable suppliers, and cultivating a culture of continuous improvement. Reliable supplier relationships were critical for preventing disruptions. Participants stressed trust, transparency, and long-term partnerships. One manager noted, *"If your supplier is dependable, half your worries are reduced."* Supply chain diversification mitigated risks associated with price volatility and shortages.

## SYNTHESIS OF FINDINGS

The findings reveal that organizational success among construction SMEs emerges from a dynamic and interdependent system of People, Processes, Premises, Providers, and Performance outcomes. Rather than functioning as isolated components, these elements operate in a continuous feedback loop. Human capability (People) drives the execution and refinement of operational routines (Processes); these processes shape how physical and environmental conditions are managed (Premises); adaptive workplace strategies influence coordination with external partners (Providers); and supplier reliability, in turn, reinforces operational stability and performance outcomes. Performance results then inform leadership decisions, workforce learning, and process improvements, creating an ongoing cycle of adjustment and resilience.

Leadership serves as the anchoring force that aligns and integrates all components. Strategic leaders facilitate communication, guide technology adoption, strengthen supplier partnerships, and cultivate adaptive organizational cultures. Their experience-based decision-making ensures that resources are coordinated effectively across

internal and external domains, sustaining both operational continuity and long-term competitiveness.

These findings reinforce the core principles of the Business Continuity Framework by demonstrating that continuity is not merely a documented plan but an integrated organizational capability embedded across people, systems, infrastructure, and partnerships. Moreover, the results align with Contingency Theory, which posits that organizational effectiveness depends on the alignment between internal structures and external environmental conditions. The construction SMEs in this study demonstrate contingency-based adaptability, adjusting leadership approaches, operational processes, and supplier relationships in response to contextual demands.

Collectively, the findings suggest that SME resilience is grounded not in formalized continuity documentation alone but in embedded adaptive practices, relational coordination, and strategic responsiveness. Continuity is achieved through everyday decision-making, collaborative leadership, and iterative learning—validating the contingency-driven nature of SME management in dynamic environments.

## DISCUSSION

This study examined the strategies employed by construction small and medium enterprises (SMEs) to achieve organizational success through business continuity planning (BCP) and sustainability. The findings indicate that SME resilience is primarily driven by adaptive, experience-based practices embedded in daily operations rather than formally documented continuity plans. These findings answer Research Question 1 by demonstrating that SMEs operationalize business continuity through informal yet structured practices involving people, processes, premises, and providers. This reflects the Business Continuity Management (BCM) perspective that continuity capability can emerge through operational integration, even in the absence of formal documentation, particularly in resource-constrained organizations.

### People-Centered Strategies as the Foundation of Continuity

The findings show that communication, training, and feedback serve as critical human-centered strategies that sustain continuity. These findings answer Research Question 2 by illustrating how workforce-related practices enable SMEs to maintain operational stability during disruptions. Consistent with resilience theory, effective communication strengthens coordination and supports rapid response to operational challenges. However, the reliance on informal communication channels presents risks related to accountability and information consistency. While Kraus et al. (2022) found that structured communication systems enhance scalability and organizational efficiency, the present study suggests that Philippine construction SMEs rely more heavily on interpersonal trust and direct communication due to organizational size and cultural emphasis on relational coordination.

Training emerged as a key resilience mechanism, reinforcing workforce adaptability and operational flexibility. This finding supports BCM principles emphasizing capability development as essential to continuity preparedness. However, unlike large organizations that implement formal training programs, SMEs rely on experiential and on-the-job learning. This contrasts with studies in highly industrialized contexts where formal training systems dominate continuity preparedness, highlighting how SMEs in developing economies adapt continuity strategies based on resource availability and operational realities.

Feedback mechanisms further support continuity by enabling continuous improvement and operational learning. This aligns with resilience theory, which emphasizes adaptive learning as a core capability for long-term organizational survival.

### **Adaptive Processes and Experience-Based Risk Management**

The findings demonstrate that SMEs manage operational risks primarily through experiential knowledge and adaptive decision-making rather than formal risk management frameworks. These findings answer Research Question 3 by showing how SMEs develop continuity capability through accumulated experience and situational awareness. This supports contingency theory, which posits that organizational effectiveness depends on aligning strategies with environmental conditions rather than adopting standardized approaches.

Technology integration emerged as a key enabler of operational continuity. SMEs utilizing digital tools demonstrated improved coordination, project monitoring, and communication efficiency, consistent with literature emphasizing digitalization as a critical resilience factor (Menina, 2023). However, unlike findings from developed economies where digital transformation is systematic and institutionalized, technology adoption among Philippine SMEs remains incremental and constrained by financial and technical limitations. This highlights a contextual gap between global continuity models and SME operational realities in emerging markets.

Resource management practices also contribute to sustainability and continuity. SMEs emphasized efficient material use, cost control, and waste reduction as practical sustainability strategies. While global sustainability literature often emphasizes formal environmental policies, this study shows that sustainability in SMEs is primarily operational and efficiency-driven. This finding reinforces BCM and resilience theory, which recognize resource efficiency as a key determinant of organizational survival during disruptions.

### **Premises Adaptability and Environmental Responsiveness**

The findings reveal that workplace adaptability and environmental responsiveness are essential continuity strategies in construction SMEs. These findings answer Research Question 4 by demonstrating how SMEs adjust operational environments to maintain productivity despite external disruptions. This aligns with resilience theory, which emphasizes adaptability and flexibility as fundamental organizational capabilities in uncertain environments.

Environmental factors such as weather variability, regulatory requirements, and site accessibility present ongoing operational risks. SMEs mitigate these risks through flexible scheduling, proactive planning, and adaptive project management. While formal BCM frameworks emphasize structured risk assessment procedures, SMEs rely on experiential environmental scanning and practical foresight. This reflects contingency theory, as SMEs tailor their responses based on situational demands rather than standardized protocols.

Continuous improvement practices further strengthen continuity capability. SMEs institutionalize experiential learning by applying lessons from previous disruptions, reinforcing adaptive resilience. This finding supports prior research suggesting that learning-oriented organizations demonstrate greater continuity capability and long-term sustainability (Kraus et al., 2022).

### **Provider Relationships and External Resilience**

External relationships emerged as critical enablers of continuity and operational stability. These findings answer Research Question 5 by illustrating how supplier relationships, contingency resource allocation, and external partnerships support SME continuity. Consistent with BCM principles, SMEs strengthen continuity by maintaining backup suppliers, safety stocks, and financial reserves.

Supply chain relationships based on trust and long-term collaboration

reduce operational uncertainty and disruption risk. This aligns with supply chain resilience literature emphasizing relational stability as a key resilience factor (Menina, 2023). However, unlike large firms that formalize supplier continuity agreements, SMEs rely more heavily on relational trust and informal agreements. This reflects the relational business culture prevalent in Philippine SMEs, where interpersonal trust serves as a critical operational stabilizer.

These findings reinforce resilience theory, which emphasizes external network strength as a key determinant of organizational survival during disruptions.

### **Strategic Leadership as the Integrating Force**

Strategic leadership emerged as the central integrating mechanism connecting people, processes, premises, and providers. These findings answer Research Question 6 by demonstrating how leadership shapes continuity capability and sustainability integration. SME leaders play a critical role in balancing operational efficiency, workforce stability, and long-term sustainability.

This finding strongly supports BCM theory, which identifies leadership commitment as essential for effective continuity implementation. However, unlike formal BCM structures in large organizations, continuity leadership in SMEs is highly centralized and experience-driven. This aligns with contingency theory, as leadership strategies evolve in response to organizational size, structure, and environmental conditions.

Leadership-driven practices—including workforce support, adaptive decision-making, supplier relationship management, and operational innovation—create an integrated continuity system. These practices strengthen organizational resilience by ensuring alignment between operational activities and strategic objectives.

### **Implications for Business Continuity and Sustainability**

Overall, the findings demonstrate that construction SMEs achieve continuity through adaptive, experience-driven, and relationship-centered strategies. These findings collectively answer the central research question by showing that SME organizational success emerges from the interaction of human capability, adaptive processes, environmental responsiveness, external partnerships, and strategic leadership.

From a theoretical perspective, the findings reinforce Business Continuity Management theory by demonstrating that continuity capability can be embedded operationally even without formal documentation. The findings also support resilience theory by highlighting adaptability, learning, and relational strength as core resilience drivers. Furthermore, the results validate contingency theory by demonstrating that SME continuity strategies are shaped by contextual constraints, organizational size, and environmental uncertainty.

From a contextual perspective, the findings contribute to the literature by illustrating how Philippine construction SMEs operationalize continuity differently from larger organizations and SMEs in developed economies. Rather than relying on formalized continuity frameworks, SMEs depend on adaptive leadership, workforce capability, relational trust, and experiential knowledge.

These findings suggest that continuity interventions for SMEs should focus on strengthening existing adaptive practices through simplified, flexible, and context-appropriate continuity frameworks rather than imposing rigid formal systems. Such an approach aligns with SME operational realities and enhances both continuity capability and long-

term sustainability.

### Recommendations

The findings indicate that many SMEs operate without formalized continuity structures and rely heavily on reactive responses during disruptions. SMEs should therefore develop a context-specific Business Continuity Plan (BCP) aligned with their operational scale and sectoral risks. The plan should prioritize critical functions, workforce preparedness, infrastructure contingencies, and supplier risk management. To ensure feasibility, implementation may follow a phased approach beginning with basic risk identification and essential process mapping before advancing to formal documentation and recovery targets. The use of standardized templates and publicly available toolkits can reduce cost barriers.

The study further reveals a reliance on informal communication, which contributed to coordination inefficiencies during crises. SMEs should establish structured communication protocols, including defined reporting lines and multi-channel communication systems. Affordable digital platforms provide practical and scalable solutions, allowing gradual integration without substantial financial burden.

Dependence on key personnel emerged as a significant vulnerability. SMEs should institutionalize cross-training and document core procedures to reduce single-point-of-failure risks. Incremental knowledge-sharing sessions and role rotation represent realistic, low-cost implementation pathways suited to resource-constrained firms.

Limited digital adoption was also identified as a constraint affecting operational continuity. SMEs are encouraged to prioritize digitization of high-impact processes such as financial management, documentation, and workflow monitoring. Scalable, subscription-based digital tools offer cost-effective entry points, particularly when adoption is phased according to operational priority.

Supplier concentration further increased disruption exposure. SMEs should diversify critical suppliers and establish alternative sourcing arrangements where feasible. A gradual approach—such as identifying secondary vendors for essential inputs—balances resilience objectives with financial and capacity limitations. Regular internal simulations or scenario discussions are also recommended to ensure that continuity measures remain operational rather than theoretical.

The findings suggest that resilience weaknesses often originate during early business formation. Aspiring entrepreneurs should integrate continuity planning into the startup phase by conducting basic risk assessments, adopting scalable digital systems, and establishing diversified supplier relationships from inception. Even within small founding teams, clear role allocation and documented procedures can prevent operational bottlenecks as the business grows. Prioritizing affordable digital infrastructure and maintaining at least one alternative supplier for critical inputs provide realistic and financially manageable safeguards.

Given that SMEs frequently lack technical expertise and financial capacity to implement comprehensive continuity strategies, policymakers should provide targeted BCP training, simplified resilience toolkits, and advisory support tailored to SME contexts. Financial incentives or subsidized digital adoption programs can mitigate cost constraints identified in the findings. Accessible emergency funding mechanisms and streamlined crisis-response coordination frameworks are also essential to enhance SME recovery capacity while minimizing administrative complexity.

Future research should quantitatively test the proposed continuity framework across sectors and regions to strengthen generalizability. Further investigation into the cost-effectiveness of digital adoption and the integration of sustainability considerations within SME continuity planning would deepen theoretical and practical understanding of long-term resilience.

### CONCLUSION

This study provided a comprehensive thematic analysis of how construction SMEs in the Philippines sustain operations and pursue long-term growth within the framework of Business Continuity Planning (BCP). Drawing on the lived experiences of owners, managers, workers, and consultants, the findings reveal that business continuity is enacted through a coordinated yet largely informal system shaped by human capability, adaptive processes, environmental responsiveness, external partnerships, and strategic leadership.

Thirteen interrelated themes were organized into four operational components—People, Process, Premises, and Provider. The People component highlights communication, training, and feedback as foundations of resilience. The Process component reflects experience-based risk management, pragmatic technology adoption, and resource optimization. The Premises component underscores workplace adaptability and environmental awareness, while the Provider component emphasizes contingency planning and reliable supply chain relationships. Across these dimensions, strategic leadership integrates daily operations with long-term sustainability goals, reinforcing the interdependence of profitability and resilience.

This study contributes to BCP by demonstrating that, within SMEs, continuity functions less as a formalized document and more as an embedded organizational capability enacted through adaptive practice. The findings extend existing theory by supporting contingency perspectives, showing how SME structures and strategies evolve in response to contextual constraints such as uncertainty, limited resources, and relational dependencies. By articulating an integrated four-component framework aligned through leadership, the study offers a grounded conceptual model of SME resilience in the construction sector. Methodologically, the phenomenological approach provides insight into lived experiences and tacit practices that quantitative designs often overlook, thereby enriching the understanding of how continuity is operationalized in practice.

Ultimately, business continuity for construction SMEs emerges not merely as a compliance requirement but as a sustained organizational capacity grounded in adaptability, collaboration, and informed leadership.

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# Examining the Effects of Social Entrepreneurship on the Sustainability of Community Programs of Selected Social Enterprises in Metro Manila

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## ABSTRACT

The effect of social entrepreneurship on the sustainability of community programs is least examined in the existing literature. This study, guided by Freeman's Stakeholder Theory, used a mixed-methods approach—surveying 250 respondents and interviewing eight social enterprises in Manila—to investigate these effects. Regression analysis indicated that stakeholder salience, social entrepreneurship practices, and sustainable development components significantly contribute to sustaining community programs. Thematic analysis further revealed ongoing challenges that social enterprises face in maintaining these initiatives. Findings highlighted the need for targeted strategies that robustly engage stakeholders in decision-making and establish sustainability metrics for tracking the long-term impact of social entrepreneurship. Future research may analyze long-term trends, sector-specific strategies, standardized impact measurement, and policy implications of social enterprise models within the Philippine context. This study underscored the importance of strategic stakeholder engagement and effective sustainability tracking to enhance community program longevity and effectiveness.

**Keywords:** *Social entrepreneurship, sustainability, community programs, stakeholder theory, mixed methods*

## INTRODUCTION

Social entrepreneurship has emerged as an urgent and innovative strategy to address social unrest while capturing the interest of young entrepreneurial minds in small-to-medium enterprises, locally and abroad. It capitalized on the idea of societal survival amidst the effects of the COVID-19 pandemic in Southeast Asian regions, particularly in Malaysia and the Philippines. It has been paved as the way to reduce poverty, create job opportunities, and avert health and economic crises during and post-pandemic periods (Aziz & Sarhan, 2023).

The social enterprises sector played a significant role in advancing Sustainable Development Goals (Rashed & Shah, 2021), including activities related to corporate social responsibility (CSR), circular economy, and environmental initiatives. Companies were advised to move from regulatory compliance via CSR initiatives towards establishing linkages and partnerships that promote shared value creation (Go et al., 2022). The ongoing success of community programs hinged on engaging stakeholders to address systemic challenges—such as resource limitations, inconsistent participation, and reliance on external assistance—and to develop innovative solutions (Sonmezoglu, 2022). However, these organizations faced challenges in financial performance, stability, geographical location, resilience strategies, and innovation that hindered progress. These obstacles prompted institutions to adopt sustainable programs while sustaining their community service and advocacy. These enterprises struggled to maintain their operations while fulfilling their missions (Weaver, 2020).

