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ENHANCING CUSTOMER EXPERIENCE AND OPERATIONAL EFFICIENCY: IMPLEMENTING SELF-SERVICE KIOSKS IN CEBU'S QUICK-SERVICE RESTAURANT

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ABSTRACT

Using self-service kiosks (SSKs) in fast-food restaurants has improved customer service by making the process faster and more convenient. Using a descriptive quantitative approach, this study examined how users in Cebu's fast-food industry experience SSKs. Two hundred participants with experience using the kiosks were surveyed. A researcher-made questionnaire, validated with a Cronbach's Alpha score of 0.927, measured four factors: functionality, enjoyment, security/privacy design, and convenience, using a 4-point Likert scale. Ethical approval was given by the Institutional Review Board (IRB) (Ref. No. 2024-203). Data were analyzed using frequency, percentage, and mean scores. The results showed that SSKs were well-received, with users valuing their convenience, efficiency, and ease of use. The kiosks helped reduce communication errors, speed up transactions, and offered secure payment options. However, concerns about data privacy and order accuracy emerged. The study confirms that SSKs improve the dining experience by reducing wait times and allowing for easy customization. To remain practical, continuous improvements in security, accessibility, and user-friendly design are needed.

Keywords: *Self-service kiosks (SSKs), Fast-food industry, User experience, Customer satisfaction, Convenience, Data Privacy*

INTRODUCTION

Adopting self-service kiosks has become increasingly common in the hospitality industry, yet some uncertainty regarding their effectiveness remains unexplored. A significant trend in the industry is the shift from traditional human-operated services to self-service technology (SST), with customer satisfaction and operational efficiency being key drivers of this transformation. Among the most widely accepted innovations are self-service kiosks in fast-food restaurants, which enhance ordering efficiency and streamline transactions. Touchscreen ordering kiosks are fully automated machines that display electronic menus, providing an eco-friendly alternative to traditional printed menus. These devices offer users a self-service experience, responding independently to input commands and simplifying the ordering process. By integrating electronic menus with direct payment options, self-service kiosks enhance customer convenience and reduce service bottlenecks (Torres, 2016). The adoption of SST introduces a new user experience, offering advantages such as ease of use, personalized customization, and reduced waiting times. These kiosks are

installed in prominent restaurant locations in many urban areas to optimize customer flow (Kim & Christodoulidou, 2013). One of the significant benefits of self-service kiosks is their ability to minimize miscommunication between customers and service staff. This is particularly useful in Cebu, one of the Philippines' most visited tourist destinations, where language barriers can pose challenges for foreign visitors. With self-service kiosks, orders are transmitted directly to the kitchen, reducing the risk of mistakes and ensuring greater accuracy in meal preparation (Torres, 2016). The system also gives customers a detailed breakdown of their orders and total costs. Customers can also pay through the counter or digital payment options, making the entire process seamless and efficient. While self-service kiosks can significantly reduce waiting times, their effectiveness depends on user familiarity. First-time users or those unfamiliar with the technology may experience difficulties, potentially leading to longer queues (Krishen et al., 2010). Moreover, these kiosks are primarily designed for younger, tech-savvy users, creating a potential gap in adoption among older generations. Some customers find the interface overly complex and confusing, preferring traditional service interactions instead. Conventional ordering systems are prone to human errors, especially during peak hours, leading to wait times and more prolonged customer frustration. Self-service kiosks address these issues by eliminating human error and expediting service (Chang et al., 2015). Additionally, customers are often more tolerant of their own mistakes when using a kiosk compared to errors made by service staff. C bypassing direct communication with waitstaff enhances customer comfort and speeds up the ordering process. The impact of self-service kiosks extends to order accuracy, service speed, and overall customer satisfaction. According to Lee and Lee (2020), SST can significantly improve operational efficiency in fast-food restaurants, leading to faster service and fewer order inaccuracies. However, the success of these systems depends on an optimal user experience (UX). Interactive elements should be designed for intuitive navigation, allowing users to place orders quickly and efficiently (Collier & Kimes, 2013). A well-structured digital menu with clear and concise information enhances the ordering experience (Orel & Kara, 2014). Furthermore, visually appealing and user-friendly designs increase engagement and satisfaction (Giebelhausen et al., 2014). By prioritizing UX, Cebu's fast-food industry can enhance customer satisfaction, reduce waiting times, and optimize operational processes. As Cebu's fast-food landscape evolves, balancing innovation with traditional service models is essential. This study explores the implementation of self-service kiosks within Cebu's fast-food establishments, analyzing their impact on customer satisfaction and operational efficiency.

METHODOLOGY

The study used a descriptive quantitative research design to assess user experience with self-service kiosks (SSK) in fast-food restaurants in Cebu. The researchers collected and analyzed numerical data using statistics and percentages to evaluate the effectiveness of the kiosks. The research was conducted in Cebu, where self-service kiosks are widely adopted, and the focus was on respondents who lived in Cebu and had used SSKs. A purposive sampling method was used to select 200 customers with firsthand experience with the kiosks. Data were gathered through a researcher-made questionnaire, which was divided into two parts: one assessing the respondent's generation and educational attainment and the other evaluating user experience across four factors: functionality,

enjoyment, security/privacy design, and convenience, using a Likert scale ranging from 1 to 4. An expert validated and tested the questionnaire for reliability, achieving a Cronbach's Alpha score of 0.927. Data collection involved obtaining ethical clearance from the Institutional Review Board (IRB) before distributing the questionnaire. The IRB approved the study with a Notice to Proceed (Ref. No. 2024-203). After collecting the data, the responses were analyzed by calculating the frequency and percentage of respondent profiles, and the mean scores for each factor were calculated to determine user satisfaction.

RESULTS AND DISCUSSION

This study assesses user experiences with self-service kiosks (SSKs) in Cebu's fast-food restaurants, focusing on functionality, enjoyment, security/privacy design, and convenience. Functionality evaluates the ease and efficiency of kiosk use, enjoyment measures user pleasure, security/privacy design examines data protection, and convenience assesses how the kiosk streamlines the ordering process. These factors are essential for determining the effectiveness of SSKs in enhancing customer satisfaction and operational efficiency in the fast-food industry.

Table 1
Functionality

Indicators	Mean	Interpretation
The kiosk has efficient information and services.	3.35	Strongly Agree
The interface was easy to navigate.	3.25	Agree
The kiosk has fast and smooth transaction	3.33	Strongly Agree
The kiosk has accuracy in placing orders	3.10	Agree
The kiosk helps reduce congestion	3.24	Agree
Average Mean	3.25	High Significant Satisfaction

4 (3.26- 4.00)-Strongly Agree; 3(2.51- 3.25)-Agree; 2(1.76- 2.50)-Disagree; 1(1.00 -1.75)-Strongly Disagree

High/Agreement: Ratings ≥ 2.51 and ≤ 4.00 (corresponding to Agreed and Strongly Agreed) – High Significant Satisfaction

Low/Disagreement: Ratings ≤ 2.50 and ≥ 1.00 (corresponding to Disagreed and Somewhat Agreed) – Minimal Significant Satisfaction

Table 1 presents the evaluation of the kiosk's functionality, with scores ranging from 3.10 to 3.35, reflecting users' experiences. The highest mean score of 3.35, under the "Strongly Agree" category, suggests that users found the kiosk highly efficient in providing the required information and services. The lowest mean score of 3.10, categorized as "Agree," highlights that while the kiosk effectively minimizes risks and communication errors between customers and staff, there is room for improvement in ensuring more accurate order placement. This supports Nakamura's (2012) assertion that continuous monitoring by management is necessary to mitigate potential issues early on and maintain operational efficiency. The average mean score of 3.25 indicates a "High Significant Satisfaction" overall, suggesting that users generally find the kiosk to meet their expectations in terms of functionality.