Social enterprises have been influenced by visionary frameworks such as *Ashoka*, inspired by King Ashoka of India's principled and resolute governance. Over time, these models have developed into a contemporary discourse shaped by political, economic, and

environmental factors (Budumurus & Paruchuru, 2025). Sampaio and Sebastiao (2024) highlighted that social innovation and entrepreneurship contributed to the formation of the social economy by incorporating freedom of association, religious influences, and nationalist forces, ultimately leading to the emergence of modern social entrepreneurship and rapid industrialization and urbanization.

Consequently, social entrepreneurship continues to evolve, integrating entrepreneurial ecosystems with social enterprises to strengthen both financial sustainability and social impact (Budumurus & Paruchuru, 2025). The recent adaptation of entrepreneurial ecosystem theory underscored the significance of ecosystems in enhancing resilience against escalating social challenges. Various initiatives—ranging from community engagement and outreach projects to environmental development—have matured into long-term partnerships. These alliances have subsequently leveraged digitization and artificial intelligence, presenting new opportunities and challenges in the 21st century.

Several studies have explored the concepts of social entrepreneurship and sustainability. However, a notable gap existed in the literature regarding the direct effects of social entrepreneurship on the sustainability of community programs, particularly in well-developed countries. Specifically, while many investigations have examined various aspects of social entrepreneurship and its relationship with sustainability, only a limited number have addressed its explicit impact on the longevity and effectiveness of community programs within these advanced contexts. Furthermore, an even smaller body of research has focused on civic organizations operating in

developing and underdeveloped nations. The direct influence of social entrepreneurship on the sustainability of community programs within these organizations remains insufficiently studied, despite its potential significance in these regions. This gap highlighted the need for further research to understand how social entrepreneurship practices can contribute to the sustained success of community initiatives in diverse socioeconomic settings, with particular attention to civic organizations in developing and underdeveloped countries (Gupta et al., 2020).

The primary purpose of this study was to develop and recommend systematic strategies to assist selected social enterprises in attaining optimal sustainability in their community programs within the Philippines, particularly in Metro Manila. By addressing these key areas, the study sought to strengthen the capacity of social enterprises to effectively contribute to the broader social entrepreneurship movement, both locally and globally. In doing so, the research aimed to support the creation of a more robust and impactful social entrepreneurship landscape that prioritizes sustainable practices and transparent operations at the community level, help the government agencies in crafting more sustainable social services and programs, promote social enterprises bill discussions among constituents, and offer theoretical and practical insights among business administration disciplines.

### Theoretical Background

This study was grounded in stakeholder theory (ST), a strategic management theory developed by R. Edward Freeman (1980, as cited by Freudenreich, 2024). This theory states that stakeholders – customers, employees, shareholders, executive officers, managers, suppliers, and all other members in the supply chain – are mutually interrelated to one another (Freeman et al., 2020) and play a major role in managing the survival and success of an enterprise (Freudenreich et al., 2020). In the study by Awa et al. (2024), it was found that stakeholders—those directly affected by the company’s activities—also significantly influence the company’s strategic positioning and future direction. Their role is to incorporate functions crucial to the success of the business endeavor (Ackermann & Eden, 1997), as cited by Amoako et al. (2023). Such roles may be transactional (technical and business) or transformational (people relations aspect) (Freudenreich et al., 2020). At its core is the firm, which served as the central entity where essential principles and values originated and were extended to all levels of stakeholders. Stakeholder theory played a pivotal role in this study by offering a comprehensive framework for identifying and analyzing the importance of different stakeholders within social enterprises.

Through this theory, the research systematically determined which stakeholders were considered most critical based on their attributes of priority, legitimacy, and urgency. This enabled the study to clarify the decision-making processes of social enterprises, particularly in terms of how they prioritize and address the needs of stakeholders deemed to have the most legitimate and urgent concerns. Furthermore, stakeholder theory guided the evaluation of the organization and implementation of community programs, ensuring that the perspectives and interests of essential stakeholder groups were integrated throughout the planning and execution stages. By following this approach, the study developed strategic recommendations that will enhance the sustainability of community initiatives led by social enterprises.

### Conceptual Framework

Social entrepreneurship was an emerging business model to foster shared value creation and sustainable impact on its stakeholders. Therefore, the researcher designed a conceptual framework that illustrated the overall context and foundation of the study. The framework examined the salience of stakeholders, their social entrepreneurship practices, and the pillars of sustainable development (independent variables) through adapting the stakeholder theory, and its effects on the sustainability of community programs (dependent variable) of selected social enterprises through the sustainable value

creation framework.

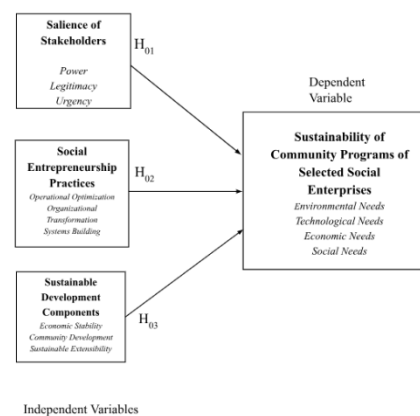


Figure 1. Conceptual Framework

This conceptual framework commissioned a more holistic strategy and systematic approach to address emerging challenges and recommended comprehensive strategies to achieve sustainable extensibility. The salience of different stakeholders was measured through the respondents’ correspondence to power, legitimacy, and urgency was tested in the study; the impact of social entrepreneurship practices was gauged by the four aspects of the sustainable value framework, considering the business sustainability levels: operational optimization (eco-efficiency), organizational transformation (new market opportunity), and systems building (societal change), and intensified by the sustainable development pillars, such as economic stability, community development, and sustainable extensibility. From this, effective strategies and approaches were drawn to address adversities.

### Statement of the Problem

Specifically, this study addressed the following main research questions: (1) What community programs are offered by the selected social enterprises in terms of eco-efficiency (environmental needs), product stewardship (social needs), sustainable vision (economic needs), and clean technology (technological needs)? (2) How are their current stakeholders evaluated based on the dimensions of power, legitimacy, and urgency? (3) How are the implemented social entrepreneurship practices assessed in terms of operational optimization (eco-efficiency), organizational transformation (new market opportunity), and systems building (societal change)? (4) What are the significant effects of stakeholder salience on the sustainability of implemented community programs in the dimensions of power, legitimacy, and urgency? (5) What are the significant effects of the implemented social entrepreneurship practices on the sustainability of the community programs in the areas of operational optimization (eco-efficiency), organizational transformation (new market opportunity), and systems building (societal change)? (6) What is the significant effect of the sustainable development components embedded in the implemented community programs in terms of economic stability, community development, and sustainable extensibility? (7) What is the significant effect of the implemented social entrepreneurship practices on the sustainability of the community programs overall? (8) What key challenges do the selected social enterprises face in maintaining their community programs through social entrepreneurship? (9) What strategies should social enterprises adopt to strengthen the sustainability of their community programs, as espoused by the sustainable value creation framework?

### Review Of Literature

#### The Emergence of Social Entrepreneurship

Entrepreneurship has been defined as a continuous drive for innovative and creative action that manages enterprises by combining limited

resources to meet future needs, ultimately leading to profitability and improved living standards, and is categorized into digital, social, and eco-entrepreneurship (Todorova & Venelinova, 2024). Social entrepreneurship emphasizes welfare, humanitarian endeavors, and social responsibility, often linked to NGOs and nonprofits, and differs from conventional entrepreneurship by prioritizing solidarity, associationism, and social services over profit-making (Hussain et al., 2023; Todorova & Venelinova, 2024). Scholars highlight its role in addressing social challenges, mobilizing resources, and fostering accountability, with youth participation seen as crucial for driving social change and strengthening organizational cooperation (Sonmezoglu, 2022). Tourism has also emerged as a developmental strategy within social entrepreneurship, reducing unemployment and poverty while promoting regenerative tourism, environmental conservation, and socioeconomic equity, though financial support remains essential for sustainability (Mahato & Prats, 2024). In the Philippines, social enterprises have grown significantly, with over 164,000 operating by 2016, driven by youth and women leadership, particularly in sectors such as agriculture, education, finance, and employment creation, though challenges persist in capital access, reliance on grants, and technical skills shortages (Flores, 2025). Overall, social entrepreneurship complements conventional entrepreneurship by fostering social solidarity and sustainable development while addressing inequalities and enhancing community resilience.

### Strategic Matrix Model

The strategic matrix model of Dyllick and Muff (2016, as cited by Sanchis et al., 2025) provides a comprehensive framework for assessing corporate sustainability by analyzing strategies, implementation methods, and achievement levels. It identifies three progressive stages: operational optimization, which emphasizes efficiency and eco-efficiency to minimize negative impacts, though organizations often struggle to balance profit goals with environmental and social responsibilities (Heras-Saizarbitoria, 2020); organizational transformation, where nonprofits evolve into social enterprises to ensure long-term viability by combining advocacy with income generation, highlighting the need for sustainable leadership and resilience (Ko & Liu, 2021; Suriyankietkaew et al., 2022); and Systems Building, which extends sustainability beyond organizational boundaries by fostering systemic change through stakeholder collaboration, with social entrepreneurship and market orientation shown to enhance both social and economic performance in community development (Pinheiro et al., 2021). This model underscores the importance of aligning internal practices with external responsibilities to achieve lasting and meaningful sustainability outcomes.

### Essential Aspects of Sustainability

Trevisan et al. (2022) examined how businesses perceive sustainability in relation to social development and environmental impact, emphasizing that enterprises often adopt sustainability to address environmental problems, reduce social unrest, and ensure long-term operational viability. Their study distinguished between sustainable entrepreneurship and social entrepreneurship, noting that while both intersect, social entrepreneurship primarily focuses on advancing socioeconomic development for marginalized and underprivileged groups. Within the framework of sustainable social entrepreneurship, they highlighted the potential of society to shape sustainable careers, identifying key elements of success: integration of social spaces that balance personal, family, and career values; provision of security and employability; flexibility and diverse career choices; and opportunities for continuous renewal of both specific and general knowledge.

### Stakeholder Theory

Stakeholder theory, developed by R. Edward Freeman (1980, as cited by Freudenreich, 2024), emphasizes that stakeholders—including

customers, employees, shareholders, managers, suppliers, and others within the supply chain—are mutually interrelated and play a vital role in ensuring the survival and success of enterprises (Freeman et al., 2020; Freudenreich et al., 2020). Stakeholders are considered interested parties directly affected by a company's activities, influencing its strategic positioning and future direction (Awa et al., 2024). Their contributions are essential to business success, encompassing both transactional roles that address technical and business functions, and transformational roles that focus on people and relational aspects (Ackermann & Eden, 1997, as cited by Amoako et al., 2024; Freudenreich et al., 2020).

### Stakeholder Salience Model

Stakeholder salience model emphasized that organizations must identify and prioritize stakeholders before making decisions, with importance determined by three key attributes: power, or the ability to influence organizational outcomes; legitimacy, or the perceived validity of a stakeholder's claim within moral, social, or legal norms; and urgency, or the degree to which a claim requires immediate attention due to its time sensitivity or criticality (Raha et al., 2021). Stakeholders who possess all three attributes are classified as definitive stakeholders, those with two are expectant, and those with only one are considered latent stakeholders.

### Sustainable Value Creation Framework

Hart and Milstein's (2003, as cited by Yturzaeta, 2023) four-quadrant framework provides a strategic lens for corporate sustainability by mapping two dimensions: temporal (today–tomorrow) and organizational boundaries (internal–external). The tomorrow–external quadrant emphasizes the sustainable vision strategy, aligning long-term growth with external challenges such as poverty, inequity, and population growth. The internal–tomorrow quadrant highlights the clean technology strategy, focusing on research, innovation, and adaptability to address social and environmental issues with lasting implications (Dao et al., 2011, as cited by Yturzaeta, 2023). The internal–today quadrant centers on Cost and Risk Reduction, reducing waste and pollution through stakeholder involvement, responsibility, and employee engagement to ensure present operations remain sustainable (Dao et al., 2011, as cited by Yturzaeta, 2023). Finally, the external–today quadrant underscores reputation and legitimacy, where organizations strengthen corporate image and social relationships by valuing stakeholder insights and practicing responsible stewardship. This framework integrates immediate operational needs with long-term sustainability goals, balancing internal efficiency with external accountability.

### Community Programs in Action

Sonmezoglu (2022) emphasized that humans are naturally inclined toward social responsibility, though this willingness often develops over time rather than being innate. A key indicator of social responsibility is voluntary participation in organizational roles aimed at solving social problems, with low engagement reflecting weaker social responsibility. Al-Boinin et al. (2025) highlighted the growing prominence of women entrepreneurs in Qatar, who leverage social media platforms as cost-effective tools to balance household responsibilities while promoting businesses and advocacies, thereby contributing to socioeconomic empowerment. Similarly, Sonmezoglu (2022) found that integrating community service into student-athletes' lives enhanced personal development, academic balance, and social innovation, aligning with the United Nations' 2030 Agenda for Sustainable Development, particularly SDG 4 on inclusive education and SDG 11 on sustainable cities (Nguyen, 2023; UN ESA, 2023). Moron (2024) further demonstrated that service-learning and experiential approaches significantly shape students' social entrepreneurship competencies, fostering interpersonal skills, empathy, and leadership.

In India, Raut and Joshi (2023) underscored the importance of nurturing social entrepreneurship within medical and educational institutions, with initiatives like the Social Innovative Lab (SinnoLab) promoting biomedical innovation and collaborative ventures. Fleischer and Pendl (2024) traced the historical and cultural roots of social enterprises across countries, citing pioneers such as Bill Drayton in the USA, Gloria de Souza in India, Muhammad Yunus in Bangladesh, and grassroots models in Italy and Germany, all of which illustrate diverse approaches to social entrepreneurship. Collectively, these studies highlight how social responsibility, education, innovation, and cultural context converge to strengthen social entrepreneurship as a driver of community development and sustainable change.

### Three Pillars of Sustainability

Ghimire (2023) defined the three pillars of sustainable development—economic, social, and environmental—as “interconnected” and “mutually reinforcing,” each essential to achieving sustainability. From the economic perspective, Surya et al. (2020) noted that industrialization and urbanization in India have led to challenges such as population growth, land conversion, and complex urban ecosystems, with overpopulation driving competition for basic resources and worsening poverty. Social entrepreneurship has emerged as a transformative approach to balance financial sustainability with social impact, though it faces challenges such as funding limitations and mission drift (Hudon et al., 2020). On the social pillar, Haidar et al. (2021) emphasized that community needs—ranging from finances and housing to health care and employment—are closely tied to individual well-being, while Kangovi et al. (2020) highlighted income, education, and social relationships as critical social determinants. Social entrepreneurship contributes to community development by creating products, expanding markets, and generating employment, thereby uplifting morale and fostering social and environmental well-being (Mendez-Picazo et al., 2021). The environmental pillar, as Winston (2021) discussed, is integral to human well-being and closely linked to the other two pillars, with housing and climate challenges underscoring the urgency of achieving SDG 11. Bretos et al. (2020) further noted that social entrepreneurship at the international level demonstrates organizations’ ability to transcend local challenges, contributing to global sustainability goals while balancing financial stability, social welfare, and environmental responsibility.

### Social Entrepreneurship and Social Enterprises

In the 2022 Global Innovation Index, the Philippines ranked 59th out of 132 countries, reflecting progress in innovation and entrepreneurship (United Nations Development Programme, 2024). The growing number of social enterprises presents opportunities to strengthen sustainability strategies, particularly in Metro Manila, where Quezon City and Manila serve as hubs for notable organizations. While research on social entrepreneurship has provided valuable insights, Hisyam (2023) noted that it often overlooks negative consequences, underrepresents less developed countries, and inadequately addresses technological advancement (Klarin & Suseno, 2022). Moreover, social enterprises continue to face persistent challenges, including limited funding, slow revenue growth, weak infrastructure, lack of standardized impact metrics, difficulties in reaching target audiences, and employee retention concerns (Weaver, 2020). These findings highlight both the promise and the hurdles of social entrepreneurship in the Philippines, underscoring the need for innovative solutions and stronger support systems to ensure long-term sustainability.

### Synthesis of the Reviewed Literature

The reviewed literature on sustainability, social entrepreneurship, and community programs featured salient facts on how each supports empirical study. Despite its recognition as a potential strategy, there

remained some gaps in the empirical evidence on the effects of social entrepreneurship on the sustainability of community programs in private organizations in Metro Manila. The study of Vieira et al. (2022) revealed that social entrepreneurship is mainly studied in developed countries with a high success rate on the implementation of sustainability in different enterprises, leaving the developing and underdeveloped countries with few to no research studies (Gupta et al., 2020). This implied a need to study the effects of social entrepreneurship activities in underdeveloped and developing countries. This highlighted the need to study importance of identifying the salience of stakeholders as a critical factor to the sustainability of the organization and its community programs, the effects of social entrepreneurship practices in community programs being implemented in Metro Manila, while understanding the needs and values of its stakeholders, the sustainability of social entrepreneurship practices, and the industry mindset on the components of sustainable development.

## METHODOLOGY

This study employed a mixed-methods approach under a descriptive research design. The mixed-methods framework integrated qualitative data from focus groups and semi-structured interviews with quantitative data from researcher-designed surveys, guided by a pragmatic philosophy to ensure systematic collection, analysis, interpretation, and reporting (Dawadi et al., 2021; Hasselwander, 2024). The descriptive design complemented this approach by assessing social entrepreneurship practices and their effects on community program sustainability without further experimentation (Siedlecki, 2020; Taherdoost, 2022). To enhance credibility and validity, triangulation was applied, allowing the concurrent collection and analysis of qualitative and quantitative data. This strengthened methodological rigor and ensured that findings were substantiated by multiple perspectives, providing a more comprehensive and nuanced interpretation of results (Taherdoost, 2022).

Respondents were drawn from social enterprises operating in Metro Manila and included social entrepreneurs, key officers, and staff members directly involved in organizational and community-based initiatives. Participants were selected using Purposive Sampling, a non-probability sampling technique that allows the deliberate selection of individuals who possess relevant knowledge and experience related to the research problem. This approach was appropriate for studies examining organizational practices because it ensured respondents had sufficient exposure to the operational processes and community programs. The inclusion criteria required respondents with adequate length of employment in the organization, familiarity with organizational functions, and direct experience or participation in the implementation of community programs (Mwansa et al., 2022). These criteria ensured that the participants were familiar with the operational and social dimensions of social enterprises and provided relevant and informed responses to the study. Conversely, exclusion criteria were implemented to ensure the sample's relevance. Individuals who were not practitioners in social enterprises, those employed outside Metro Manila, respondents unwilling to participate, and those who withdrew consent during the data collection process were excluded from the study.

To determine the adequacy of the sample size for statistical analysis, a power analysis was conducted using G\*Power, developed by Franz Faul and colleagues. Based on 12 predictor variables, a medium effect size ( $f^2 = 0.15$ ), an alpha error probability of 0.05, and a statistical power of 0.95, the analysis indicated a minimum required sample size of 184 respondents (Faul et al., 2009, as cited by Aljohani, 2022). To enhance the reliability and precision of the statistical analysis, the target sample size was increased to 250 respondents.

Given the purposive selection of respondents and the defined geographical coverage of the study, the findings were interpreted within the context of social enterprises operating in Metro Manila. Consequently, the scope of inference of the study is primarily applicable to organizations and practitioners with similar characteristics and operational environments.

The primary instrument was a researcher-designed questionnaire, developed through an extensive review of the literature on stakeholders, social entrepreneurship, and sustainability. Content validity was established through expert review by three field specialists, and items that received unanimous agreement from the validators regarding their relevance and clarity were retained in the final instrument. Construct validity was addressed by aligning the questionnaire items with the theoretical dimensions of stakeholder engagement, social entrepreneurship practices, and sustainability initiatives, and was further examined during the pilot test. Reliability was confirmed through a pilot study involving 30 participants from enterprises outside Metro Manila, yielding a Cronbach's alpha of 0.974, indicating strong internal consistency. Surveys were administered primarily through online platforms such as Google Forms, while eight key informants participated in semi-structured interviews to provide deeper qualitative insights (Ruslin et al., 2022). Potential biases, including sampling bias due to online distribution, self-selection bias, regional differences between pilot and main respondents, and possible social desirability bias during interviews, were considered and mitigated through confidentiality assurances, clear instructions, and careful participant selection. Ethical protocols were strictly observed, including informed consent, confidentiality, compliance with the Data Privacy Act of 2012, and approval from the Ethics Review Committee of Colegio de San Juan de Letran-Manila.

This study employed a convergent mixed-methods design, in which quantitative and qualitative data were collected and analyzed in the same phase of the research. Quantitative data were analyzed using descriptive and inferential statistical techniques, including frequency distributions, weighted means, standard deviations, and regression analyses, to examine relationships among variables and assess their predictive significance (Ziglari, 2024; Hasan, 2024). Qualitative data were transcribed, coded, and subjected to thematic analysis to identify recurring patterns and narratives from the participants' perspectives. Integration of the quantitative and qualitative findings was conducted through triangulation during the interpretation stage, wherein qualitative themes were systematically compared with the statistical results to determine areas of convergence, complementarity, or divergence. This process enabled the qualitative insights to explain and contextualize the quantitative findings, thereby strengthening the credibility and comprehensiveness of the results and informing the development of an enhanced strategic model for sustaining community programs implemented by social enterprises.

## RESULTS

The assessment of implemented community programs yielded an overall weighted mean of 4.16 (SD = 0.85), interpreted as "Often" or "High," indicating that organizations consistently integrate sustainability-driven practices into their initiatives. This suggested that sustainability has become an embedded operational principle rather than a peripheral activity within the organizations studied. Among the four dimensions, clean technology obtained the highest mean (M = 4.22), followed by product stewardship (M = 4.18), sustainable vision (M = 4.14), and eco-efficiency (M = 4.13). The prominence of clean technology implied that organizations prioritize innovation-based

solutions to address environmental and social challenges. However, the relatively close mean scores across dimensions also suggested that sustainability practices were implemented in a balanced manner, though slightly stronger emphasis was given on technological innovation compared to operational efficiency. This pattern aligned with studies emphasizing the growing role of innovation and legitimacy in sustainability-oriented organizations (Trevisan et al., 2022; Yturzaeta, 2023; Dyllick & Muff, 2016, as cited by Sanchis et al., 2025).

Stakeholder salience was rated very high, with an overall weighted mean of 4.27 (SD = 0.77). Respondents perceived stakeholders as powerful, legitimate, and urgent actors, with power (M = 4.32) emerging as the most salient attribute, followed by urgency (M = 4.28) and legitimacy (M = 4.22). The prominence of power suggested that organizations are particularly responsive to stakeholders who possess the ability to influence resources, policy support, or organizational legitimacy. This finding implied that stakeholder influence played a significant role in shaping program priorities and sustainability strategies. While legitimacy and urgency were also rated highly, their slightly lower scores indicated that decision-making processes remained somewhat influenced by power dynamics within the stakeholder network, a phenomenon frequently observed in stakeholder salience theory (Mitchell et al., 1997, as cited by Raha et al., 2021).

Social entrepreneurship practices were frequently observed, with an overall weighted mean of 4.14 (SD = 0.88), interpreted as "Often" or "High." Among the three dimensions, systems building (M = 4.15) ranked highest, followed closely by operational optimization (M = 4.14) and organizational transformation (M = 4.13). The minimal variation across these dimensions suggested that social enterprises adopt a multidimensional approach in pursuing their missions, combining operational efficiency, systemic collaboration, and organizational innovation. However, the slightly lower rating for organizational transformation may indicate that while enterprises actively engage in collaborative and operational initiatives, bigger structural changes within organizations may require longer periods to fully materialize.

The effects of social entrepreneurship practices were consistently positive, with an overall weighted mean of 4.21 (SD = 0.83), interpreted as "Always" or "Very High." Organizational transformation (M = 4.25) demonstrated the strongest perceived impact, followed by systems building (M = 4.21) and operational optimization (M = 4.18). This finding suggested that initiatives aimed at transforming organizational structures and strategies tend to generate more substantial long-term outcomes compared with operational improvements alone. The strong influence of transformation and collaboration highlighted the importance of innovative leadership, cross-sector partnerships, and systemic initiatives in producing sustainable community impact (Trevisan et al., 2022; Pinheiro et al., 2021).

Finally, the sustainable development components influencing community program sustainability obtained an overall weighted mean of 4.17 (SD = 0.85), interpreted as "Often" or "High." Sustainable extensibility (M = 4.24) received the highest rating, followed by community development (M = 4.18) and economic stability (M = 4.12). The prominence of sustainable extensibility suggested that organizations prioritize long-term scalability and adaptability of their programs. However, the relatively lower rating for economic stability may indicate persistent financial constraints or reliance on external support mechanisms, which remain common challenges among social enterprises. This pattern underscored the need for stronger financial sustainability strategies to ensure that community programs can be maintained and expanded over time.

Overall, the findings revealed a consistent pattern in which sustainability-oriented practices, strong stakeholder engagement, and social entrepreneurship initiatives collectively contribute to the sustainability of community programs. The very high rating of stakeholder salience suggested that organizations operate within highly interactive networks where stakeholders exert considerable influence on program direction and resource mobilization. This may partly explain the strong emphasis on systems building and organizational transformation within social entrepreneurship practices, as collaboration and partnerships are essential for addressing complex social and environmental issues. Moreover, the prominence of sustainable extensibility among the sustainable development components indicates that organizations prioritize the long-term scalability and adaptability of their initiatives. However, the relatively lower rating of economic stability compared with other sustainability dimensions suggests that financial sustainability remains a continuing challenge despite strong program implementation and stakeholder engagement. This pattern highlights a potential tension between maintaining social impact and securing stable economic resources, a challenge commonly faced by social enterprises. Taken together, these findings underscore the importance of integrating innovation, stakeholder collaboration, and sustainable management practices to ensure the long-term viability and impact of community programs.

## DISCUSSIONS

The results confirmed that the surveyed social enterprises demonstrated multidimensional sustainability performance—environmentally responsible, technologically adaptive, socially accountable, and strategically future-oriented. Stakeholder salience and social entrepreneurship practices emerged as pivotal drivers of organizational growth and the sustainability of community programs, aligning with global frameworks of integrated sustainability and social entrepreneurship. Despite the generally high ratings across all variables, slight variations among the dimensions suggest important nuances in the implementation of sustainability practices. While organizations demonstrated strong performance in areas such as stakeholder engagement and sustainable extensibility, the comparatively lower rating for economic stability indicates that financial sustainability may remain a persistent challenge for many social enterprises. This disparity suggests that although organizations are effective in delivering socially impactful programs and fostering collaborative networks, securing consistent financial resources to sustain and scale these initiatives may require further strategic attention. Such findings highlight the complex balance that social enterprises must maintain between achieving social impact and ensuring long-term economic viability.

In support of the relevant findings, the qualitative findings were drawn to highlight several key challenges faced by social enterprises in Metro Manila, as well as the strategies they employed to address them. The most prominent issues included limited financial resources, bureaucratic hurdles, weak institutional support, and the absence of clear policy recognition for social enterprises. Informants emphasized the importance of collaborative partnerships and multi-sectoral networks to supplement constrained resources and enhance organizational legitimacy. Strategic succession planning and organizational restructuring were also identified as critical for ensuring leadership continuity and long-term sustainability. Financial sustainability emerged as a recurring concern, with income diversification through training programs, grants, blended finance, and innovative business models seen as essential for resilience.

Capacity building and skills development were highlighted as necessary investments, particularly in addressing technical skill gaps among staff

and community partners. Relational and community-based engagement was considered vital for fostering trust, inclusivity, and program relevance, especially among marginalized groups. Finally, adaptability and program realignment were noted as pragmatic responses to evolving contexts, enabling organizations to recalibrate priorities and safeguard their social mission.

Overall, the findings revealed that social enterprises navigated challenges through integrated strategies encompassing collaboration, succession planning, financial diversification, capacity building, community engagement, and adaptability. These approaches strengthened program sustainability and effectiveness, complementing the quantitative results and underscoring the multidimensional nature of social entrepreneurship in advancing community development.

The results demonstrated that all three predictor variables—stakeholder salience, social entrepreneurship practices, and sustainable development components—had statistically significant effects on the sustainability of community programs. Stakeholder salience ( $\chi^2 = 9.57$ ,  $p < .001$ ) underscored the critical role of power, legitimacy, and urgency in shaping program longevity, with stakeholder engagement and prioritization mechanisms emerging as key determinants of effectiveness and adaptability. Social entrepreneurship practices ( $\chi^2 = 20.18$ ,  $p < .001$ ) also exerted a strong influence, confirming that eco-efficiency, organizational transformation, and systems building enhanced resilience and continuity, enabling organizations to generate lasting value and maintain social relevance. Most notably, sustainable development components ( $\chi^2 = 30.79$ ,  $p < .001$ ) demonstrated the strongest predictive effect, highlighting the importance of economic stability, community development, and sustainable extensibility in ensuring long-term viability and measurable impact.

Triangulation of quantitative and qualitative findings reinforced these results, with interview data validating the statistical evidence. Informants emphasized challenges such as financial constraints, policy hurdles, and operational sustainability, while recommending strategies including blended financing, capacity building, policy support, and cross-sector collaboration. Collectively, the findings affirmed that program sustainability was not solely dependent on operational efforts but was rooted in the integration of stakeholder engagement, social innovation, and sustainable development frameworks. This synergy confirmed the study's hypothesis and validated its conceptual framework, demonstrating that holistic social entrepreneurship—anchored in collaboration and sustainability principles—enhances the long-term viability and societal impact of community-based programs.

## CONCLUSION

This study determined that stakeholder salience, social entrepreneurship practices, and sustainable development components each exerted significant effects on the sustainability of community programs, with sustainable development components demonstrating the strongest predictive influence. These findings were established through the integration of quantitative evidence ( $p < .001$  across all variables) and qualitative insights, which consistently emphasized the importance of stakeholder power, legitimacy, and urgency, alongside eco-efficiency, organizational transformation, and systems building, in sustaining program longevity. The statistical outcomes with experiential data revealed that sustainability is not achieved through isolated operational efforts but through systemic alignment of stakeholder engagement, social innovation, and development frameworks.

The implications of these findings are threefold. First, the results

reinforce the stakeholder salience model (Mitchell et al., 1997 as cited by Raha et al., 2021) and the three levels of business sustainability (Dyllick & Muff, 2016, as cited by Sanchis et al., 2025), validating their relevance in community-based contexts and demonstrating how stakeholder attributes and systemic sustainability principles jointly influence program viability. Second, the study highlights the need for longitudinal and sector-specific analyses to capture sustainability trends over time and to refine impact measurement frameworks that encompass economic, social, and environmental dimensions. Lastly, the findings underscore that social enterprises must adopt integrated strategies—collaboration, adaptive planning, financial diversification, and capacity building—to institutionalize sustainability.

Within the discipline of social entrepreneurship, these insights affirm that holistic, stakeholder-centered, and innovation-driven approaches are essential for achieving systemic and enduring community impact. By aligning stakeholder engagement with sustainable development principles, social enterprises can strengthen resilience, enhance accountability, and ensure that community programs remain relevant and impactful in the face of evolving challenges.