Table 2
Enjoyment

Indicators	Mean	Interpretation
Using the kiosk was an enjoyable experience.	3.18	Agree
The content and services featured are both entertaining and valuable.	3.22	Agree
Kiosks produce a fun and engaging experience, especially for tech-savvy customers.	3.22	Agree
Kiosks allow customization of orders and can quickly provide changes without any rush.	3.16	Agree
Kiosks enable us to deliver their food immediately.	3.13	Agree
Average Mean	3.18	High Significant Satisfaction
<i>4 (3.26- 4.00)-Strongly Agree; 3(2.51- 3.25)-Agree; 2(1.76- 2.50)-Disagree; 1(1.00 -1.75)-Strongly Disagree</i> <i>High/Agreement: Ratings ≥ 2.51 and ≤ 4.00 (corresponding to Agreed and Strongly Agreed) – High Significant Satisfaction</i> <i>Low/Disagreement: Ratings ≤ 2.50 and ≥ 1.00 (corresponding to Disagreed and Somewhat Agreed) – Minimal Significant Satisfaction</i>		

Table 2 presents the users' experience with enjoyment while using the kiosk, with mean scores ranging from 3.13 to 3.22. The highest mean scores, at 3.22 and rated as "Agree," reflect users' strong approval that the kiosk offers enjoyable and valuable content and services. Additionally, the kiosk provided a fun and engaging experience, particularly appealing to tech-savvy customers who enjoy interacting with digital interfaces and touchscreens. This aligns with the growing influence of mobile devices and digital technologies, which have reshaped consumer behavior in shopping and brand engagement (Bennett & El Azhari, 2015). The average mean score of 3.18 indicates a "High Significant Satisfaction," signifying that users generally find the experience enjoyable and engaging.

Table 3
Security & Privacy Design

Indicators	Mean	Interpretation
Including various payment methods, such as cash, credit/debit cards, and mobile payments, makes the checkout procedure easier.	3.19	Agree
Kiosks require accessibility to personal data and all sorts of transactions for verification purposes.	2.99	Agree
Kiosks provide a collection of data to refrain from cyber infiltrators.	3.05	Agree
Kiosks provide an effective privacy design when ordering.	3.09	Agree
Kiosks have a practical approach to creating privacy and security for the users.	3.09	Agree
Average Mean	3.08	High Significant Satisfaction
<i>4 (3.26- 4.00)-Strongly Agree; 3(2.51- 3.25)-Agree; 2(1.76- 2.50)-Disagree; 1(1.00 -1.75)-Strongly Disagree</i> <i>High/Agreement: Ratings ≥ 2.51 and ≤ 4.00 (corresponding to Agreed and Strongly Agreed) – High Significant Satisfaction</i> <i>Low/Disagreement: Ratings ≤ 2.50 and ≥ 1.00 (corresponding to Disagreed and Somewhat Agreed) – Minimal Significant Satisfaction</i>		

Based on Table 3, the highest mean score recorded was 3.19, interpreted as Agree, indicating that the checkout procedure is streamlined by offering multiple payment options, including cash, credit/debit cards, and mobile payments. Meanwhile, the lowest mean score of 2.99, also interpreted as Agree, suggests that kiosks require accessibility to personal data and various transactions for verification purposes, reinforcing security measures. The overall average mean of 3.08 falls within the High Significant Satisfaction range, reflecting a generally positive perception of kiosks' security and privacy design.

With the growing consumer interest in mobile commerce (M-Commerce), mobile

payment systems have become widely adopted (Ahuja, 2018). These systems often rely on QR codes to store sensitive data, including credit card numbers, bank account details, and personal or organizational information, facilitating secure transactions. Additionally, QR codes are designed to interface with cloud servers, enhancing security services. Recent advancements aim to enable QR code providers to authenticate human scanners, improving audit processes and authorization mechanisms (Wang et al., 2024).

Table 4
Convenience

Indicators	Mean	Interpretation
The kiosks produce a convenient tool to access services/products.	3.53	Strongly Agree
Fast-food restaurants provide kiosks for their customers to place orders at a reasonable pace.	3.21	Agree
Kiosks minimize waiting time by catering to the needs of customers.	3.32	Strongly Agree
Customers can order and pay simultaneously without joining a queue or talking to the cashier.	3.32	Strongly Agree
The kiosks' physical interface can cater to customers with deficiencies	3.32	Strongly Agree
Average Mean	3.22	High Significant Satisfaction

4 (3.26- 4.00)-Strongly Agree; 3(2.51- 3.25)-Agree; 2(1.76- 2.50)-Disagree; 1(1.00 -1.75)-Strongly Disagree

High/Agreement: Ratings ≥ 2.51 and ≤ 4.00 (corresponding to Agreed and Strongly Agreed) – High Significant Satisfaction

Low/Disagreement: Ratings ≤ 2.50 and ≥ 1.00 (corresponding to Disagreed and Somewhat Agreed) – Minimal Significant Satisfaction

Table 4 indicates that the highest mean score is 3.53, interpreted as Strongly Agree, suggesting that kiosks have successfully enhanced convenience in accessing services and products offered by fast-food establishments. This aligns with the growing adoption of touchscreen kiosks in the fast-food industry and other service sectors, driven by advancements in modern information and communications technology (ICT). As a result, a significant transformation in the offline food service industry is anticipated (Lee, 2020). The lowest mean score recorded is 3.21, also interpreted as Agree, implying that kiosks have been implemented in fast-food restaurants to facilitate a seamless ordering experience. With an intuitive interface, customers can easily navigate the system, customize their orders, and place them efficiently without feeling rushed. Additionally, the table shows that kiosks minimize waiting time (3.32, Strongly Agree) and enable customers to order and pay simultaneously without queuing or interacting with a cashier (3.32, Strongly Agree). The same mean score (3.32, Strongly Agree) was also recorded for the kiosks' ability to accommodate customers with physical deficiencies, emphasizing their accessibility features. Overall, the average mean of 3.22 falls within the High Significant Satisfaction range, reflecting a positive reception of kiosk convenience in fast-food operations.

CONCLUSION

This study confirms that self-service kiosks enhance customer satisfaction and efficiency in Cebu's fast-food industry. The results show that kiosks are generally well-received, offering convenience, security, and an enjoyable user experience. Kiosks effectively provide information and minimize communication errors, though improvements in order accuracy are needed. Users, especially tech-savvy customers, find them engaging and easy to use. The availability of multiple payment options adds to their security, but concerns about data privacy highlight the need for stronger protection measures. The most significant advantage of kiosks is convenience, as they reduce waiting times, allow easy order customization, and support customers with physical disabilities. Overall, kiosks improve the fast-food experience, but continuous enhancements in accuracy, security, and accessibility will ensure they remain effective and user-friendly.

RECOMMENDATION

To further improve the effectiveness of self-service kiosks in Cebu's fast-food industry, the following recommendations are suggested:

1. *Enhance Order Accuracy* – Implement better verification features to reduce mistakes in order placement.
2. *Strengthen Data Security* – Improve privacy measures to protect customer information.
3. *Improve User Accessibility* – Ensure kiosks are more inclusive for customers with disabilities.
4. *Optimize Payment Options* – Expand digital and contactless payment methods for greater convenience.
5. *Regular System Updates* – Monitor and upgrade kiosk software to maintain efficiency and user satisfaction.

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**THE ROLE OF SOCIAL MEDIA IN ENHANCING DESTINATION
MARKETING ENGAGEMENT: A STUDY OF CEBU'S TOURISM**
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ABSTRACT

Social media has transformed how destinations are marketed in the tourism industry by allowing users to create and share content, influencing travel decisions. This study aims to investigate the role of social media in enhancing engagement in destination marketing within Cebu's tourism industry. Specifically, it assesses the perceived role of social media marketing in driving engagement for destination marketing. The research uses a descriptive quantitative approach to examine how social media presence, engagement metrics, partnerships, and user-generated content (UGC) affect destination marketing. With its stunning natural scenery and rich cultural heritage, Cebu provides an ideal context for this study. A sample of 100 active social media users who frequently post about Cebu's destinations was surveyed. The results show that respondents believe social media is crucial for promoting Cebu's tourism. They highlight the importance of sharing travel experiences, how social media influences travel decisions, and how UGC is more trusted than traditional ads. The study emphasizes the need to integrate social media with other marketing strategies and the value of influencer partnerships. In conclusion, social media, particularly UGC, is vital in enhancing engagement in destination marketing for Cebu, contributing to increased traveler interaction and economic growth. It is recommended that destination marketing organizations (DMOs) collaborate with influencers, leverage social media strategies, and encourage tourists to share authentic content to maintain Cebu's competitive edge in the global tourism market.