### Recommendations for Future Research

While this study established statistically significant relationships between key variables, several research gaps remain that warrant further scholarly attention. First, the cross-sectional design employed in the present research limits causal inference. Future studies should therefore adopt longitudinal approaches to capture dynamic processes and examine sustainability trends in social entrepreneurship over time.

Second, subsequent research may benefit from sector-specific analyses (e.g., health, livelihood, education) to identify context-driven strategies that reflect the unique challenges and opportunities within different social enterprise domains. Such comparative insights can deepen understanding of sectoral heterogeneity and inform tailored interventions.

Third, there is a pressing need to develop standardized impact measurement frameworks that extend beyond economic indicators to encompass dimensions of social inclusion and environmental transformation. Establishing such frameworks would enable more holistic evaluations of social enterprise performance and enhance comparability across studies.

Finally, future research should investigate the policy and institutional factors that influence scalability and systemic integration of social entrepreneurship programs. Governmental regulations, institutional arrangements, and cultural contexts play a pivotal role in enabling or constraining sustainability, and their examination can provide critical insights into the conditions under which social enterprises thrive.

Addressing these research gaps will not only refine theoretical models but also strengthen practical approaches, thereby advancing the capacity of social enterprises to serve as agents of inclusive and sustainable development.

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# Entrepreneurial Opportunities in Aquaculture for Small-Scale Fishpond Operators in Pontevedra, Capiz Towards Profitability and Sustainability

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## ABSTRACT

Aquaculture contributes significantly to food security and rural livelihoods, yet small-scale fishpond operators face structural and environmental constraints that limit profitability. This study examined entrepreneurial opportunities influencing profitability and sustainability among small-scale fishpond operators in Pontevedra, Capiz, Philippines. Using a descriptive–correlational and causal–comparative design, data were collected from 180 operators through a validated survey questionnaire. Descriptive statistics and regression analyses were employed to determine relationships among socio-demographic characteristics, aquaculture practices, entrepreneurial activities, and operational constraints. Results revealed that aquaculture practices and entrepreneurial activities significantly influenced profitability ( $p = .001$ ). Education, experience, farm size, ownership type, and aquaculture system were significant predictors, while gender was not. Despite adequate technical competence, entrepreneurial engagement remained moderate. Major constraints included high feed costs, limited access to finance, price volatility, and environmental risks. Findings indicate that profitability depends on integrating technical efficiency with entrepreneurial capability supported by institutional interventions.

**Keywords:** *Aquaculture, small-scale fishpond operators, entrepreneurial opportunities, profitability, sustainability*

## INTRODUCTION

Over the past three decades, aquaculture has emerged as one of the fastest-growing food production sectors worldwide, surpassing capture fisheries as the primary source of aquatic food for human consumption. Recent estimates from the Food and Agriculture Organization indicate that aquaculture accounted for approximately 51 percent of global aquatic animal production for human consumption, reflecting its expanding contribution to food security, employment generation, and rural economic development (Food and Agriculture Organization [FAO], 2024). This rapid growth has been driven by increasing global demand for seafood and population expansion. It has also been influenced by declining wild fish stocks and heightened concerns regarding nutrition and sustainable resource use (Garlock et al., 2022). As a result, aquaculture has become a critical livelihood source in many developing countries where coastal and inland communities rely heavily on aquatic resources.

In the Philippines, aquaculture plays a dominant role in the fisheries sector, contributing the largest share of total fisheries production and serving as a major source of income for coastal and inland households (Bureau of Fisheries and Aquatic Resources [BFAR], 2022; Philippine Statistics Authority [PSA], 2025). Provinces with extensive pond-based systems, such as Capiz, depend significantly on small-scale fishpond operations as a foundation of rural economic activity. In the municipality of Pontevedra—characterized by brackish-water ponds, proximity to the Visayan Sea, and widespread reliance on family-managed aquaculture enterprises—the sector functions as both a primary and supplementary livelihood. Entry into small-scale aquaculture remains relatively accessible due to moderate capital requirements, availability of household labor, utilization of locally

available land and water resources, and reliance on traditional production skills. National development priorities promoting inclusive growth, food security, and sustainable fisheries management, including initiatives implemented by the Bureau of Fisheries and Aquatic Resources, further underscore the strategic importance of strengthening local aquaculture enterprises.

Over the past decade, particularly in the post-pandemic period, aquaculture systems have gradually shifted from purely production-oriented activities toward more entrepreneurial, market-driven models. Small-scale operators are increasingly encouraged to pursue value-adding strategies such as fish processing (e.g., smoking, drying, or deboning), product diversification, cooperative marketing, and improved pricing negotiations to enhance competitiveness and income stability (Bunting et al., 2023; Talin et al., 2023). These entrepreneurial initiatives are complemented by the growing adoption of sustainability-oriented practices, including efficient feed utilization, water-quality monitoring, and climate-resilient production systems (Garlock et al., 2022; Tahiluddin, 2025). As input costs rise and environmental pressures intensify, profitability in aquaculture is increasingly determined not only by production volume but also by the effective integration of technical efficiency, business innovation, and institutional support mechanisms.

Despite these developments, small-scale aquaculture enterprises continue to face significant financial, market, and environmental constraints that limit financial performance. Financial pressures, particularly rising feed costs and restricted access to formal credit institutions such as banks, cooperatives, and microfinance

providers, reduce operators' capacity to invest in improved technologies and enterprise expansion (Aya et al., 2024). Market-related challenges, including price volatility and dependence on intermediaries, weaken bargaining power and income stability. At the same time, environmental risks—such as disease outbreaks, flooding, salinity fluctuations, and extreme weather events—frequently experienced in Western Visayas increase production uncertainty and operational losses (FAO, 2023; Ferrer, 2025). These conditions highlight the complex production environment in which small-scale fishpond operators must balance technical efficiency, risk management, and strategic decision-making.

Although entrepreneurial opportunities such as hatchery development, aquaponics integration, diversified species culture, and value-added marketing are recognized within the aquaculture sector, many operators in Pontevedra remain engaged primarily in low-value, production-focused activities, including monoculture systems and minimal post-harvest handling (Obi et al., 2022; Bunting et al., 2023). Limited access to technical training, extension support, and institutional linkages constrains the adoption of innovation and enterprise development. Addressing these gaps requires localized empirical analysis of how managerial capability, entrepreneurial engagement, and operational challenges interact to shape financial outcomes. Accordingly, this study examines the combined influence of socio-demographic characteristics, aquaculture practices, entrepreneurial activities, and structural constraints on profitability among small-scale fishpond operators in Pontevedra, Capiz, using quantitative statistical techniques, including regression analysis. The findings aim to generate evidence-based insights to support policies and interventions that enhance sustainable and inclusive aquaculture entrepreneurship.

## Theoretical Background

This study is anchored in entrepreneurial opportunity theory and the resource-based view (RBV) as complementary perspectives for explaining profitability and sustainability in small-scale aquaculture enterprises. Entrepreneurial opportunity theory focuses on how individuals recognize and exploit emerging economic possibilities, while RBV emphasizes how internal resources and capabilities enable enterprises to translate such opportunities into improved performance outcomes. These frameworks complement each other by linking external opportunity recognition with internal resource utilization. Their combined application is particularly suitable for small-scale aquaculture, where enterprise success depends not only on the availability of productive assets but also on the capacity of operators to adapt to changing market conditions, manage risks, and make strategic production decisions. Compared with broader livelihood or value-chain approaches, these theories provide a more enterprise-level explanation of profitability pathways, which is consistent with the study's focus on financial performance among individual fishpond operators.

Entrepreneurial opportunity theory posits that profitability is achieved when individuals identify and exploit economic opportunities that others fail to recognize (Schlichte & Junge, 2024). A central concept within this framework is entrepreneurial alertness, defined as the ability to perceive previously unnoticed business opportunities and turn them into viable business strategies. Opportunities may emerge from shifts in consumer demand, price differentials, institutional changes, or technological innovations (Majumdar, 2024). In small-scale aquaculture, opportunities can be recognized through practices such as value-added fish processing, species diversification, adaptive harvesting schedules, and market repositioning. However, the capacity to recognize and act on such opportunities is often constrained in rural contexts by limited access to information, training services, financial capital, and market networks. These contextual limitations help explain variations in entrepreneurial engagement among fishpond operators and support the inclusion of socio-demographic and institutional variables in the present study.

The resource-based view (RBV), introduced by Barney (1991), explains

enterprise performance in terms of the strategic use of valuable, rare, and difficult-to-imitate internal resources. In small-scale aquaculture, these resources include both tangible assets, such as farm size, pond infrastructure, and access to working capital, and intangible assets, including accumulated production experience, indigenous ecological knowledge, family labor support, and locally embedded market relationships. These internal resources influence profitability through several interrelated pathways. Larger or better-managed farms may achieve higher productivity and economies of scale, while experiential knowledge and local environmental familiarity strengthen risk-management capacity and improve technical decision-making. At the same time, reliance on household labor and established marketing networks can enhance cost efficiency and income stability. As emphasized by Jurevicius (2023), competitive advantage in resource-constrained enterprises often emerges from optimizing existing capabilities rather than continuously acquiring new inputs.

Taken together, entrepreneurial opportunity theory and RBV provide an integrated framework for understanding how profitability is generated in small-scale aquaculture enterprises. Opportunity recognition shapes how operators respond to market and production dynamics, whereas resource capability determines how effectively such responses are implemented. Profitability subsequently enables reinvestment, enterprise expansion, and improved resilience to economic and environmental shocks. Although both theories traditionally focus on firm performance, sustainability is conceptualized in this study primarily as long-term economic viability, supported by efficient resource use, adaptive management practices, and stable livelihood outcomes among fishpond operators.

## Conceptual Framework

The conceptual framework of this study was developed to explain how selected enterprise characteristics and operational conditions influence the profitability of small-scale fishpond operators. Drawing from entrepreneurial opportunity theory and the resource-based view, the framework identifies key determinants that shape enterprise performance through opportunity recognition, resource utilization, and strategic decision-making. These determinant categories were selected because they reflect both the internal capacities of operators and the external constraints affecting aquaculture production systems.



**Figure 1. Entrepreneurial Opportunities In Aquaculture For Small-Scale Fishpond Operators In Pontevedra, Capiz Towards Profitability and Sustainability**

The model positions profitability as the primary dependent variable, influenced by four groups of independent variables: socio-demographic characteristics, aquaculture management practices, entrepreneurial activities, and structural challenges and constraints. Socio-demographic factors—such as age, educational attainment, aquaculture experience, farm size, ownership status, and type of culture system—represent foundational conditions that affect managerial capability, access to productive resources, and the ability to recognize economic opportunities. Aquaculture management practices refer to operational competencies that determine productivity and cost efficiency, including pond preparation, feeding management, water-quality monitoring, disease prevention, and environmental stewardship. Entrepreneurial

activities—such as marketing strategies, value-addition initiatives, financial planning, and innovation adoption—function as strategic mechanisms that enhance value capture, income diversification, and enterprise competitiveness. In contrast, structural constraints—including rising input costs, limited capital access, price volatility, and climate-related risks—act as external pressures that may weaken financial performance.

Profitability is operationalized using multiple indicators commonly applied in aquaculture enterprise analysis. Net income represents the absolute financial gain from operations, while return on investment (ROI) measures the efficiency of capital utilization. The cost-benefit ratio (CBR) reflects the relationship between production costs and generated revenue and indicates operational viability. In addition, perceived profitability captures operators' subjective assessments of financial satisfaction and enterprise performance, as measured through structured survey responses. Together, these indicators provide a comprehensive assessment of financial outcomes.

Sustained profitability strengthens enterprise resilience by supporting reinvestment in production inputs, technological improvement, and risk-management strategies. In this study, sustainability is therefore conceptualized primarily in economic terms, referring to the long-term viability and stability of aquaculture enterprises. However, improved financial performance is also recognized as contributing indirectly to broader social well-being and adaptive capacity in environmentally vulnerable aquaculture communities.

## Review of Literature

### Aquaculture and Its Economic Role

Aquaculture has surpassed capture fisheries as the primary source of global fish supply, reaching approximately 94.4 million metric tons in 2022 and accounting for more than half of total aquatic animal production (Financial Management Times, 2024; FAO, 2022; Balmer, 2024). This sustained growth reflects the sector's increasing contribution to food security, employment generation, and rural economic development worldwide. In the Philippines, aquaculture production is projected to expand by around 20 percent by 2032, driven by rising domestic seafood demand, technological advances in pond management, and continued government support for fisheries development initiatives (Angelo, 2025). Western Visayas, particularly the province of Capiz, remains a significant contributor to national output because of its extensive pond-based aquaculture systems and strong linkages to regional markets. However, the sector's economic performance is highly sensitive to environmental risks, including extreme weather disturbances and climate variability. For instance, Typhoon Paeng caused estimated fisheries losses of about ₱500 million, affecting fishpond profitability through stock mortality, damage to pond infrastructure, and disruptions in production and market supply chains (Aguirre, 2022).

While aquaculture contributes significantly to national production and rural livelihoods, enterprise-level performance is largely shaped by the structural characteristics of small-scale fishpond operations.

### Characteristics of Small-Scale Fishpond Operations

Small-scale fishpond enterprises in the Philippines are typically characterized by production areas of less than five hectares and reliance on family labor, locally available resources, and limited financial capital (Guerrero, 2019; Brugere & Ridler, 2020). While these features make aquaculture accessible to rural households, limited mechanization often leads to higher labor requirements, longer grow-out periods, and lower production efficiency compared with more capital-intensive systems. Social capital also plays an important role in sustaining operations, as

bonding networks among family members support day-to-day farm activities, while bridging linkages with traders, cooperatives, and extension agencies enhance access to markets and technical innovations (Manlosa et al., 2023). Diversification strategies such as integrated farming and multi-species culture further improve adaptability and income stability among small-scale operators (FAO, 2022). These structural and social characteristics are likewise observed in the municipality of Pontevedra, where fishpond enterprises contribute significantly to household consumption and local livelihood security.

Within these small-scale production systems, socio-demographic factors such as gender roles further influence access to resources, managerial responsibilities, and participation in aquaculture value chains.

### Gender in Small-Scale Aquaculture

Gender participation in small-scale aquaculture is shaped by institutional structures such as cultural norms, governance arrangements, land tenure systems, and access to development support rather than by biological differences. In Southeast Asian settings, including household-based fishpond enterprises in the Philippines, women are commonly involved in post-harvest processing, marketing, record-keeping, and financial management, while men more frequently control pond ownership, capital investment, and production supervision (Adam et al., 2021; Kusakabe et al., 2022). Although studies indicate no consistent gender differences in technical productivity, disparities in access to credit, training, and leadership opportunities may influence enterprise scale and managerial decision-making (Kusakabe et al., 2022). Women's contributions are often concentrated in informal or undervalued segments of the aquaculture value chain, which can limit their capacity to adopt improved technologies or expand operations (Swathi Lekshmi et al., 2022; Elias et al., 2023). These constraints suggest that gender affects profitability primarily through indirect pathways related to resource control and participation in strategic decisions. Strengthening cooperative participation and inclusive institutional interventions is therefore essential for promoting gender equity and enhancing enterprise development and income distribution in small-scale aquaculture systems (Freeman & Svets, 2022). Beyond socio-cultural dynamics, fishpond operators also encounter operational and environmental constraints that directly affect production efficiency and financial performance.

### Operational Challenges in Pontevedra

Fishpond operators in Pontevedra face several structural constraints that limit enterprise profitability, as validated through consultations with industry practitioners and municipal aquaculture extension officials during the review of the self-developed survey instrument. Financial pressures are evident in the limited access of small-scale operators to formal credit institutions, which compels reliance on personal savings or informal lenders and restricts investment in pond improvement and production technologies (Bulan, personal communication, September 03, 2025). Rising feed costs—among the largest recurring production expenses in aquaculture—have further compressed profit margins amid increasing market demand and supply-chain disruptions (Aya et al., 2024). Consistent with these cost pressures, projections indicate that the Philippine animal feed industry is expected to expand at a compound annual growth rate of approximately 2.71 percent from 2025 to 2033, implying sustained growth in feed demand and continued upward pressure on input prices that may affect production planning and income stability among small-scale fishpond enterprises (IMARC Group, 2025). Environmental challenges, including climate variability, flooding, and temperature fluctuations, contribute to water-quality deterioration and increased fish mortality—conditions also documented in Philippine aquaculture systems and observed by local agriculture officials responsible for fisheries extension services (Castro, personal communication, September 18, 2025; Tahiluddin, 2025). Market-related constraints, such as disease outbreaks and reliance on intermediaries,

further weaken bargaining power and income reliability, collectively heightening production uncertainty and constraining the profitability potential of small-scale aquaculture enterprises in Pontevedra (Villanueva, personal communication, September 18, 2025; WorldFish, 2020). In response to these structural limitations, entrepreneurial strategies have emerged as important mechanisms for improving productivity, income diversification, and enterprise resilience.

### Entrepreneurial Opportunities in Aquaculture

Entrepreneurship enhances profitability in small-scale pond-based aquaculture enterprises through innovation, diversification, and value-adding strategies. As aquaculture continues to expand as one of the fastest-growing agricultural subsectors, fishpond operators encounter increasing opportunities for enterprise development and income diversification (Mayekar et al., 2022). Value-adding practices in fishpond systems—such as deboning, smoking, drying, marinating, improved packaging, and product branding—enhance product quality and strengthen market competitiveness (Ninan, 2023). The adoption of these innovations depends on operators' entrepreneurial skills, technical training, and access to extension support, which influence their capacity to improve feeding efficiency, seed management, and post-harvest handling within aquaculture production systems (Bunting et al., 2023). In grow-out pond operations, strategic practices such as optimized stocking density and staggered harvesting schedules help mitigate biological risks, stabilize production cycles, and improve income timing amid market price fluctuations (Eguia et al., 2021; FAO, 2024). These entrepreneurial approaches collectively transform traditional fishpond activities into more market-oriented enterprises that can enhance productivity, profitability, and long-term economic resilience. These innovation-driven practices ultimately shape the financial outcomes of aquaculture enterprises, making profitability assessment a central concern for small-scale operators.

### Profitability in Aquaculture Enterprises

Profitability in small-scale aquaculture enterprises is typically evaluated using financial indicators such as return on investment (ROI), net present value (NPV), internal rate of return (IRR), and cost–benefit ratio, which enable fishpond operators to assess project feasibility, compare alternative production investments, and optimize resource allocation (Namonje-Kapembwa & Samboko, 2020; Kaboja et al., 2023). In pond-based production systems, feed expenditure remains the most significant determinant of profit margins, and improvements in feeding efficiency and input management are closely associated with enhanced financial performance (Aya et al., 2024; Saha et al., 2022). Managerial experience and systematic record-keeping further support profitability by improving production forecasting, facilitating cost control, and enabling informed decisions regarding stocking density, harvest timing, and marketing strategies (Tumwesigye et al., 2022). Within the Philippine small-scale aquaculture sector, these financial management practices are particularly important because fishpond enterprises operate under fluctuating input prices, limited access to formal financing, and evolving market demand conditions. Local production trends indicate that the gross value of aquaculture in Pontevedra increased from 2015 to 2024, reflecting the sector's resilience despite pandemic-related disruptions to logistics and supply chains (PSA, 2025). This growth has been linked to gradual recovery in seafood consumption, adaptive production responses among fishpond operators, and sustained participation in local and regional markets (FAO, 2020; Alam et al., 2022). However, short-term financial gains alone do not guarantee long-term enterprise viability, highlighting the growing importance of integrating sustainability considerations into aquaculture management.

### Sustainability and Institutional Support

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Sustainable aquaculture refers to the integrated pursuit of environmental protection, economic viability, and social equity within small-scale production systems. In pond-based enterprises, environmental practices such as mangrove conservation, water-quality management, and responsible feed utilization help maintain ecological balance while reducing disease incidence and production losses, thereby supporting long-term profitability (Tahiluddin, 2025; Garlock et al., 2024). These sustainability measures are complemented by institutional support mechanisms that enhance enterprise resilience through technical training, cooperative development, and improved market linkages. In the Philippines, government initiatives such as the Philippine National Aquasilviculture Program (PNAP) and Aquaculture and Capture Fisheries Modernization programs (ACOP) have been implemented to promote environmentally responsible production and strengthen livelihood opportunities among small-scale fishers and fishpond operators (BFAR, 2023; Obi et al., 2024). Nevertheless, persistent infrastructure limitations, uneven policy implementation, and restricted access to formal financing continue to constrain the capacity of small-scale aquaculture enterprises to achieve both sustainability and stable financial growth (WorldFish, 2020). These conditions highlight the importance of integrated policy interventions that simultaneously address environmental management, enterprise profitability, and institutional capacity-building in order to enhance the long-term competitiveness of the aquaculture sector.

### Synthesis of Literature and Research Gap

Overall, the reviewed literature demonstrates that aquaculture plays a critical role in supporting rural livelihoods, food security, and local economic development, particularly within small-scale pond-based production systems. Previous studies have emphasized the influence of structural characteristics, gender dynamics, operational constraints, entrepreneurial innovation, financial management practices, and sustainability initiatives on enterprise performance. However, much of the existing research has focused on broader fisheries contexts or on specific technological and environmental dimensions, with limited localized analysis of how these determinants collectively affect profitability among small-scale fishpond operators. In the Philippine setting, empirical evidence remains fragmented regarding how socio-demographic factors, aquaculture practices, and entrepreneurial strategies interact to shape financial outcomes at the municipal level. Furthermore, while institutional support programs and sustainability approaches have been widely discussed, their integrated effects on enterprise-level profitability and long-term resilience in specific localities such as Pontevedra, Capiz remain underexplored. Addressing these gaps, the present study examines the determinants of profitability among small-scale fishpond operators in Pontevedra, thereby contributing context-specific insights to support inclusive, sustainable, and market-responsive aquaculture development.

## METHODS

### Research Design

This study utilized a descriptive–correlational and causal–comparative (ex post facto) research design to investigate the determinants of profitability among small-scale fishpond operators in Pontevedra, Capiz. The descriptive–correlational component was considered most appropriate for research questions that sought to determine the degree of statistical association between profitability and several continuous predictor variables, including years of aquaculture experience, farm size, intensity of entrepreneurial activities, and selected operational performance indicators. In contrast, the causal–comparative design was applied to research questions that required comparison of profitability

outcomes across naturally occurring categorical groups, such as variations in educational attainment, ownership status, and type of aquaculture production system. This differentiation enabled the study to examine both relational patterns and group-based variations in enterprise performance within real production settings.

Given the field-based nature of small-scale aquaculture enterprises, the research adopted a non-experimental approach in which independent variables were observed rather than manipulated. The analysis, therefore, focused on identifying statistical associations and comparative differences without making causal inferences, consistent with the methodological limitations of ex post facto research designs (Creswell & Creswell, 2023; Johnson & Christensen, 2020). Multiple linear regression was employed as the primary inferential technique, with profitability operationalized as a continuous dependent variable influenced by several independent factors. Regression was considered suitable for estimating the relative predictive contribution and combined effects of socio-demographic, operational, and entrepreneurial variables on financial performance outcomes (Gay, Mills, & Airasian, 2023).

## Research Locale

The study was conducted in the municipality of Pontevedra, Capiz, located in the Western Visayas region along the Panay River and facing the Visayan Sea. The municipality comprises 26 barangays and is characterized by fertile lowlands and extensive brackish-water areas that support aquaculture production. Records from the Municipal Agriculture Office and the Bureau of Fisheries and Aquatic Resources indicate that the locality has approximately 396.68 hectares of fishpond area operated by about 292 small-scale fishpond operators, most of whom are engaged in milkfish and tilapia pond culture, fish-cage operations, and hatchery-related activities that contribute significantly to local food supply, employment, and household income.

Despite these favorable natural conditions, traditional production systems remain prevalent among operators, typically involving manual feeding practices, limited mechanization, single-species culture, and minimal post-harvest value-adding activities. Such operational characteristics often result in lower productivity, longer production cycles, and reduced profit margins, thereby constraining enterprise growth and financial sustainability. Furthermore, the municipality's exposure to flooding, salinity fluctuations, and climate variability increases production uncertainty and necessitates the adoption of entrepreneurial strategies such as diversification, improved resource management, and market-oriented decision-making to enhance profitability and resilience in small-scale aquaculture enterprises.

## Population and Sampling

The study population consisted of small-scale fishpond operators managing aquaculture production areas not exceeding five hectares, consistent with the operational definition adopted in the review of related literature and applied throughout the study. The sampling frame was constructed using official lists of registered fishpond operators obtained from the Municipal Agriculture Office (MAO) of Pontevedra and validated through available records from the Bureau of Fisheries and Aquatic Resources (BFAR) to ensure coverage of active aquaculture enterprises within the municipality.

To enhance representativeness and minimize sampling bias, stratified random sampling was employed based on key operational characteristics, including pond size classification, type of culture system (e.g., monoculture or polyculture), and geographic location across selected barangays. This approach allowed proportional inclusion of operators facing varying production conditions and enterprise scales. The required sample size was determined using Cochran's formula, applying a 95% confidence level, 5% margin of error, and an estimated

population proportion ( $p = 0.50$ ) to ensure adequate variability and statistical reliability.

After applying finite population correction, the minimum required sample size was calculated at 132 respondents. However, the study successfully obtained 180 valid responses, thereby exceeding the minimum requirement and improving the statistical power of the analysis by increasing sensitivity to detect meaningful relationships and group differences among variables (Fraenkel, Wallen, & Hyun, 2020; Lohr, 2021). The final sample therefore provided a more robust basis for inferential statistical procedures and strengthened the generalizability of findings within the context of small-scale aquaculture enterprises in Pontevedra, Capiz.

## Research Instrument and Data Collection

Primary data were collected using a self-developed structured survey questionnaire designed to measure four major study variables: socio-demographic profile, entrepreneurial opportunities, operational challenges and constraints, and perceived profitability among small-scale fishpond operators. The instrument included specific indicators such as years of aquaculture experience, pond size and culture system characteristics, adoption of value-adding practices, access to credit and production inputs, exposure to environmental risks, and financial performance perceptions related to income stability and cost management. Responses were measured using a five-point Likert scale reflecting the extent of agreement with each statement, ranging from strongly disagree to strongly agree, to ensure consistent interpretation of attitudinal and perception-based indicators.

To establish content validity, the questionnaire underwent expert review and panel assessment involving academic advisers, aquaculture specialists, and municipal agriculture practitioners, who evaluated the relevance, clarity, and appropriateness of each item prior to field administration. The instrument was subsequently pilot-tested among 30 small-scale fishpond operators from neighboring aquaculture communities with similar production conditions, allowing refinement of ambiguous items and assessment of internal consistency. The pilot test yielded a Cronbach's alpha coefficient of 0.95, indicating excellent reliability of the measurement scale.

Actual data collection was conducted through face-to-face survey administration following formal permission from the Graduate School and coordination with the Municipal Agriculture Office of Pontevedra. Participation was voluntary, and informed consent was obtained prior to questionnaire completion. To ensure ethical compliance and data confidentiality, responses were anonymized using coded identifiers and stored in password-protected digital files accessible only to the researcher, consistent with the provisions of the Data Privacy Act of 2012 (Republic Act 10173).

## Data Analysis

Collected data were encoded, cleaned, and analyzed using the Statistical Package for the Social Sciences (SPSS) Version 29. Descriptive statistics, including frequency counts, percentages, weighted means, and standard deviations, were used to summarize socio-demographic characteristics, aquaculture practices, entrepreneurial activities, operational challenges, and perceived profitability indicators.

Pearson Product-Moment Correlation analysis was applied to determine the strength and direction of relationships among continuous variables related to aquaculture operations and profitability. Chi-square tests of independence were employed to examine associations between categorical socio-demographic variables (e.g., education level, ownership status, type of aquaculture system) and categorized profitability outcomes. For regression analysis, perceived profitability

was treated as a continuous dependent variable, allowing estimation of the combined predictive influence of multiple independent variables.

Multiple linear regression using the enter method was conducted to assess the explanatory contribution of socio-demographic characteristics, entrepreneurial activities, aquaculture practices, and operational constraints to variations in profitability. Prior to regression analysis, diagnostic procedures were performed to verify statistical assumptions, including tests for multicollinearity (Variance Inflation Factor and tolerance values), normality of residuals (histograms and normal probability plots), and homoscedasticity (scatterplots).

All inferential statistical tests were evaluated at a 0.05 level of significance, a conventional threshold in social science research that balances the risks of Type I and Type II errors and supports objective interpretation of statistical relationships. The use of multiple analytical techniques enabled a comprehensive examination of both associative patterns and predictive relationships among study variables within real-world aquaculture production conditions.

The overall research process adopted in this investigation is illustrated in Figure 2 to present the systematic flow of activities from sampling to result interpretation.



Figure 2. The Research Flow Chart

As shown in Figure 2, the study followed a structured sequence of methodological steps to ensure the validity and reliability of data collection and analysis.

To further clarify the operationalization of the study variables, Table 1 presents the major variables included in the investigation and their corresponding measurement scales.

Table 1. Summary of Variables and Measurement Scales

Variable	Type of Variable	Measurement Scale	Example Indicators
Sociodemographic Profile	Independent	Nominal / Ordinal	Age, education, pond size, years of experience
Entrepreneurial Opportunities	Independent	Interval (Likert scale)	Value-adding practices, innovation adoption, marketing initiatives
Challenges and Constraints	Independent	Interval (Likert scale)	Feed cost pressure, credit access, climate risks
Perceived Profitability	Dependent	Interval (Likert scale)	Income improvement, cost recovery, financial sustainability

## RESULTS

Table 2 presents the results of the chi-square test of independence examining the association between selected sociodemographic

characteristics and profitability categories among small-scale fishpond operators.

Educational attainment showed the strongest statistically significant association with profitability ( $\chi^2 = 65.0$ ,  $df = 20$ ,  $p < .001$ , Cramer's  $V = 0.301$ ), indicating a moderate magnitude of relationship. Farm size was likewise significantly associated with profitability ( $\chi^2 = 47.6$ ,  $df = 16$ ,  $p < .001$ , Cramer's  $V = 0.258$ ), suggesting that differences in farm scale corresponded with variations in profitability levels.

Years of experience ( $\chi^2 = 37.9$ ,  $df = 16$ ,  $p = 0.002$ , Cramer's  $V = 0.230$ ) and age ( $\chi^2 = 34.9$ ,  $df = 16$ ,  $p = 0.004$ , Cramer's  $V = 0.221$ ) also demonstrated statistically significant associations with profitability, both reflecting small to moderate effect sizes. Type of aquaculture practiced ( $\chi^2 = 31.0$ ,  $df = 12$ ,  $p = 0.002$ , Cramer's  $V = 0.240$ ) was similarly significant, indicating differences in profitability across production systems.

Table 2. Influence of Sociodemographic Profile on Profitability

Variable	$\chi^2$ value	df	p	(Cramer's V)	Decision
Educational Attainment	65.00	20	<.001	0.301	Significant
Farm Size	47.60	16	<.001	0.258	Significant
Experience	37.90	16	.002	0.230	Significant
Age	34.90	16	.004	0.221	Significant
Type of Aquaculture	31.00	12	.002	0.240	Significant
Civil Status	21.90	8	.005	0.248	Significant
Ownership	19.60	8	.012	0.234	Significant
Gender	2.13	4	.712	0.109	Not Significant

Note. All analyses were conducted using the Chi-square Test of Independence. Statistical significance was evaluated at  $\alpha = .05$ .