Keywords: *Social Media, Destination Marketing, User-Generated Content, Competitive Advantage, Content Creation, Travel Decisions*

INTRODUCTION

Social media has dramatically transformed how destinations are marketed and perceived in the rapidly evolving tourism industry. Platforms like Facebook, Instagram, and Twitter have revolutionized communication by enabling users to become creators and critics of destinations, experiences, and services. This shift has empowered consumers, particularly in tourism, where personal stories and testimonials profoundly impact public perception. With tourism contributing 10% to global GDP and creating one in ten jobs worldwide, destination marketing has become a key strategy to support local economies (UNWTO, 2020). As travel destinations strive to reach broader audiences, leveraging social media marketing is essential for success.

This study investigates the role of social media in enhancing engagement in destination marketing in Cebu, focusing on the significant role of user-generated content (UGC). Social media's impact on engaging audiences and promoting destinations has become indispensable in the competitive field of destination marketing. At the core of this transformation is UGC, where travelers share their personal experiences, stories, and

visuals. UGC fosters personal satisfaction, social validation, and travel influence, motivating travelers to become unofficial ambassadors of their destinations. By posting captivating content, such as stories, photos, and videos, travelers contribute to a destination's online presence, which can be a more trusted and influential form of marketing than traditional advertising (Lange-Faria & Elliot, 2012). Social media interactions go beyond simply sharing travel experiences. They create a deeper connection between an individual's identity and the collective experiences of other travelers. Through these shared experiences, social media users contribute to the global narrative that shapes a destination's appeal. This interaction is driven by the desire for connection and validation, which is why social media platforms are crucial spaces for users to engage with one another (Tas, 2020). Research by Kim and Youn (2017) on destination storytelling demonstrates that including authentic elements and positive emotions in narratives can enhance memory recall and increase the likelihood of visit intentions. These findings emphasize the importance of compelling storytelling in destination marketing, especially when using UGC to shape travelers' perceptions. UGC can help destination marketing organizations (DMOs) create more engaging campaigns by sharing authentic, user-driven stories that resonate with potential visitors. This study explores how social media, particularly UGC, enhances engagement in destination marketing within Cebu's tourism sector. It seeks to understand the perceived role of social media marketing in promoting Cebu as a travel destination, the contribution of UGC in tourism engagement, and how social media engagement influences travel decisions. Additionally, the study will examine best practices for DMOs to leverage UGC and social media strategies to improve tourism marketing efforts in Cebu. Ultimately, the research will provide valuable insights into how social media can foster sustainable growth and a competitive advantage for Cebu's tourism sector, contributing to the region's economic and social development. Through a comprehensive review of existing literature, empirical data, and case studies, this study will highlight the power of user-generated content in driving tourism engagement and shaping public perceptions of Cebu as a top travel destination.

METHODOLOGY

The study employed a descriptive quantitative research approach to examine the role of social media in destination marketing engagement in Cebu. This approach facilitated a systematic analysis of key elements in destination marketing, focusing on collecting and analyzing numerical data to assess perceptions, experiences, and outcomes related to Cebu's marketing efforts. The research was conducted in Cebu, known for its cultural heritage and natural beauty, providing a relevant context for studying the impact of social media on destination marketing within the city's tourism industry. The study targeted active social media users who frequently posted content about Cebu destinations, with a sample of 100 respondents selected through a simple random sampling method to ensure a broad representation of social media activity in the region. A survey was used to gather data on the perceptions and experiences of Cebu's social media users regarding destination marketing, with a standardized Likert scale used to assess agreement or disagreement with statements about the impact of social media. Data collection began with topic selection and concept paper approval, followed by ethical clearance from the Institutional Review Board

(IRB). Researchers then distributed the surveys, providing clear explanations to participants, and the collected data were analyzed for interpretation. Mean scores were calculated to assess social media presence, engagement metrics, influence partnerships, and user-generated content. The university's IRB approved the study, with ethical clearance granted under reference number NP2024CBA-135.

RESULTS AND DISCUSSION

This study investigates the role of social media in enhancing engagement in destination marketing within the Cebu tourism industry.

Table 1
Social Media Presence

Factors	Mean	Interpretation
Shared or posted about destinations in Cebu on social media accounts.	3.56	Strongly Agree
Social media presence is for promoting destinations in Cebu.	3.39	Strongly Agree
Social media platforms should collaborate with destination marketing organizations to promote tourism in Cebu.	3.46	Strongly Agree
Destination marketing organizations in Cebu effectively utilize social media to engage with their audience.	3.45	Strongly Agree
Social media platforms help address travelers' inquiries and concerns about visiting Cebu.	3.38	Strongly Agree
Average Mean	3.45	Strongly Agree

4 (3.26- 4.00)-Strongly Agree; 3(2.51- 3.25)-Agree; 2(1.76- 2.50)-Disagree; 1(1.00 -1.75)-Strongly Disagree

The table highlights respondents' perceptions concerning how social media contributes to tourism promotion in Cebu. The mean scores range from 3.38 to 3.56 in every question, all classified as "Strongly Agree." Among the factors, the most significant average score of 3.56 shows strong agreement that respondents actively share or post about Cebu's destinations on social media. In contrast, the lowest mean score of 3.38 indicates strong agreement that social media can help address their inquiries and provide needed information for travelers looking to go to Cebu. The overall factor of 3.45 points to an overwhelming agreement that social media is vital for promoting tourism, engaging audiences, and addressing travelers' needs in Cebu. Moreover, participants agree that having a presence on social media platforms is another way for destination marketing organizations to promote Cebu destinations and, hence, should collaborate with them. This has been supported by studies that found that destinations with strong social media presence have experienced higher tourist engagement and satisfaction rates (Leung et al.,2013). The average ratings generally indicate that social media plays a massive role in promoting tourism in Cebu and facilitating communication between travelers and destination marketing organizations.

Table 3
Engagement Metrics

Factors	Mean	Interpretation
Engage with destination-related content on social media platforms.	3.51	Strongly Agree
Social media has influenced the popularity of Cebu destinations.	3.37	Strongly Agree
Destination marketing organizations in Cebu can leverage user-generated content to enhance engagement on social media platforms.	3.31	Strongly Agree
Destination marketing organizations in Cebu effectively integrate social media campaigns with other marketing channels to maximize impact and engagement.	3.27	Strongly Agree
Social media platforms effectively engaged potential travelers interested in visiting Cebu.	3.39	Strongly Agree
Average Mean	3.37	Strongly Agree

4 (3.26- 4.00)-Strongly Agree; 3(2.51- 3.25)-Agree; 2(1.76- 2.50)-Disagree; 1(1.00 -1.75)-Strongly Disagree

The table shows how various respondents in Cebu perceive social media engagement parameters for tourism promotion. The mean scores range between 3.27 and 3.51, all of which fall under the “Strongly Agree” category. The fact that the highest mean score was recorded at 3.51 implies that the respondents are firmly convinced of engaging with destination-related content on social media. The lowest mean score of 3.27 indicates a strong agreement that destination marketing organizations effectively integrate social media with other marketing channels. An overall factor at 3.37 signifies a consensus about audience engagement through social media, influence on destinations' popularity, and improved marketing effectiveness. The participants know that social media platforms effectively engage potential travelers, and user-generated content is valuable for luring visitors. Social media platform engagement is important for measuring tourism's marketing effectiveness (Hudson & Thal, 2013). Hence, there is a need for a consistent plan of action that combines all available tools under one roof, enhancing impact and involvement in promoting Cebu as a tourist destination

Table 4
Influence Partnership

Factors	Mean	Interpretation
1. Visited a destination in Cebu based on content I saw on social media.	3.59	Strongly Agree
2. Social media helps create a sense of community among travelers interested in visiting destinations in Cebu.	3.39	Strongly Agree
3. Influencers and celebrities promoting destinations in Cebu significantly influence social media platforms.	3.52	Strongly Agree
4. Social media interactions positively influence travelers' decision to visit Cebu.	3.46	Strongly Agree
5. Marketing destinations through social media encourages repeat visits to Cebu.	3.48	Strongly Agree
Average Mean	3.49	Strongly Agree

4 (3.26- 4.00)-Strongly Agree; 3(2.51- 3.25)-Agree; 2(1.76- 2.50)-Disagree; 1(1.00 -1.75)-Strongly Disagree

Table 4 illustrates that the mean scores for social media partnerships in promoting tourism in Cebu ranged from 3.39 to 3.59, all interpreted as “Strongly Agree.” Accordingly, the highest mean score, 3.59, represents a strong agreement among respondents towards visiting a destination in Cebu based on social media content. In contrast, the lowest mean score, 3.39, depicts strong agreement that social media assists in creating a sense of community among tourists. There is widespread consensus regarding this type of information's role in travel choices and the existence of travel communities interested in Cebu. Respondents strongly agree since influencers and celebrities endorsing Cebu’s destinations significantly impact social media. Influencer marketing and community building via networks are highly effective tools within the tourism industry (Godey et al., 2016). The overall factor means of 3.49 reveals that there is a need for social media partnerships to shape travel decisions and encourage revisits to Cebu again and again.

Table 5
User-Generated Content

Factors	Mean	Interpretation
1. User-generated content (photos, videos, stories) about destinations in Cebu is influential in travel decisions.	3.41	Strongly Agree
2. User-generated content is more trustworthy than traditional destination advertisements.	3.28	Strongly Agree
3. Authenticity in user-generated content is essential when promoting destinations in Cebu.	3.32	Strongly Agree
4. Sharing my own travel experiences in Cebu on social media platforms.	3.59	Strongly Agree
5. Social media has changed how destinations in Cebu are marketed compared to traditional methods.	3.41	Strongly Agree
Average Mean	3.40	Strongly Agree

4 (3.26- 4.00)-Strongly Agree; 3(2.51- 3.25)-Agree; 2(1.76- 2.50)-Disagree; 1(1.00 -1.75)-Strongly Disagree

The table represents the participants’ views of UGC promoting tourism in Cebu, with mean scores ranging from 3.28 to 3.59, all considered as Strongly Agree. The highest mean score, 3.59, suggests that respondents fully support posting their travel experiences on social media while in Cebu, and the lowest mean score, 3.28, indicates strong agreement with the

trustworthiness of UGC compared to conventional advertising. Such results show that UGC significantly affects travel choices, with the opinions and views of fellow travelers being instrumental in molding such attitudes towards specific destinations and ensuring visits take place there. Survey participants highly value this authenticity and argue that a real traveler's experience holds much credibility and influence over prospective tourists. User-generated content has an impact on tourism through the provision of genuine and relatable travel experiences (Cox et al., 2009). Travelers trust it more since it is viewed as more authentic than traditional marketing areas (Ayeh et al., 2013). The overall factor was found to have a mean score of 3.40, implying that UGC is highly influential, trustworthy, and authentic when influencing traveling decisions and altering marketing compared to traditional methods.

CONCLUSION

Social media marketing in Cebu has experienced a significant transformation as it increasingly relies on social media platforms, primarily because of the effect of user-generated content (UGC). The research results show that having a presence in social media, influencer collaborations, UGC, and engagement metrics are instrumental in promoting Cebu as a tourist destination. This leads to increased traveler involvement, influences travel decisions, and substitutes traditional advertising with added credibility. Hence, social media is now a must-have component of destination marketing in Cebu, which determines the image and interaction patterns with tourists.

It is essential to acknowledge the limitations of the data. Social media marketing is important for promoting Cebu as a tourist destination, but the findings may be influenced by the biases inherent in user-generated content and engagement metrics. The study relies on quantitative data, which might not fully capture the nuances of traveler behavior and preferences. Future research could address these limitations using descriptive quantitative methods to explore the underlying motivations and perceptions driving tourist engagement with social media content. Sustainable tourism development in Cebu could be achieved by examining the long-term effects of social media marketing strategies on destination image and visitor satisfaction. Despite these limitations, the investigation provides a solid foundation for comprehending the significance of online platforms in destination promotion and provides valuable insights into enhancing the tourist experience in Cebu.

RECOMMENDATION

Based on the findings of this study, the following recommendations were derived:
Support for User-Generated Content: The DMOs should encourage tourists to share their experiences online through user-generated content. Encouraging a community of content creators will make a destination more authentic and appealing, thus attracting more visitors and maintaining its position in the global tourism market.

Implement comprehensive social media campaigns: Destination Marketing Organizations need to link their social media offerings with other marketing strategies to increase their impact and audience participation. This well-rounded strategy—which consists of the same message on each platform—is consistent and effective across the board.

Engage users through content creation: Encourage users to create content by creating a

platform and programs provided by DMOs for such contributions. Cebu should share visitors' experiences. It will create a community, boost the online reputation, and bring more tourists to Cebu who may come back again.

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PROCUREMENT OF LABORATORY EQUIPMENT: IMPLICATIONS FOR PROGRAM PRICING DECISIONS

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ABSTRACT

This study aims to develop a structured pricing decision framework for a private university in Cebu City to allocate the cost of newly acquired laboratory equipment. Specifically, it seeks to determine an appropriate laboratory fee for mechanical engineering students while addressing the university's need for a standardized pricing mechanism. By analyzing available data and applying suitable costing methods, the research ensures that fee adjustments accurately reflect acquisition costs while remaining fair and reasonable for students. The study provides insights into efficient cost allocation and pricing strategies, supporting informed decision-making in resource management. The findings will assist the university in maintaining financial sustainability and market competitiveness while aligning with its mission, vision, and objectives. Furthermore, this research contributes to cost management in the private education sector by offering a practical framework for pricing decisions based on acquisition costs. It highlights the importance of accurate cost calculation and allocation in ensuring long-term institutional stability. The study's recommendations will serve as a valuable guide for private universities, particularly in Cebu City, in making effective pricing decisions that balance financial viability with their commitment to high-quality education.

Keywords: *Cebu City, pricing decision, cost allocation, laboratory fees, equipment acquisition, financial sustainability*

INTRODUCTION

Universities continually invest in new laboratory equipment to align with the evolving demands of education and industry. As technology advances, educational institutions must keep pace to provide students with hands-on learning experiences that enhance their competencies. According to Avi Hofstein (2003), science educators emphasize that laboratory-based learning offers rich educational benefits, allowing students to develop practical skills, critical thinking, and a deeper understanding of theoretical concepts. A well-equipped laboratory and proper management are crucial in achieving positive learning outcomes. Many universities have significantly increased investments in infrastructure and laboratory resources to maintain high academic standards. This commitment aims to enhance the quality of education, ensuring that students are well-prepared for professional and research-based endeavors. As one of Cebu's leading non-sectarian institutions, the selected university has upgraded its laboratory facilities to align with modern trends and institutional goals. These improvements align with its mission to provide high-quality



education, meet emerging academic and industry needs, and fulfill its vision, objectives, and institutional learning outcomes. As part of this initiative, the university has procured new laboratory equipment to facilitate action-based learning, enabling students to gain practical experience that complements theoretical instruction.

However, despite acquiring these laboratory tools, researchers found that they remained unused due to the timing of their procurement. The equipment was purchased during the COVID-19 pandemic, during which face-to-face laboratory sessions were suspended. With the return to in-person learning, the university now faces the challenge of integrating the cost of these acquisitions into student laboratory fees. Unlike other institutions with established policies, the selected university lacks a standardized mechanism for determining pricing adjustments whenever new laboratory equipment is acquired. This absence of a structured approach raises concerns about transparency, fairness, and financial sustainability in fee adjustments. Pricing decisions are critical in educational institutions, impacting revenue generation, student affordability, and accessibility to quality education. A well-calibrated pricing strategy helps ensure that costs are fairly distributed while maintaining the institution's financial stability. According to Monroe (2003), pricing decisions are among the most critical managerial choices, directly influencing profitability, institutional sustainability, and market competitiveness. Similarly, Reibstein (2002) asserts that price is a dominant factor in consumer decision-making, meaning that tuition and fee structures must be carefully evaluated to balance affordability and institutional needs. If not appropriately managed, abrupt fee increases may discourage enrollment and financially strain students. Given these considerations, this study aims to develop a pricing decision framework that will appropriately allocate the acquisition cost of the newly procured laboratory equipment. The research will assess available data and cost-allocation methods to formulate a rational, equitable, and justifiable approach for adjusting laboratory fees. By doing so, the study will provide insights into how educational institutions can implement pricing decisions that are both financially viable and student-friendly. Ultimately, the findings will contribute to institutional policy development, ensuring that tuition fee adjustments related to laboratory equipment acquisitions are transparent, data-driven, and aligned with best financial practices.