Civil status ( $\chi^2 = 21.9$ ,  $df = 8$ ,  $p = 0.005$ , Cramer's  $V = 0.248$ ) and ownership status ( $\chi^2 = 19.6$ ,  $df = 8$ ,  $p = 0.012$ , Cramer's  $V = 0.234$ ) were also significantly associated with profitability, suggesting that variations in household and tenure characteristics corresponded with differing income outcomes.

Gender did not show a statistically significant association with profitability ( $\chi^2 = 2.13$ ,  $df = 4$ ,  $p = 0.712$ , Cramer's  $V = 0.109$ ), indicating a negligible magnitude of relationship between gender category and profitability level in this sample.

These results indicated that profitability levels differed significantly across several sociodemographic groupings.

Table 3. Linear Regression Analysis of Aquaculture Practices Predicting Profitability

Predictor	R <sup>2</sup>	t-value	p-value	Decision	Interpretation
Aquaculture Practices	0.351	9.81	<.001	Reject Ho	Significant

Note.  $\alpha = 0.05$ .

Table 3 shows the results of the linear regression analysis examining the relationship between aquaculture practices and profitability among small-scale fishpond operators. The regression coefficient for aquaculture practices was statistically significant ( $t = 9.81$ ,  $p < .001$ ), indicating that aquaculture practices significantly predicted profitability levels.

The model yielded an  $R^2$  of 0.351, indicating that approximately 35.1% of the variation in profitability was explained by differences in aquaculture practices. This suggests moderate explanatory power of the regression model.

**Table 4. Multiple Linear Regression Analysis Predicting Perceived Profitability**

Predictor	B	SE	t	p	Decision
Aquaculture Practices	0.353	0.093	3.778	< .001	Significant
Entrepreneurial Opportunities	0.222	0.068	3.269	.001	Significant
Challenges and Constraints	0.177	0.057	3.114	.002	Significant

Model Statistics:  $R = .628$ ,  $R^2 = .394$ ,  $Adjusted R^2 = .383$ ,  $F(3,176) = 38.105$ ,  $p < .001$ ,  $N = 180$

Table 4. shows the results of the multiple linear regression analysis examining the simultaneous influence of aquaculture practices, entrepreneurial opportunities, and challenges and constraints on perceived profitability among small-scale fishpond operators. The regression model was statistically significant,  $F(3, 176) = 38.105$ ,  $p < .001$ , with an  $R^2$  of 0.394 and an adjusted  $R^2$  of 0.383. These results indicated that approximately 39.4% of the variation in perceived profitability was explained by the model's predictors.

Aquaculture practices significantly predicted perceived profitability ( $B = 0.353$ ,  $t = 3.778$ ,  $p < .001$ ). Entrepreneurial opportunities also demonstrated a significant association with perceived profitability ( $B = 0.222$ ,  $t = 3.269$ ,  $p = .001$ ). Challenges and constraints likewise remained significantly related to perceived profitability ( $B = 0.177$ ,  $t = 3.114$ ,  $p = .002$ ).

Perceived profitability was treated as a continuous composite variable computed from the mean responses to items 31–35 of the survey instrument. Aquaculture practices, entrepreneurial opportunities, and challenges and constraints were likewise operationalized as composite indices derived from the mean scores of their respective item sets (items 1–25, 26–30, and 36–40). Higher composite scores indicated higher levels of the corresponding construct.

Overall, the regression analysis indicated that the model significantly explained variations in profitability among small-scale fishpond operators. Aquaculture practices emerged as the strongest predictor of profitability, followed by entrepreneurial activities, while challenges and constraints demonstrated a statistically significant negative association with financial performance. The overall model exhibited moderate explanatory strength, accounting for approximately 39.4% of the variance in profitability ( $R^2 = 0.394$ ;  $Adjusted R^2 = 0.383$ ), with the regression equation found to be statistically significant,  $F(3,176) = 38.105$ ,  $p < .001$ . These findings suggest that profitability outcomes were more strongly associated with variations in management practices and enterprise engagement than with other measured factors. In contrast, selected sociodemographic variables such as gender did not show a statistically significant relationship with profitability.

## DISCUSSION

The findings of the study demonstrate that profitability among small-scale fishpond operators is shaped by the combined influence of socio-demographic profile, aquaculture practices, entrepreneurial activities, and challenges and constraints. Rather than being determined solely by production output, financial performance reflects a dynamic interaction among operator capability, farm-level management decisions, enterprise behavior, and structural production conditions.

The analysis indicates that variations in profitability are associated with differences in socio-demographic profiles, particularly in terms of human capital and farm characteristics. Educational attainment and years of experience may reflect differences in managerial competence, technological adaptability, and capacity to respond to operational risks. Previous studies have emphasized that education supports improved decision-making and resource management in aquaculture enterprises (Engle et al., 2023; Namonje-Kapembwa & Samboko, 2020), while accumulated experience enhances farm-level problem-solving and environmental risk management (Tumwesigye et al., 2022).

Similarly, structural characteristics such as farm size and ownership arrangements may contribute to enterprise stability by influencing resource availability and long-term investment incentives (Kaboja et al., 2023; WorldFish, 2020; Bunting et al., 2023; Das & Mandal, 2022). In contrast, the absence of a significant relationship between gender and profitability suggests that financial outcomes are more closely associated with access to productive resources and managerial capability than with demographic distinctions alone, consistent with earlier aquaculture livelihood research (Adam et al., 2021; Kusakabe et al., 2022).

While sociodemographic characteristics provide the human capital context within which aquaculture enterprises operate, farm-level technical management practices represent the more immediate operational mechanisms through which profitability outcomes are realized.

Beyond socio-demographic attributes, the findings highlight the importance of aquaculture practices in shaping profitability outcomes. Descriptive statistics indicate variability in the consistency with which technical management practices are implemented across production domains, suggesting that operational discipline remains a critical factor in financial performance.

Water quality management demonstrated a relatively strong level of implementation (average weighted mean = 3.43,  $SD = 0.98$ ), particularly in maintaining records of water parameters and monitoring temperature during critical culture stages. However, routine testing of water conditions and the use of aeration or water exchange were practiced less consistently. In the local context, municipal agriculture personnel noted that irregular monitoring of water quality often preceded disease outbreaks and unstable harvest performance (Municipal Agriculture Office staff, personal communication, September 18, 2025). These observations provide contextual support for the statistical findings and reinforce the importance of preventive environmental management in sustaining production efficiency.

Stocking and feeding practices were implemented at a moderate level ( $M = 3.29$ ,  $SD = 1.03$ ), indicating that while operators were generally aware of recommended procedures, technical application varied. Maintaining appropriate stocking density received relatively higher ratings, whereas feeding schedules and monitoring of feed consumption were less consistently practiced. Considering that feed constitutes a substantial portion of aquaculture production costs, inefficiencies in feeding management may directly affect enterprise viability (Aya et al., 2024; Saha et al., 2022).

Pond preparation and maintenance practices showed a generally high level of implementation ( $M = 3.41$ ,  $SD = 0.96$ ), particularly in structural repair and soil conditioning. Nevertheless, complete drying, sludge removal, and equipment disinfection were only moderately practiced, suggesting that time constraints and continuous production demands may limit adherence to preventive protocols. Previous studies have noted that consistent pond preparation contributes to improved production stability and reduced long-term operational risks (Engle et al., 2023; BFAR, 2024).

Disease prevention and control practices were implemented moderate level ( $M = 3.03$ ,  $SD = 0.99$ ), indicating partial adherence to biosecurity and health management measures. Limited access to technical assistance and veterinary services may contribute to this pattern, highlighting structural challenges faced by small-scale aquaculture operators (Tahiluddin et al., 2025; Red et al., 2021).

Environmental sustainability practices were likewise moderately implemented ( $M = 3.27$ ,  $SD = 0.98$ ). Maintaining vegetative buffers and managing effluent discharge were relatively common, whereas water recycling and regulatory compliance were less consistently practiced.

These findings align with literature emphasizing the growing importance of environmentally responsible aquaculture management in sustaining both productivity and ecological balance (FAO, 2023; Garlock et al., 2024).

While technical management practices are essential, the findings also indicate that enterprise behavior plays a complementary role in shaping financial outcomes. This leads to the discussion of entrepreneurial activities.

In addition to farm-level technical capability, entrepreneurial activities appear to be associated with variations in profitability. Engagement in market exploration, diversification strategies, price negotiation, and value-adding initiatives may strengthen enterprise resilience by improving market positioning and income opportunities. Rural enterprise studies have reported that innovation-oriented strategies contribute to greater income stability and competitiveness (Medina et al., 2023), while value addition has been identified as a mechanism for enhancing the performance of aquaculture enterprises (Regis & Alcantara, 2020).

From a theoretical standpoint, entrepreneurial opportunity perspectives suggest that enterprise outcomes are influenced not only by resource availability but also by the ability to recognize and respond to emerging economic opportunities (Majumdar, 2024). These insights support the interpretation that entrepreneurial engagement may complement technical management capability in influencing profitability among small-scale fishpond operators.

Despite the positive contributions of technical capability and entrepreneurial behavior, profitability is also shaped by broader operational limitations. The discussion therefore proceeds to the role of challenges and constraints.

The findings further indicate that challenges and constraints continue to affect financial performance in small-scale aquaculture enterprises. Informants identified rising feed costs, limited access to formal credit, and exposure to environmental risks such as flooding and disease outbreaks as persistent concerns affecting production stability (Bulan, personal communication, September 3, 2025; Villanueva, personal communication, September 18, 2025). Sectoral reports have similarly highlighted the impacts of input price volatility and institutional constraints on aquaculture livelihoods (BFAR, 2023; FAO, 2025).

These structural challenges suggest that enterprise performance is influenced not only by internal management capability but also by broader economic and environmental conditions that may moderate profitability outcomes. Production uncertainty has been widely recognized as a factor affecting income stability among resource-constrained aquaculture operators (Tahiluddin et al., 2025).

Overall, the findings suggest that profitability among small-scale fishpond operators reflects the combined influence of socio-demographic profile, aquaculture practices, entrepreneurial activities, and challenges and constraints. Strengthening technical training, enterprise development support, and access to financial and institutional resources may therefore enhance the sustainability and income potential of aquaculture enterprises in Pontevedra, Capiz.

## CONCLUSION

This study concluded that profitability among small-scale fishpond operators in Pontevedra, Capiz was largely associated with differences

in aquaculture management capability and entrepreneurial engagement, while socio-demographic characteristics and production constraints influenced the conditions under which financial performance was achieved. Aquaculture practices and entrepreneurial activities emerged as the most important predictors of perceived profitability, indicating that effective technical management and enterprise participation were central to sustaining income outcomes. In production systems characterized by narrow margins and environmental uncertainty, consistent implementation of water quality management, feeding regulation, pond preparation, and disease prevention was associated with improved operational efficiency and financial viability.

The findings further indicated that entrepreneurial engagement through market exploration, diversification, price negotiation, and value-adding initiatives complemented technical capability in strengthening enterprise performance. Although constraints such as rising input costs, limited access to financing, and exposure to environmental risks showed a negative association with profitability, these factors did not fully offset the contribution of managerial competence and enterprise initiative. Overall, the results suggest that enhancing the profitability of small-scale aquaculture requires an integrated approach that combines technical capacity development, enterprise support, and institutional interventions to improve the resilience and long-term sustainability of fishpond operations in coastal communities.

## Recommendations

The findings of this study provide an empirical basis for a unified Strategic Framework and Program for Sustainable Aquaculture Development in Pontevedra, Capiz, grounded in the Resource-Based View (RBV) and Entrepreneurial Opportunity Theory (EOT). Results indicate that profitability among small-scale fishpond operators is primarily driven by entrepreneurial activities, while socio-demographic characteristics, aquaculture practices, and institutional factors function as enabling or moderating conditions rather than direct income drivers. Accordingly, development interventions should prioritize strengthening entrepreneurial engagement, improving resource utilization, and reducing structural constraints affecting enterprise performance. Recommended initiatives include cooperative-based lending programs, aquaculture-specific credit facilities, and financial literacy training to enhance capital management and investment decisions. Technical capacity building through partnerships among the Local Government Unit (LGU), BFAR, and academic institutions should institutionalize training on pond management, feeding efficiency, water-quality monitoring, and disease prevention. Environmental sustainability and climate-resilient practices, including eco-friendly technologies and adaptive production systems, should also be promoted to reinforce long-term profitability and enterprise resilience.

Future research should expand understanding of aquaculture profitability through longitudinal and comparative studies that capture changes across production cycles and regional contexts. Long-term monitoring of costs, climate variability, and market dynamics would provide deeper insights into financial sustainability and risk adaptation among small-scale operators. Comparative analyses across municipalities in Capiz and Western Visayas may identify best practices shaped by differences in governance, infrastructure, and institutional support. Researchers are also encouraged to examine the economic impacts and adoption barriers of digital technologies such as automated feeding systems, water-quality sensors, and digital marketing platforms. Further studies should explore gender equity, youth participation, and intra-household roles using qualitative and mixed-method approaches to support inclusive development programs. Finally, research on climate resilience, adaptive management strategies, and ecosystem-based aquaculture systems will be essential to sustain profitability while maintaining environmental balance and long-term food security in the Philippines.

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# Digital Banking Adoption in Semi Urban Setting: A Behavioral Analysis of Bank Clients in Antipolo City

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## ABSTRACT

This study examined the behavioral factors influencing digital banking adoption among bank clients in selected semi-urban barangays of Antipolo City. Anchored on the modified unified theory of acceptance and use of technology 2 (UTAUT2), the research incorporated two additional constructs: trust and perceived risk to better capture localized behavioral dynamics. A quantitative descriptive-correlational research design was employed, involving 404 respondents selected through stratified sampling. Data was gathered using structured online questionnaires and analyzed through JAMOVI software using various relevant inferential statistics such as Pearson r coefficient, linear regression, and analysis of variance (ANOVA). Results revealed that effort expectancy, trust, and performance expectancy were the strongest predictors of behavioral intention to adopt digital banking, while perceived risk exhibited a slight but negative influence. Demographic factors such as age, income, and education significantly affected adoption levels, whereas years of digital banking experience did not. Findings indicate that user-friendly systems, data security, and perceived utility enhance digital banking acceptance in semi-urban areas. Therefore, this study concludes that technology adoption is behaviorally influenced by convenience, efficiency, society, stable digital infrastructure, trust, and minimized risks. A community-based development plan is proposed to promote inclusive digital banking practices through education and infrastructure support. The results contribute to the growing body of knowledge on financial technology adoption in developing economies and provide practical insights for banks, policymakers, and fintech developers aiming to enhance digital financial inclusion in the Philippines.

**Keywords:** Digital banking, behavioral intention, trust, perceived risk, UTAUT2, 113 financial inclusion, semi-urban

## INTRODUCTION

The growth of digital banking has transformed how financial tasks were handled, making them more convenient, quicker, and easier to access. In the Philippines, the banking industry had shifted significantly toward digital solutions, especially during and after the COVID-19 pandemic (Bangko Sentral ng Pilipinas, 2022). A study by Cruz and Mendoza (2021) pointed out that the increasing use of smartphones and improved mobile internet access, even in non-metro areas, had played a big role in making digital banking more popular. This trend had also been supported by government-driven financial inclusion initiatives and progress in financial technology (fintech) (Asian Development Bank, 2020).