METHODOLOGY

The researchers selected the finance and accounting department and the engineering division to gather relevant data. These departments provided key insights for the study, and an open-ended questionnaire was used to collect thorough responses. A descriptive research design was applied, utilizing in-person and online data collection. To ensure ethical compliance, permission was obtained from department heads through a consent letter. Profile information for the mechanical engineering program was gathered from the program head, while additional financial data was obtained from the finance department. Secondary data and document analysis further enhanced the understanding of the institution's accounting system. A purposive sampling method ensured that participants provided relevant insights. The research instrument had two sections: one for program profile details and another for financial data on laboratory equipment procurement. Data was presented in tables for clarity, and the collection method depended on the researchers'



and departments' preferences. The study aimed to develop a pricing decision and assess project profitability using appropriate cost allocation methods. Cost allocation helps in decision-making, reducing expenses, and increasing profitability (Steinberg). Costs were assigned based on cost drivers (Pirrong, 1993) and would be incorporated into laboratory fees for mechanical engineering students. A pricing decision would outline the per-student cost, and a sensitivity analysis would test the return on investment based on enrollment and fees (Goris & Yoe et al., 2014). The break-even point would also be calculated to determine the required number of enrollees to cover annual investment costs. The final pricing decision, return on investment, and break-even analysis would be presented to the finance department. The per-student cost would inform the proposed laboratory fee structure as part of the institution's cost management plan.

RESULTS & DISCUSSION

The data are acquired from the responses of the selected participants of the study. The researchers used an open-ended questionnaire answered by the College of Engineering, Technology, and Architecture and the Finance and Accounting Department to gather information regarding the profile of the newly procured laboratory equipment and the profile of mechanical engineering. The profiles are used to develop pricing decisions. The data obtained from the questionnaire is summarized below:

Table 1.
Profile of Newly Acquired Laboratory Equipment

Name of Laboratory	Total no. of subjects per laboratory	Total no. of units per laboratory	Total no. of hours used per subject per laboratory	Laboratory Accommodation	Total no. of new laboratory equipment	Total quantity/unit of the new laboratory equipment	Total costs of new laboratory equipment	Estimated Useful life of new laboratory equipment
1. Materials & Engineering Laboratory/ME Laboratory	7	8	432	Minimum of 18 students	7	9	₱12,050,532.00	5 Years
2. ME Laboratory 2	6	8	432	Minimum of 18 students	4	4	₱15,166,165.00	5 Years
3. ME Laboratory 3	6	8	432	Minimum of 18 students	3	3	₱5,412,100.00	5 Years
4. Workshop Laboratory	6	7	378	Minimum of 18 students	40	140	₱837,510.00	5 Years
5. Machine Shop Laboratory	9	11	594	Minimum of 18 students	8	11	₱26,548,450.00	5 Years
6. Instrumentation/Ac/Dc Laboratory	9	10	540	Minimum of 18 students	7	7	₱13,679,156.00	5 Years

Source: University Records

Table 1 presents the profile of the newly acquired laboratory equipment for the Mechanical Engineering Program in the selected college. It provides key details for assessing laboratory usage, capacity, and cost allocation. The table includes the laboratory's name, indicating the facility used for engineering courses. It also outlines the total number of subjects utilizing the laboratory and the corresponding number of units and required hours per subject, where one unit is equivalent to 54 hours per semester. Additionally, the table specifies the laboratory accommodation capacity, reflecting the maximum number of



students it can accommodate based on its size and university regulations. The profile details the number of new laboratory equipment procured to ensure full laboratory functionality, including the total quantity of each unit acquired. The total cost of the new equipment is also documented, providing a basis for financial analysis and pricing decisions. Lastly, the estimated useful life of the laboratory equipment is indicated, following the university's standard policy of a five-year service lifespan. This comprehensive data serves as a foundation for evaluating resource utilization, cost allocation, and the development of an appropriate pricing mechanism for laboratory fees.

Table 2
 Cost Allocation

Name of Laboratory	Annual Cost of Investment	Rate Per Laboratory Hour	Laboratory Charge/ 1-Unit Subject Per Student
1. Materials & Engineering Laboratory/ME Laboratory 1	₱2,410,106.40	₱796.99	₱2,390.98
2. ME Laboratory 2	₱3,033,233.00	₱1,170.23	₱3,510.69
3. ME Laboratory 3	₱1,082,420.00	₱417.60	₱1,252.80
4. Workshop Laboratory	₱167,502.00	₱73.85	₱221.56
5. Machine Shop Laboratory	₱5,309,690.00	₱993.21	₱2,979.62
6. Instrumentation/Ac/Dc Laboratory	₱2,735,831.20	₱562.93	₱1,688.78

Source: University Records

Table 2 presents the cost allocation data essential for determining pricing decisions related to laboratory fees. It includes the annual cost of investment, which represents the total expenses incurred by the university for each laboratory every year. This figure is calculated by dividing the total cost of the laboratory equipment by its estimated helpful lifespan, as outlined in Table 1. Additionally, the table provides the rate per laboratory hour, which indicates the cost associated with utilizing the laboratory equipment for a specific duration. This rate is derived by dividing the annual investment cost by the total number of hours the laboratory is used, ensuring an accurate financial assessment of operational expenses. Furthermore, the table specifies the laboratory charge per 1-unit subject per student, representing the fee students must pay to access laboratory facilities for their coursework. This charge is determined by multiplying the rate per laboratory hour by three, reflecting the standard number of hours the laboratory uses per week. The data in Table 2 provides a structured approach to cost allocation, ensuring a fair and transparent pricing decision that aligns with the university's financial sustainability and students' affordability.

Table 3
Return on Investment

Name of Laboratory	Estimated No. of Enrollee	Annual Cost of Investment	Projected Income	Projected Net Income	Return on Investment
1. Materials & Engineering Laboratory/ME Laboratory 1	133	₱2,410,106.40	₱2,544,001.20	₱133,894.80	5.3%
2. ME Laboratory 2	120	₱3,033,233.00	₱3,370,258.89	₱337,025.89	11.1%
3. ME Laboratory 3	126	₱1,082,420.00	₱1,262,823.33	₱180,403.33	16.7%
4. Workshop Laboratory	132	₱167,502.00	₱204,724.67	₱37,222.67	22.2%
5. Machine Shop Laboratory	207	₱5,309,690.00	₱6,784,603.89	₱1,474,913.89	27.8%
6. Instrumentation/Ac/Dc Laboratory	216	₱2,735,831.20	₱3,647,774.93	₱911,943.73	33.3%

Source: University Records

Table 3 presents data on the return on investment (ROI) for the newly acquired laboratory equipment, calculated based on the proposed pricing structure and the estimated number of enrollees. The data indicate that the university will achieve a positive return on investment if student enrollment surpasses the break-even point. Laboratories with student numbers close to this threshold tend to yield lower returns, whereas those with significantly higher enrollment generate greater profitability. The table includes key financial metrics, such as the estimated number of enrollees, which refers to the projected annual student count derived from historical data and calculated based on the number of subjects each laboratory serves. It outlines the projected income, representing the expected annual revenue generated by multiplying the estimated number of students by the laboratory charge per 1 unit subject per student and the number of units for each laboratory. The projected net income is then computed by deducting the annual investment cost from the projected income, reflecting the university's actual financial gain from the laboratory fees. Finally, the return on investment is calculated as a percentage by dividing the net income by the annual investment cost, providing a measure of the efficiency of the proposed pricing structure. This analysis helps the university assess the financial sustainability of the newly acquired equipment and supports data-driven pricing decisions to ensure long-term operational viability.

Table 4.
Break-Even Point

Name of Laboratory	Laboratory Fixed Cost	Laboratory Charge/ 1-Unit Subject Per Student	Break-Even Point
1. Materials & Engineering Laboratory/ME Laboratory 1	₱ 301,263.30	₱2,390.98	126
2. ME Laboratory 2	₱ 379,154.13	₱3,510.69	108
3. ME Laboratory 3	₱ 135,302.50	₱1,252.80	108
4. Workshop Laboratory	₱ 23,928.86	₱221.56	108
5. Machine Shop Laboratory	₱ 482,699.09	₱2,979.62	162
6. Instrumentation/Ac/Dc Laboratory	₱ 273,583.12	₱1,688.78	162

Source: University Records

Table 4 presents data for break-even point analysis, which is essential for understanding the financial viability of the newly acquired laboratory equipment. The table includes key financial indicators, such as the laboratory fixed cost, which is calculated by dividing the



annual cost of investment (presented in Table 2) by the total number of units per laboratory (provided in Table 1). This fixed cost reflects the expenses of operating each laboratory, independent of the number of students enrolled. The break-even point is then determined by dividing the fixed cost by the rate per 1 unit per laboratory (indicated in Table 2). The break-even point represents the minimum number of enrollees required per semester to cover the expenses incurred from procuring the laboratory equipment. At this point, the university neither makes a profit nor incurs a loss. If the number of enrollees exceeds the break-even point, the laboratory generates a profit; conversely, if the enrollment is below the break-even point, the laboratory incurs a loss. These findings are crucial for revenue projections and pricing decisions, as they offer insight into the financial dynamics of the laboratory's operations. Additionally, this analysis helps manage financial risks by ensuring the university can set appropriate pricing that covers costs while supporting long-term sustainability.