According to the World Bank's 2020 research, the Philippines was one of Southeast Asia's fastest growing digital economies. However, there were still differences in how widely digital financial services were used across regions. For instance, while 51% of Filipino adults had made or had received a digital payment in the past year, there was a noticeable gap between urban and rural or semi-urban areas, as was reported by the Global Findex Database (Demirguc-Kunt et al., 2022). People's willingness to adopt digital banking depended on factors like how useful they found its features, their trust in digital systems, and their level of digital skills (OECD, 2021). This study investigated the behaviors that influenced how customers in Antipolo City adopted digital banking. It focused on the main reasons people chose to use digital banking, the obstacles they faced, and their overall views on the service. By understanding these factors, the research aimed to give a clear picture of what encouraged or stopped people from using digital banking in

semi-urban areas. The results should have helped create better strategies to increase access to digital financial services and make digital banking more accepted in similar communities.

## Theoretical Framework

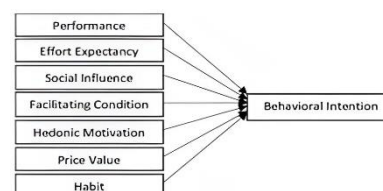


Figure 1. UTAUT2 Model

This study was built on Venkatesh, Thong, and Xu's (2012) unified theory of acceptance and use of technology 2, or UTAUT2. It was an updated version of the original UTAUT model from 2003, which combined ideas from earlier theories like the innovation diffusion theory, the technology acceptance model, and the theory of reasoned action. The unified theory of acceptance and use of technology 2 used seven key factors to explain why people adopted technology: Performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit. These factors directly affect a person's intention to use technology. However, age, gender, and experience could influence how people actually used it, and this behavior was shaped by both the

intention and the availability of supporting conditions. For this study, the framework was adjusted to better fit the semi-urban context in the Philippines. Two new factors, trust and perceived risk, were added, while three original elements hedonic motivation, price value, and habit were removed. These variables were important in the adoption of financial services.

### Literature Review

Recent advancements in digital banking have intensified scholarly interest in customer experience across diverse cultural and infrastructural contexts. Li-Chen et al. (2023) conducted a comparative study on digital banking services in South Korea and the Philippines, employing a novel mixed-method approach that combined data mining techniques with customer journey mapping. The study demonstrated that there were four main factors that affected how a customer felt: the amount of service touchpoints, the rate of service delivery, the difficulty of registration, and the range of interactions with the customer. These elements were essential for comprehending how users interacted with digital banking platforms across national borders. They also shed light on the obstacles that affect adoption and consumer satisfaction. Particularly in markets with differing degrees of technology infrastructure and customer expectations, the study underlined the significance of contextualized service design. However, Calderon (2024) investigated how digital payment systems might improve the efficacy and efficiency of financial transactions, especially in the context of corporate operations. Key performance metrics such as transaction speed, cost, frequency, error rate, and overall user satisfaction were all assessed in this study. The study showed notable benefits, including a 7% increase in transaction speed, a 50% cost reduction, a 150% increase in transaction frequency, and an 80% mistake reduction, through a mixed-method approach that combined quantitative analysis of 47 organizations with qualitative case studies. Ramsundra, Mason, and Dobbstein (2025) investigated how various demographic factors shape consumer perceptions and usage of digital personal banking in South Africa. Their study, conducted in the iLembe district of KwaZulu-Natal with a sample of 400 bank account holders, focused on age, gender, education, and income. Vani (2022) investigated the effectiveness of digital banking units (DBUs) in promoting digital financial inclusion among rural populations in India. Digital banking units were introduced as a strategic initiative to expand banking access in underserved areas through digital infrastructure. Her study, which gathered primary data from 200 rural respondents and used SPSS-based analysis, revealed that although many customers were still dependent on face-to-face branch banking, there was a growing openness to digital banking services influenced by factors such as digital literacy, occupation, education level, and prior experience with mobile or internet banking. However, Shakir (2024) showed how important data confidentiality laws were in determining how much trust customers had in online banking systems. Data misuse, identity theft, and online fraud continued to be major concerns as digital banking became increasingly embedded in daily financial behavior. Apau, Elzbieta, and Singh (2025) provided a better way to understand why people adopted mobile banking by expanding the unified theory of acceptance and use of technology 2 (UTAUT2) with four new ideas: security, risk, institutional trust, and technology trust. They used covariance-based structural equation modeling (CB-SEM) on data from 315 mobile banking users. Their findings showed that most of the original UTAUT2 factors still applied in the mobile banking context. However, the new factors had a big impact on users' intentions to use mobile banking and their actual usage, except for perceived risk. Wang et al. (2024) provided a timely exploration of how digital transformation through technologies such as artificial intelligence, blockchain, big data analytics, and cloud computing had reshaped the banking industry while simultaneously heightening data privacy and cybersecurity challenges. Their study highlighted the tension between innovation and risk, especially as banks struggled to integrate legacy systems with modern solutions, manage third party vendor risks, and maintain compliance amidst evolving regulation.

The unified theory of acceptance and use of technology 2 (UTAUT2) is the basis for this research. This study modifies the theory to fit the situation of adopting digital banking in a semi urban area in the Philippines. The original UTAUT2 includes factors like performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit. However, some of these factors were not very relevant in this setting. So, three of them, hedonic motivation, price value, and habit were removed. To better understand the key factors affecting people's use of financial technology, two new factors were added: perceived risk and trust. In the updated model, performance expectancy, Effort expectancy, social influence, facilitating conditions, Trust, and perceived risk were the main factors that influenced the intention to adopt digital banking. In this modified frame, demographic characteristics were integrated to assess how they influence the changes in one's behavioral intention within the context of digital mobile banking usage among semi urban populace. Their inclusion in the model signifies a research goal that aims to investigate the demographic role of age, sex, education, income, occupation, frequency of usage, and years of using the said technology. To fill these gaps, the study offered useful suggestions for financial institutions, legislators, and local leaders to promote the adoption of digital banking in an inclusive manner. It also added to the scholarly conversation.

### METHODS

This study used a quantitative descriptive-correlational research design. This approach was suitable because the study aimed to measure and describe how people perceived various behavioral factors that influenced their decision to adopt digital banking, as well as to explore the relationships between these factors and their intention to use digital banking. The study was conducted in four semi-urban Barangays of Antipolo City, Rizal Province. The study focused on residents living in these locations who are at least 18 years old and were users of digital banking services.

The main research instrument was a structured survey questionnaire designed based on the adapted UTAUT2 model. There were three major sections to this study. Age, gender, education level, monthly income, occupation, frequency of use, and years of experience with digital banking were among the demographics of the respondents that were the subject of Section A, which addresses the first research question. Important behavioral traits that could affect the uptake of digital banking were examined in Section B. Perceived risk (PR), effort expectancy (EE), social influence (SI), facilitating conditions (FC), performance expectancy (PE), and trust (T) were the six independents. A 5-point Likert scale was used to rate the assertions, with 1 denoting "strongly disagree" and 5 denoting "strongly agree." I opted for a structured research instrument instead of adopting existing publications to ensure utmost alignment with the research goals of this paper.

### RESULTS

**Table 1. Population Data per Barangay in Antipolo City**

Barangay	Population
Dalig	58,598
San Luis	66,351
San Roque	70,120
Dela Paz	77,207
<b>Total</b>	<b>272,276</b>

Source. Adapted from Philippine Statistics Authority (PSA), latest available census data

The study population comprised 272,276 individuals, focusing on residents aged 18 years and above in the specified locations who use digital banking services.

**Table 2. Interpretation Scale for Cronbach's Alpha**

Cronbach's Alpha	Internal Consistency
0.90 and above	Excellent
0.80 – 0.89	Good
0.70 – 0.79	Acceptable
0.60 – 0.69	Questionable
0.50 – 0.59	Poor
Below 0.50	Unacceptable

Note: The interpretation scale for Cronbach's alpha was based on the guidelines of George and Mallery (2003, as cited in Saidi & Siew, 2019).

**Table 3. Summary of Cronbach's Alpha Scores**

Construct	Cronbach's Alpha	Remark
Performance Expectancy	0.9126	Excellent
Effort Expectancy	0.7135	Acceptable
Social Influence	0.8857	Good
Facilitating Conditions	0.9222	Excellent
Trust	0.9452	Excellent
Perceived Risks	0.8944	Good
Behavioral Intention	0.7658	Acceptable

**Table 4. Demographic Profile of the Respondents (N = 404)**

Age	Frequency	Percentage (%)
-	16	4
18–24 years old	129	31.9
25–34 years old	128	31.7
35–44 years old	60	14.9
45–54 years old	49	12.1
55–64 years old	22	5.4
<b>Total</b>	<b>404</b>	<b>100</b>
Sex	Frequency	Percentage (%)
Male	139	34.4
Female	214	53.1
Prefer not to say	51	12.5
<b>Total</b>	<b>404</b>	<b>100</b>
Educational Level	Frequency	Percentage (%)
Some Elementary	5	1.2
Elementary Graduate	20	5
Some High School	77	19.1
High School Graduate	113	28
Some College	155	38.4
Bachelor's Degree	20	5
Master's Degree	14	3.5
<b>Total</b>	<b>404</b>	<b>100</b>
Income Bracket	Frequency	Percentage (%)
Less than Php10,000	107	26.4
Php 30,000–49,999	233	57.6
Php 50,000–69,999	32	7.9
More than Php 70,000	32	7.9
<b>Total</b>	<b>404</b>	<b>100</b>
Occupation	Frequency	Percentage (%)
Student	67	16.6
Employed (Full-time)	197	48.8
Employed (Part-time)	57	14.1
Self-employed	53	14.1
Unemployed	12	3
Retired	12	3
Other	6	1.5
<b>Total</b>	<b>404</b>	<b>100</b>
Digital Banking Usage	Frequency	Percentage (%)
Daily	153	37.9
Weekly	117	29
Monthly	69	17.1
Occasionally	41	10.1
Rarely	24	5.9
<b>Total</b>	<b>404</b>	<b>100</b>
Years of Usage	Frequency	Percentage (%)
Less than 1 year	63	15.6
1–2 years	64	15.8
3–5 years	129	31.9
More than 5 years	148	36.6
<b>Total</b>	<b>404</b>	<b>100</b>

The findings indicate that most digital banking users in Antipolo are young and middle-income individuals, suggesting higher adaptability to digital financial systems. This supports the findings of Ramsundra et al. (2025), who noted that younger and more educated individuals are more likely to adopt digital financial services. Similarly, Vani (2022) emphasized that education and access to digital infrastructure influence digital readiness in semi-urban areas. The high proportion of employed users also aligns with Orenca's (2023) assertion that economic stability and employment exposure enhance familiarity with digital transactions.

**Table 5. Assessment of Different Factors Related to Digital Banking Adoption (Performance Expectancy)**

Statement	Mean	SD	Interpretation
Digital banking enhances productivity in financial transactions.	3.78	1.34	Agree
Digital banking is more convenient than traveling to the nearest bank branch or ATM.	3.7	1.39	Agree
Using digital banking improves the effectiveness of financial management.	3.6	1.28	Agree
Digital banking helps me avoid long queues in physical bank branches in Antipolo.	3.69	1.35	Agree
Digital banking allows me to manage my finances despite limited banking facilities in my area.	3.54	1.39	Agree
<b>Composite Mean</b>	<b>3.66</b>	<b>1.35</b>	<b>Agree</b>

Performance Expectancy emerged as the most significant construct, obtaining the highest mean score among all variables, which indicates that respondents strongly perceive digital banking as a highly beneficial and efficient financial tool. This finding suggests that users believe digital banking platforms enhance the speed, convenience, and overall effectiveness of financial transactions compared to traditional, branch-based banking services.

**Table 6. Assessment of Different Factors Related to Digital Banking Adoption (Effort Expectancy)**

Statement	Mean	SD	Interpretation
Digital banking is easy to use even with limited internet or mobile data availability.	3.39	1.44	Agree
The steps in digital banking transactions are clear and understandable, even for first-time users in my community.	3.49	1.24	Agree
Digital banking saves time in completing transactions.	3.56	1.4	Agree
The experience of using digital banking is highly satisfying.	3.66	1.31	Agree
I find it simple to adapt to digital banking.	3.61	1.36	Agree
<b>Composite Mean</b>	<b>3.54</b>	<b>1.36</b>	<b>Agree</b>

The respondents in this table generally agree that digital banking applications are easy to learn, navigate, and operate, which reduces the complexity often associated with financial technologies. This suggests that intuitive design, simplified transaction procedures, and user-friendly interfaces contribute significantly to user satisfaction and engagement. The result supports the findings of Apau et al. (2025), who emphasized that ease of use is a strong determinant of behavioral intention to adopt mobile banking.

**Table 7. Assessment of Different Factors Related to Digital Banking Adoption (Social Influence)**

Statement	Mean	SD	Interpretation
My family and neighbors encourage me to use digital banking instead of cash transactions.	3.5	1.38	Agree
There is a sense of pride when others follow the recommendation to use the same digital bank.	3.44	1.32	Agree
Not using the latest digital banking services feels like falling behind.	3.41	1.27	Agree
Recommendations from peers strongly influence which digital bank I try.	3.51	1.34	Agree
I feel pressured to keep up when others in my community adopt digital banking.	3.27	1.34	Neither Agree nor Disagree
<b>Composite Mean</b>	<b>3.42</b>	<b>1.33</b>	<b>Agree</b>

Social Influence received a moderate mean score, indicating that the opinions and behaviors of peers, family members, and social networks have a noticeable but not dominant impact on respondents' decisions to use digital banking. This suggests that while individuals may consider recommendations and experiences shared by others, their final decision is still largely based on personal evaluation of the technology's benefits and usability. The finding aligns with Chigori et al. (2020), who noted that social factors can encourage fintech adoption, particularly among first-time users, but may diminish in importance as users gain personal experience with the technology. In the context of this study, the moderate influence implies that social endorsement serves as a supplementary factor rather than a primary motivator, reinforcing the idea that individual perceptions of performance and effort are more

more critical in driving adoption.

**Table 8. Assessment of Different Factors Related to Digital Banking Adoption (Facilitating Conditions)**

Statement	Mean	SD	Interpretation
The information and assistance needed to use digital banking are readily available.	3.5	1.37	Agree
Digital banking can be accessed across multiple devices and systems.	3.45	1.31	Agree
Digital banking provides adequate support when needed.	3.31	1.33	Neither Agree nor Disagree
Digital banking offers sufficient training or guidance for users.	3.35	1.32	Neither Agree nor Disagree
Mobile data or Wi-Fi in Antipolo is reliable enough for digital banking.	3.42	1.35	Agree
<b>Composite Mean</b>	<b>3.41</b>	<b>1.34</b>	<b>Agree</b>

Facilitating Conditions also recorded a moderate rating, underscoring the importance of external resources and support systems in enabling the effective use of digital banking services. Respondents acknowledge that access to reliable internet connectivity, compatible devices, and technical assistance significantly affects their ability to use digital platforms efficiently

**Table 9. Assessment of Different Factors Related to Digital Banking Adoption (Trust)**

Statement	Mean	SD	Interpretation
I will continue using digital banking even if traditional banking remains more common in Antipolo.	3.51	1.39	Agree
I trust digital banks even though many residents in my area still prefer face-to-face transactions.	3.35	1.33	Neither Agree nor Disagree
Digital banking will be reused by me for various purposes.	3.49	1.28	Agree
I am confident that my money is safe in digital banking despite reports of scams in semi-urban communities.	3.41	1.35	Agree
There is a willingness to recommend digital banking due to satisfaction.	3.55	1.32	Agree
<b>Composite Mean</b>	<b>3.46</b>	<b>1.34</b>	<b>Agree</b>

The positive perception of trust is essential, as financial transactions inherently involve high levels of risk and sensitivity. This finding is consistent with Shakir (2024), who emphasized that enhanced cybersecurity measures significantly contribute to building user trust in digital platforms.