Sensitivity Analysis

Sensitivity analysis determines how different values of an independent variable affect a particular dependent variable under a given set of assumptions. In other words, sensitivity analyses study how various sources of uncertainty in a mathematical model contribute to the model's overall uncertainty. This technique is used within specific boundaries that depend on one or more input variables (Kenton et al., 2021). The researchers will utilize the effects of a 10% change in prices and the number of enrollees to evaluate their impact on the university's profitability. The 10% change is based on the historical data from the research instrument given to the respected departments. The number of prices and enrollees varies, and in every change that happens, it never decreases more than 10%, nor does it increase to 10% as it fluctuates every school year. The researchers used sensitivity analysis to test the data's results, which helps identify how the independent factors affect the dependent factors. They also tested the results of the pricing decision model and the number of enrollees the selected university needs to reach.

Table 5.
As to both price and number of enrollee changes

Name of Laboratory	Scenario 1				Scenario 2			
	Price <u>increased</u> at 10%	Enrollee <u>decreased</u> by 10%	Income Annually	Profit or Loss	Price <u>decreased</u> at 10%	Enrollee <u>increased</u> by 10%	Income Annually	Profit or loss
LAB 1	₱2,630.08	113	₱2,386,006.76	(₱24,099.64)	₱2,151.88	139	₱2,386,006.76	(₱24,099.64)
LAB 2	₱3,861.76	97	₱3,002,903.80	(₱30,329.20)	₱3,159.62	119	₱3,002,903.80	(₱30,329.20)
LAB 3	₱1,378.08	97	₱1,071,595.01	(₱10,824.99)	₱1,127.52	119	₱1,071,595.01	(₱10,824.99)
LAB 4	₱243.72	97	₱165,824.37	(₱1,677.63)	₱199.40	119	₱165,824.37	(₱1,677.63)
LAB 5	₱3,277.58	146	₱5,256,586.01	(₱53,103.99)	₱2,681.66	178	₱5,256,586.01	(₱53,103.99)
LAB 6	₱1,857.66	146	₱2,708,465.36	(₱27,365.84)	₱1,519.90	178	₱2,708,465.36	(₱27,365.84)

Table 5.1.
Continuation as to both price and number of enrollee changes

Name of Laboratory	Scenario 3				Scenario 4			
	Price increased at 10%	Enrollee increased by 10%	Income Annually	Profit or loss	Price decreased at 10%	Enrollee decreased by 10%	Income Annually	Profit or loss
LAB 1	₱2,630.08	139	₱2,916,230.49	₱506,124.09	₱2,151.88	113	₱1,952,187.35	(₱457,919.05)
LAB 2	₱3,861.76	119	₱3,670,215.75	₱636,982.75	₱3,159.62	97	₱2,456,921.29	(₱576,311.71)
LAB 3	₱1,378.08	119	₱1,309,727.23	₱227,307.23	₱1,127.52	97	₱876,759.55	(₱205,660.45)
LAB 4	₱243.72	119	₱202,674.23	₱35,172.23	₱199.40	97	₱135,674.48	(₱31,827.52)
LAB 5	₱3,277.58	178	₱6,424,716.24	₱1,115,026.24	₱2,681.66	146	₱4,300,843.10	(₱1,008,846.90)
LAB 6	₱1,857.66	178	₱3,310,346.56	₱574,515.36	₱1,519.90	146	₱2,216,017.12	(₱519,814.08)

Legends:

LAB 1	:	Materials & Engineering Laboratory/ME Laboratory 1
LAB 2	:	ME Laboratory 2
LAB 3	:	ME Laboratory 3
LAB 4	:	Workshop Laboratory
LAB 5	:	Machine Shop Laboratory
LAB 6	:	Instrumentation/Ac/Dc Laboratory

Table 5 and Table 5.1 analyze the potential financial impacts of price changes and the number of enrollees in the university's laboratories. In Scenario 3, where the price is increased by 10%, the data shows that the annual income and profitability of the laboratories tend to improve. For instance, Laboratories such as LAB 1 and LAB 5 experience an increase in revenue, resulting in positive profits. This indicates that a price increase can contribute to higher financial gains for the university. However, this outcome is contingent on maintaining steady student enrollment. While higher prices can lead to higher income, balancing the increased cost with market demand and competition is essential, ensuring that students remain engaged and interested in enrolling.

On the other hand, Scenario 4 examines the impact of a 10% decrease in enrollment coupled with a 10% reduction in pricing. Here, the financial performance of the university generally suffers. The price reduction may make the laboratories more accessible to students, but the corresponding decrease in enrollees does not fully compensate for the loss in income. For example, in LAB 1, while the price is lowered, the reduction in enrollment leads to a significant income loss. Similarly, in other laboratories like LAB 5 and LAB 6, a price decrease combined with a reduction in enrollees results in negative profits. These findings underscore the need for careful analysis before pricing decisions that could negatively impact revenue and profitability. The data also reveals that pricing and enrollment levels are closely linked. A 10% price increase paired with a 10% increase in enrollment generally leads to higher income and profitability, as seen in LAB 1 and 2. However, these positive outcomes require strategic market positioning to ensure demand remains strong despite price hikes. Conversely, a price decrease with a decrease in enrollment does not fully offset the income loss, further emphasizing the need for balance in pricing decisions. Ultimately, these findings highlight the complexity of managing pricing and enrollment strategies. The university must carefully analyze the potential financial outcomes of any changes to pricing or enrollment, ensuring that both factors are considered to optimize revenue and profitability. The economic performance of the engineering department's laboratories relies on a delicate balance between making labs accessible and maintaining sufficient income to cover costs and generate profit.

CONCLUSION

This study emphasizes the importance of cost allocation for newly procured equipment, as it plays a pivotal role in determining annual investment costs and pricing strategies for mechanical engineering laboratories. The decision to invest in new equipment significantly impacts pricing structures, requiring careful consideration of potential profitability. By projecting income and analyzing the laboratory's profit and loss, the study reveals that increasing prices and enrollment can effectively cover costs and generate a profit. However, alternative scenarios, such as price reductions or decreases in enrollment, may result in financial losses, highlighting the necessity for strategic optimization and operational adjustments to achieve the break-even point. The findings underscore that effective pricing decisions hinge on accurate planning and carefully utilizing relevant data. Considering the interplay between pricing changes, student enrollment, and overall financial performance is crucial to minimize uncertainty and make informed decisions. The university can ensure sustainable financial outcomes by optimizing revenue while balancing student demand and maximizing profitability and accessibility. Therefore, this study provides valuable insights into how pricing strategies can be aligned with enrollment trends to support the long-term financial viability of the mechanical engineering department.

RECOMMENDATION

Based on the study's findings, the following recommendations are made:

1. Adopt the Pricing Framework: Use the developed pricing strategy to allocate acquisition costs effectively and ensure reasonable student tuition fee increases.
2. Project Profitability for Future Acquisitions: Consider potential profitability when deciding on future equipment purchases, prioritizing investments likely to generate positive returns.
3. Improve Cost Management: Implement the pricing decision and profitability projections to enhance cost management and support efficient procurement decisions.
4. Serve as a Reference for Future Research: This study can guide future research on laboratory fee allocation, contributing to better cost management practices in academic settings.

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EFFICIENCY AND OPERATIONS IN CUSTOMS BROKERAGE: AN ANALYSIS OF PRACTICES AT THE PORT OF CEBU

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Abstract

This study aimed to explore the operational practices and challenges faced by customs brokers in Cebu City, employing a descriptive research design to understand the issues affecting the customs brokerage process. The research focused on the Port of Cebu, a critical international trade hub in the Philippines, where customs brokers play a crucial role. Thirteen licensed customs brokers and enterprise owners participated in the study, selected through purposive sampling to ensure they had direct experience with customs procedures and relevant operational knowledge. Data were gathered using a structured questionnaire that addressed various operational challenges such as paperwork accuracy, processing delays, communication difficulties, incomplete documentation, and customer-related issues. The responses were assessed using a Likert scale to measure the severity of each problem. Descriptive statistical analysis, including frequency distributions and mean scores, was employed to identify common challenges and gauge their impact on operational efficiency. The results highlighted critical difficulties encountered by customs brokers, providing valuable insights into how these challenges affect the overall performance of customs operations at the Port of Cebu.

Keywords: *Customs Brokerage, Operational Challenges, Cebu City, Port of Cebu, Descriptive Research Design, Logistics Management*

INTRODUCTION

Customs brokers are critical in facilitating international trade by ensuring that import and export transactions comply with government regulations. However, as Lenari (2018) noted, brokers face significant operational hurdles, including navigating evolving macroeconomic trends and changing rules. These challenges are further compounded by client negligence, poor communication from importers, and incomplete or inaccurate documentation, which create delays and inefficiencies in the customs process. The International Chamber of Commerce (2017) also emphasizes the need for brokers to stay updated with constantly changing regulatory environments, further complicating their operations. In Cebu City, customs brokers frequently encounter additional operational difficulties, such as low traffic at customs offices, incomplete paperwork, and slow processing times. According to a recent study by Bhasin (2023), these issues create significant bottlenecks in the customs process, often leading to delays, increased costs, and decreased service quality. If these issues are not addressed, they can disrupt the entire logistics chain, leading to delays, increased costs, and diminished service quality. The Philippine Ports Authority (2020) also highlights that port operations in Cebu face unique challenges due to slow processing times



and infrastructure limitations. In a global market where, timely service is vital to maintaining competitiveness, operational obstacles can significantly impact businesses and consumers. While many customers express frustration with delays and increased delivery costs, they often remain unaware of customs brokers' complexities and challenges in their daily operations (Olivier & Martin, 2019). Given its essential role as an intermediary between the government, importers, and exporters, the customs brokerage industry in the Philippines, particularly in Cebu, plays a vital part in facilitating international trade. Licensed customs brokers enable importers and exporters to transact with the Bureau of Customs, performing a range of services, including consultations, document preparation, customs declarations, tax payments, and the processing of import/export entries as mandated by Republic Act No. 9280 (Republic Act No. 9280, 2004). This study examines the operational practices at the Port of Cebu, identifying the specific challenges that impact the efficiency of customs brokerage services and offering recommendations to enhance service delivery.

METHODOLOGY

This study employed a descriptive research design to systematically examine the operational practices and challenges faced by customs brokers in Cebu City. The design was suitable for clearly understanding the state of customs brokerage operations at the Port of Cebu without manipulating variables. The respondents for this study were 13 licensed customs brokers and enterprise owners in Cebu City. The purposive sampling method ensured that participants had direct experience with customs processes and were knowledgeable about the issues being investigated. The survey was conducted within customs offices, brokerage firms, and other relevant locations at the Port of Cebu, a central hub for international trade in the Philippines. Data collection relied on a questionnaire with structured questions focused on operational challenges, such as paperwork accuracy, processing delays, communication difficulties, incomplete documentation, and customer-related challenges. Responses were measured using a Likert scale to assess the severity of each issue. The data collected were analyzed using descriptive statistics, including frequency distributions, to identify common challenges and mean scores to determine the severity of each problem. This analysis provided a detailed overview of the operational difficulties faced by customs brokers and their impact on operational efficiency.

RESULTS AND DISCUSSION

Based on the analysis, the following are the results of the study;

Table 1.
Business Operation Profile

Years of Operation	f	%
Below 5 years	2	15.38
6-10 years	5	38.46
11-14 years	3	23.08
15 years and above	3	23.08
Service Offer		



Customs Brokerage	13	100
Logistics/Trucking	4	30.77
Forwarding	1	7.69
Cargo Consolidator	0	0
Others	1	7.69
Estimated Capital		
Below 1,000,000	4	30.77
1,000,001 – 2,000,000	2	15.38
2,000,001 – 3,000,000	0	0
More than 3,000,000	7	53.85

Table 1 shows that Most respondents (38.46%) have been in business for 6 to 10 years, while 23.08% have been operating for 11-14 years and 15 years or more. Only 15.38% of companies have been in business for less than 5 years, suggesting a stable market with established and newer firms. Regarding services, 100% of the companies provide customs brokerage services, with 30.77% also offering logistics/trucking services. However, only a tiny portion offers forwarding (7.69%) or other services (7.69%), and cargo consolidation is not represented, indicating that these services are less common in Cebu's market. Regarding capital, 53.85% of firms have over 3 million pesos, signaling that most are well-capitalized. Smaller businesses, with capital below 1 million pesos, account for 30.77%; only 15.38% have capital between 1,000,001 and 2,000,000 pesos. These figures indicate a mix of more significant, well-established, and smaller businesses, with the capital variation reflecting the diversity of company sizes in the market. These findings align with studies by Karabulut and Civelek (2023), which suggest that logistics performance plays a crucial role in economic growth, and businesses with more significant capital investments are better positioned to drive economic development.

Table 2.
Operational Efficiency in Timely Processing

Statements	Mean	Interpretation
1. Completing documentary requirements before lodgment, such as purchase orders, packing slips, bill of lading, import licenses, etc., promptly.	3.77	Strongly Agree
2. Ensure the correctness of the goods declaration to avoid misdeclaration, misclassification, and undervaluation.	3.92	Strongly Agree
3. The company can process customs procedures and documents promptly.	3.54	Strongly Agree
Average Mean	3.74	High Operational Efficiency
<i>High/Agreement: Ratings ≥ 2.51 and ≤ 4.00 (corresponding to Agreed and Strongly Agreed) – High Operational Efficiency</i>		
<i>Low/Disagreement: Ratings ≤ 2.50 and ≥ 1.00 (corresponding to Disagreed and Somewhat Agreed) – Minimal Operational Efficiency</i>		

Table 2 presents the respondents' assessments of the company's operational efficiency in timely processing. The responses show a consensus of solid agreement with the statements,



indicating high operational effectiveness. The highest mean score of 3.92 was attributed to ensuring the correctness of goods declarations. This highlights the company's emphasis on accurate documentation to avoid issues like misdeclaration, misclassification, or undervaluation, which can result in significant delays in customs clearance. The second-highest mean score of 3.77 was assigned to the timely completion of documentary requirements before lodgment, such as purchase orders, packing slips, and import licenses. This suggests that the company places great importance on meeting deadlines for submitting essential paperwork, ensuring a smoother processing of shipments. The lowest mean score of 3.54 was recorded for the statement regarding the company's ability to process customs procedures promptly. Although this score still falls within the "Strongly Agree" category, it suggests that occasional delays in processing customs documents could be attributed to factors such as the volume of transactions or external processing bottlenecks. Overall, the average mean of 3.74 reflects a solid performance in maintaining high operational efficiency, particularly in the timely handling of documentation and customs procedures. The findings suggest that while there is room for improvement in certain areas, the company generally ensures that processes are carried out promptly and accurately. Hornok and Koren (2015) point out that delays in customs inspections increase trade costs and affect exporters' decisions on shipment sizes and destinations. Onwuegbuchunam et al. (2021) note that many ports worldwide have adopted ICT to improve efficiency and competitiveness, though ports in developing countries still face challenges due to manual operations. For example, Nigerian ports introduced electronic Ship Entry Notice (e-SEN) systems to improve productivity and reduce delays. In cargo terminals, delays in any part of the customs process can affect subsequent operations and cause delays in other shipments (Hsu et al., 2009). This highlights the need for efficient customs operations to avoid delays and keep goods moving smoothly in global trade.