In this study, the favorable rating of trust implies that respondents are more willing to engage with digital banking services when they feel assured of system security, highlighting the importance of maintaining robust and transparent security practices.

**Table 10. Assessment of Different Factors Related to Digital Banking Adoption (Perceived Risk)**

Statement	Mean	SD	Interpretation
Using digital banking ensures the security of personal data.	3.56	1.32	Agree
Digital banking has transparent and reliable privacy policies.	3.4	1.31	Agree
I believe digital banks must earn trust in semi-urban areas where people are used to physical proof of transactions.	3.3	1.32	Neither Agree nor Disagree
There are no technical issues disrupting digital banking usage.	3.3	1.32	Neither Agree nor Disagree
<b>Composite Mean</b>	<b>3.39</b>	<b>1.32</b>	<b>Agree</b>

This dual perception indicates that users are balancing their trust in digital systems with an awareness of possible vulnerabilities. The finding aligns with Wang et al. (2024), who noted that users often simultaneously exhibit trust and concern when engaging with digital financial technologies. From a research perspective, this suggests that perceived risk does not necessarily prevent adoption but may influence the degree of usage and user confidence

**Table 11. Assessment of Behavioral Intention to Adopt Digital Banking**

Statement	Mean	SD	Interpretation
If I am given the opportunity, I intend to use digital banking.	3.65	1.28	Agree
I am planning to use digital banking in the future.	3.63	1.24	Agree
I intend to use digital banking continuously.	3.60	1.22	Agree
I am open to using digital banking indefinitely.	3.49	1.31	Agree
I recommend the use of digital banking to others.	3.62	1.23	Agree
<b>Composite Mean</b>	<b>3.60</b>	<b>1.26</b>	<b>Agree</b>

The table reveals that respondents consistently demonstrate agreement to all the indicators enumerated under the intention variable with low standard deviation, suggesting minimal deviation from each other's assessment. They intend and plan on using digital banking in the years to come, while underscoring their openness and commitment to using the said technology continuously

## Proposed Community-Based Digital Banking Development Plan

### Barangay Digital Literacy Training

The Barangay Digital Literacy Training program aims to enhance residents' knowledge and confidence in using digital banking platforms. The program will involve conducting four barangay-level training sessions focused on the use of mobile banking applications. Participants will also receive hands-on tutorials on secure online transactions, account registration, and fraud detection. To further support learning, educational materials and quick-reference guides will be distributed to residents. The initiative will be implemented in partnership with the Local Government Unit (LGU) of Antipolo, partner banks such as BDO and RCBC, and barangay officials. The program is expected to run for four months, covering one barangay per month, with an estimated budget of PHP 200,000. The budget will cover venue expenses, training materials, trainer honoraria, snacks, and Wi-Fi support.

### Digital Trust and Cybersecurity Awareness Campaign

The Digital Trust and Cybersecurity Awareness Campaign seeks to strengthen public confidence in digital banking by addressing concerns related to privacy, cybersecurity, and fraud. As part of the initiative, a "Safe Digital Finance Week" will be launched in each barangay. Seminars will be conducted on topics such as data privacy, scam prevention, and secure password practices. Informational brochures and posters will also be distributed to increase public awareness. The program will involve collaboration among the Bangko Sentral ng Pilipinas (BSP), the LGU of Antipolo, bank CSR teams, and barangay councils. The campaign is expected to last for two months with an estimated budget of PHP 120,000, which will cover materials, speakers' fees, and logistical expenses.

### Financial Literacy and Inclusion Seminar

The Financial Literacy and Inclusion Seminar aims to promote responsible money management and encourage safe digital banking practices while integrating financial education with local livelihood programs. The program will conduct quarterly workshops focusing on budgeting, savings, e-payments, and fraud prevention. Participants will also receive practical demonstrations on the use of digital wallets and online payment systems. In addition, open forums will be facilitated to address participants' questions and concerns regarding digital finance. The initiative will be implemented in partnership with the Department of Trade and Industry (DTI), the Department of Education (DepEd), the LGU, and partner banks. The seminars will be conducted quarterly within the pilot period and will require an estimated budget of PHP 160,000. The budget allocation will include venue expenses, speakers, participant kits, and instructional materials.

### Community Partnership and Monitoring Program

The Community Partnership and Monitoring Program is designed to

evaluate the effectiveness and sustainability of digital financial inclusion initiatives within the community. The program will involve the formation of a Barangay Digital Committee in each area to oversee implementation and monitoring efforts. Quarterly monitoring and feedback sessions will be conducted to assess progress and identify areas for improvement. Evaluation and progress reports will also be prepared and submitted regularly to ensure accountability and program sustainability. The initiative will be implemented through the collaboration of the LGU of Antipolo, barangay digital committees, and bank partners. The program is expected to run for six months with an estimated budget of PHP 100,000. The budget will cover monitoring tools, meetings, documentation, and report preparation expenses.

A total of 404 respondents from the barangays of Dalig, San Luis, San Roque, and Dela Paz in Antipolo City participated in the survey. Most respondents were between 18 and 34 years old, followed by those aged 35 to 44, indicating that digital banking users in the area are predominantly young adults. The majority were female, college-educated, and employed full-time, with monthly incomes ranging from ₱30,000 to ₱49,999. Many respondents had been using digital banking services for five years or more, and a significant portion reported using them daily or frequently. These findings suggest that digital banking adoption in Antipolo is largely driven by younger and middle-income individuals, who are generally more adaptable to digital technologies. This supports the findings of Ramsundra et al. (2025), who reported that younger and more educated individuals are more likely to adopt digital financial services. Similarly, Vani (2022) emphasized that educational attainment and access to digital infrastructure influence digital readiness in semi-urban areas. The high proportion of employed respondents also supports Orenca's (2023) claim that economic stability and workplace exposure increase familiarity with digital transactions. Among the six constructs, Performance Expectancy obtained the highest mean score, indicating that respondents strongly believe digital banking improves transaction efficiency and convenience compared to visiting traditional bank branches. This finding aligns with Calderon (2024), who reported that digital payment systems significantly enhance transaction speed and cost efficiency.

Effort Expectancy ranked second, highlighting that ease of use and simple transaction processes encourage continued use of digital banking platforms. This result supports Apau et al. (2025), who identified usability as a key predictor of mobile banking adoption. Meanwhile, Social Influence and Facilitating Conditions received moderate scores, suggesting that peer recommendations, reliable internet connectivity, and technical support contribute to users' willingness to adopt financial technologies. These findings are consistent with studies by Chigori et al. (2020) and Vani (2022). Lastly, respondents reported positive perceptions of Trust and manageable levels of Perceived Risk, indicating confidence in current security and privacy measures while remaining cautious about potential fraud. This aligns with the findings of Shakir (2024) and Wang et al. (2024), who emphasized that trust and risk perception significantly influence digital banking adoption. Based on the findings, a six-month pilot program is proposed to promote digital banking adoption in the selected barangays of Antipolo City. The initiative will be presented to the Antipolo City Local Government, particularly the City Information and Communications Technology (ICT) Office and the City Economic Development Office, in partnership with the barangay councils of Dalig, San Roque, San Luis, and Dela Paz. Similarly, RCBC's DiskarTech Digital Financial Inclusion Program conducts community seminars and digital caravans in semi-urban areas with estimated costs ranging from ₱40,000 to ₱60,000 per event, including staff mobilization, campaign materials, and ICT support.

These established programs provide credible cost references, supporting the feasibility and realism of the proposed ₱700,000 budget for the community-based digital banking adoption initiative.

The results verify behavioral and cognitive characteristics, including the perceived usability, trustworthiness, and convenience of use of digital banking systems, are the main determinants of digital banking adoption in Antipolo City. These findings support the unified theory of acceptance and use of technology 2 (UTAUT2) and highlight how important it is to incorporate perceived risk and trust to contextualize behavioral elements in the Philippine context. The results suggest that customers are more satisfied and are more likely to stick with digital banking services when they are digitally educated and the technology used by banks is sophisticated. In order to accommodate different literacy levels, banks should give priority to enhancing user interfaces, streamlining app navigation, and offering multilingual support, as effort expectancy is the best predictor. To address persistent worries about fraud and identity theft, trust is also essential, highlighting the necessity of rigorous adherence to the Data Privacy Act of 2012, open communication, and more robust cybersecurity measures. According to the influence of social and enabling factors, local collaborations and community-based awareness campaigns can aid in normalizing the acceptance of digital banking in semi-urban areas. All seven hypotheses (H1–H7) were statistically tested and the null hypotheses were rejected. H1–H6 confirm that the behavioral constructs under the extended UTAUT2 framework significantly affect Behavioral Intention to adopt digital banking. H7 indicates that demographic characteristics (particularly age, gender, education, income, and occupation) significantly influence adoption behavior—meaning that user intention differs across demographic segments.

These findings affirm that digital banking adoption in Antipolo City is shaped not only by technological factors but also by socio-demographic and trust-related factors, supporting prior studies such as Vani (2022) and Orenca (2023) in the Philippine context. Based on the study's findings, a Community-Based Digital Banking Development Plan is suggested to increase semi-urban Antipolo City inhabitants' knowledge, confidence, and behavioral adoption of digital banking.

Overall, the results indicate that while demographic factors shape individual adoption, behavioral construct rooted in usability and trust are the most powerful determinants. This finding reinforces the growing role of digital banking as a bridge to financial inclusion and economic participation among semi-urban Filipinos. In response to these findings, a community-based digital banking improvement plan was developed, focusing on digital literacy, trust and security education, and local partnerships between banks and Barangays to enhance digital inclusion in semi-urban areas. This development plan will be formally offered to the local government of Antipolo City, specifically through the City Information and Communications Technology (ICT) Office and the City Economic Development Office, in partnership with the Barangay Councils of Dalig, San Roque, San Luis, and Dela Paz. The plan will also be presented to partner banks, particularly BDO, RCBC, and GCash, and the Bangko Sentral ng Pilipinas (BSP) as potential implementing collaborators under the digital payments transformation roadmap (2023–2026). This six-month pilot program's overall budget of ₱700,000 was determined by benchmarking it against the BDO Foundation's and RCBC's current financial literacy and inclusion programs, as well as current local cost standards. The average expense of each event, covering trainer charges, materials, and logistics, is between ₱30,000 and ₱50,000. At an estimated cost of ₱40,000 to ₱60,000 each event, RCBC's DiskarTech Digital Financial Inclusion Program also organizes community seminars and on-ground caravans throughout semi-urban areas. This program covers staff mobilization, campaign materials, and ICT support. These established programs serve as credible cost references that validate the proposed ₱700,000 budget estimate equivalent to approximately ₱175,000 per barangay as a feasible, realistic, and consistent figure with current community-based

financial inclusion and digital literacy initiatives implemented in the Philippines.

## DISCUSSION

This study entitled, "Digital Banking Adoption in Semi Urban Setting: A Behavioral Analysis of Bank Clients in Antipolo City " looked at the behavioral characteristics that affect citizens' acceptance of digital banking in a few Antipolo City Barangays. The study, which was based on the unified theory of acceptance and utilization of technology 2 (UTAUT2) and expanded with the concepts of perceived risk and trust, aimed to ascertain how these factors influence consumers' behavioral intentions to utilize Internet banking services. To conduct a quantitative-descriptive study, 404 respondents were given a validated survey questionnaire. JAMOVI was used to encode and analyze the data, and the primary analytical tool was Structural Equation Modelling (SEM). SEM was selected due to its ability to examine several correlations between latent and observable variables at once, verifying the model's structural and measurement elements. Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Trust, and Perceived Risk were the six behavioral variables that were found to have a substantial impact on the behavioral intention to adopt digital banking. The strongest predictor among these was Effort Expectancy, suggesting that usability and design play a critical role in encouraging adoption. The considerable positive impacts of performance expectancy and trust further supported the idea that perceived utility and system dependability boost trust in online banking. On the other hand, Perceived Risk had a strong but unfavorable impact, demonstrating that worries about online fraud and data privacy continue to influence choices. The model demonstrated a good overall fit (CFI = 0.93, TLI = 0.92, RMSEA = 0.07) and explained 73% of the variance in Behavioral Intention, confirming the robustness of the extended UTAUT2 framework. Further analysis indicated that demographic variables such as age, gender, education, and income significantly influenced adoption behavior, while financial literacy and technological advancement positively impacted customer satisfaction and repeat usage. In response to these findings, a Community-Based Digital Banking

An Improvement Plan was developed, focusing on digital literacy, trust and security education, and local partnerships between banks and barangays to enhance digital inclusion in semi-urban areas.

Anchored on the key findings, digital banking has undoubtedly become predominantly popular among the populace in a semi-urban community in the Philippines, specifically in the City of Antipolo. Most of them engage in mobile banking for more than 5 years daily, indicating how this technology has been deeply embedded in their lives as they navigate through their savings, income, expenses, and other financial transactions. Their high adoption of digital banking was also reflected in other supplemental findings wherein the level of behavioral intention toward utilizing mobile banking services is reportedly high. High intention equates to their future commitment in the said technology, underscoring their preference for digital banking.

Key findings also revealed their assessment of various behavioral antecedents of digital banking. Its adoption is mainly rooted from perceived ease of use, convenience, and user's confidence, citing six (6) important reasons behind the sudden surge in its demand and acceptance in society. Performance and effort expectancy were among those cited as their motivation for engaging in digital banking. Users are more likely to support technology if it provides convenience, efficiency, and productivity in facilitating their financial

transactions. Based on the conclusion, the study recommends simplifying digital interfaces and mobile applications, ensuring functionality even under low bandwidth conditions typical in semi-urban settings. For customers, it is necessary to integrate digital banking in community cooperative and savings programs, allowing residents to manage group finances digitally to build familiarity and confidence. Lastly, for government, it is recommended to strengthen enforcement of the Data Privacy Act of 2012 (RA 10173) and enhancing compliance audits for banks and fintech firms. These government agencies must implement on-the-ground level of audit to ensure compliance by deploying competent agents that can evaluate the existing internal control and data management system of the banks so that they can assess how they store and process clients' information.

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## **Guide to Contributors**

The **Letran Business and Economic Review** is an annual scholarly journal of Colegio de San Juan de Letran-Manila published every October. As a business research journal, it welcomes research from the graduate programs of the Colegio.

The editors recommend that manuscripts conform to the following guidelines:

1. Manuscripts should be endorsed by their respective research advisers together with the consent from the student researchers.
2. Authors should submit two versions of the manuscript. One file (“file not for review”) should include the names of the authors (adviser and student/s), their contact information (e-mail addresses), and current affiliation (program/area and college). The other file (“file for review”) should remove any information that would identify the authors.
3. The paper should include keywords and an abstract of 100 – 200 words.
4. The article should contain approximately 6000 – 7000 words (including abstract, tables/figures, and references) and should be typed in a 12-point font, Garamond, doublespaced, with one-inch margin on all sides.
5. Tables/figures and references should follow the APA format style. Table titles are placed above while figure titles are placed below.
6. Reference should follow the APA format style.
7. The editors prefer to have the file in Microsoft Office Word 97-2003 Document (.doc) format and should be sent to [research@letran.edu.ph](mailto:research@letran.edu.ph).
8. Manuscripts that are already published or in the process of publication in other journals will not be considered in the **Letran Business and Economic Review**.

## **Review Process**

1. The editor screens the submitted manuscripts and selects those deemed suitable for peer reviewing. Selected articles then undergo a rigorous double-blind refereeing.
2. Once accepted, a Copyright Agreement will have to be sought from the student researchers and their research adviser.
3. Attached with the letter of acceptance are the comments and suggestions from the members of the editorial board. Revisions should be incorporated and returned to the Center within 2 weeks.
4. The editor makes the final decision on the publication of the revised articles.

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