Table 3.
Operational Efficiency Timely Delivery

Statements	Mean	Interpretation
The company delivers shipments to clients within the expected period.	3.66	Strongly Agree
Perishable goods need to be delivered on time.	3.92	Strongly Agree
The company manages lost trip delivery.	3.92	Strongly Agree
Average Mean	3.83	High Operational Efficiency

High/Agreement: Ratings ≥ 2.51 and ≤ 4.00 (corresponding to Agreed and Strongly Agreed) – High Operational Efficiency

Low/Disagreement: Ratings ≤ 2.50 and ≥ 1.00 (corresponding to Disagreed and Somewhat Agreed) – Minimal Operational Efficiency

Table 3 illustrates the respondents' perceptions of the company's operational efficiency regarding timely delivery. The results show strong agreement across all three statements, with the highest satisfaction levels regarding managing perishable goods and lost trip deliveries. The highest mean score of 3.92 was attributed to the statement about the timely



delivery of perishable goods. This indicates that the company prioritizes ensuring that perishable goods are delivered within the expected timeframe, which is crucial for maintaining product quality and customer satisfaction. Similarly, the mean score of 3.92 for the company's management of lost trip deliveries demonstrates high operational efficiency in overcoming logistical challenges. This suggests that the company effectively manages unexpected disruptions to delivery schedules, ensuring that deliveries are still completed despite setbacks. The mean score of 3.66 for the general statement regarding timely delivery reflects strong agreement, although slightly lower than the two previous statements. This still indicates a high level of satisfaction with the company's ability to deliver shipments within the expected period, suggesting that, while there may be occasional delays, the company generally meets its delivery deadlines. The average mean of 3.83 signifies high operational efficiency in ensuring timely deliveries. This performance demonstrates the company's commitment to fulfilling delivery expectations, particularly in time-sensitive and perishable shipments. While the company performs well in managing its delivery processes, the findings suggest that continuous monitoring and improvement in managing delivery timelines will further enhance customer satisfaction and operational effectiveness.

Dholakia and Zhao (2010) found that on-time delivery significantly impacts customer satisfaction, emphasizing its importance in logistics performance. Fan (2011) argued that reducing the distance traveled by distribution vehicles and enhancing service quality are critical strategies for maximizing customer satisfaction while minimizing transportation and delivery-related costs. The presence of large cargo trucks on the roads has been a point of contention for many commuters, who experience delays and congestion due to their size. This situation led to the City of Manila implementing a truck ban, effectively reducing road congestion and relieving commuters, saving them valuable time during their daily commutes (Llanto, 2016). In logistics, on-time delivery, accuracy, and the delivery status of orders are critical aspects of service quality, as highlighted by Mentzer et al. (2001). Furthermore, Stank et al. (2017) identified critical mechanisms of logistics service quality, including order confirmation quantity, order procedures, order accuracy, personnel contact quality, information quality, and the timely execution of logistics activities, all contributing to overall operational efficiency and customer satisfaction.

Table 4.
 Operational Efficiency in Port Arrastre/Stevedoring Service

Statements	Mean	Interpretation
The company's coordination with port arrastre/stevedoring services is seamless.	3.66	Strongly Agree
Confirming compliance with the necessary customs regulations.	3.69	Strongly Agree
Able to comply with shipping delivery orders on time.	3.54	Strongly Agree
Average Mean	3.63	High Operational Efficiency
<i>High/Agreement: Ratings ≥ 2.51 and ≤ 4.00 (corresponding to Agreed and Strongly Agreed) – High Operational Efficiency</i>		
<i>Low/Disagreement: Ratings ≤ 2.50 and ≥ 1.00 (corresponding to Disagreed and Somewhat Agreed) – Minimal Operational Efficiency</i>		



Table 4 shows the respondents' views on the operational efficiency of port arrastre/stevedoring services. All participants strongly agreed with the statements. The highest mean score, 3.66, was for the company's coordination with port services, indicating smooth collaboration. The lowest score, 3.54, was for meeting shipping delivery orders on time, suggesting occasional delivery delays. However, even the lowest score falls within the "Strongly Agree" range, showing that performance is still strong. The average score of 3.63 indicates high operational efficiency, suggesting that the company generally performs well in coordinating with port services, following customs regulations, and meeting delivery deadlines. The minor delivery delays could be linked to external logistics challenges. With over 7,000 islands, the Philippines' geography challenges its sea transport system, affecting trade and productivity (Menon, 2022). These inefficiencies result in high transportation costs and delays. Moreover, the Philippine Ports Authority (PPA) has significant influence, which can sometimes lead to monopolies and disrupt the efficiency of port services. Compliance with customs regulations is essential for businesses to maintain smooth operations. Customs clearance involves preparing documents, paying duties, and ensuring compliance with specific requirements, which are crucial for timely deliveries (Menon, 2022). Therefore, while the company's performance in port arrastre/stevedoring services is vital, addressing minor delays could improve efficiency.

Challenges in Operational Efficiency

Theme 1: System and Process Efficiency

This theme examines the challenges related to the system and process efficiency within the operations. A significant issue identified was the frequent breakdowns or delays in the electronic lodgment system, which hinder the processing speed and require manual interventions. Additionally, the clarity and accuracy of the information declared in the documentation were significant concerns, with errors leading to delays as staff had to revise or correct incomplete or incorrect data.

Sub-theme 1.1: Electronic Lodgment and System Issues

The electronic lodgment system is prone to delays and malfunctions.

Respondent 1 shared, "The system is often down or delayed, and sometimes, lodgments get stuck, making the entire process take longer than expected."

Respondent 2 highlighted that these issues can cause delays of hours, stating, "We experience delays mainly because the electronic lodgment system is not always responsive. It can take hours to finalize a lodgment." Respondent 3 added that when the system fails, manual processing becomes necessary, which wastes valuable time: "Sometimes the system does not accept the lodgment, and we end up having to process the documents, which wastes time manually."

Sub-theme 1.2: Documentation and Information Clarity

Errors in documentation are also a key factor causing delays.

Respondent 1 mentioned, "There are instances where the information declared is incomplete or unclear, and this causes unnecessary delays in processing."

Respondent 2 noted, "Sometimes, the goods declarations are incorrect, leading to re-checking and revision. This is a big issue that delays clearance." Respondent 3 emphasized the impact of unclear information: "Incomplete or unclear information



often leads to errors, and we have to fix them before the shipment can move forward."

Theme 2: Operational Disruptions and Logistics

This theme focuses on the logistical challenges that disrupt the flow of operations. Mechanical issues with transport vehicles and uncontrollable external factors, such as weather, were the primary sources of delays.

Sub-theme 2.1: Mechanical Issues with Transport Vehicles

Mechanical failures, such as battery problems and flat tires, were cited as frequent disruptions in the logistics process.

Respondent 1 explained, "We have had trucks break down multiple times due to battery failure or other mechanical problems. This has caused delays in deliveries."

Respondent 2 added, "Sometimes the trucks are delayed because of flat tires or missing keys. These issues disrupt the schedule." Respondent 3 further mentioned the time loss caused by vehicle breakdowns: "If a vehicle breaks down, we need to find an alternative, which can take time and delay the delivery."

Sub-theme 2.2: Weather and External Factors

Weather conditions, particularly storms, and heavy rains were highlighted as factors beyond control that hinder timely deliveries.

Respondent 1 shared, "Bad weather, such as heavy rains, really delays our cargo deliveries. We cannot proceed if the roads are not passable." Respondent 2 added, "Whenever there is a storm or bad weather, deliveries are delayed, which is out of our control. It affects the entire supply chain." Respondent 3 also acknowledged the significant role of weather: "Weather is a big factor. For example, if there is a storm, we cannot deliver goods on time, which is beyond our control."

Theme 3: Administrative and Cost Challenges

This theme highlights operations' administrative and financial challenges, including port leadership changes and high destination charges, contributing to delays and increased costs.

Sub-theme 3.1: Changes in Port Administration

Changes in port leadership were found to cause operational disruptions as new administrators often bring different protocols.

Respondent 1 stated, "When there are leadership changes, the new person may have different protocols, and we have to adjust, which can cause delays." Respondent 2 added, "The frequent turnover of Commissioners and Collectors confuses. It takes time for new leaders to understand the processes and create continuity." Respondent 3 emphasized the impact of leadership changes: "Leadership changes often disrupt the flow of work, and we end up waiting for new guidelines or approvals, which delays everything."

Sub-theme 3.2: Financial and Security Issues

Financial and security issues were also mentioned as challenges.

Respondent 1 highlighted, "Destination charges are often higher than expected, affecting the overall cost and delivery time." Respondent 2 further explained, "The shipment cost increases due to high destination charges, which affects how we plan our deliveries and operations." Respondent 3 mentioned security concerns at the port: "Security issues at the port are also a challenge. We must ensure our cargo is safe, but sometimes, security concerns cause delays."

CONCLUSION

Cebu's logistics and customs brokerage industry is characterized by stability and a mix of established and newer businesses. 38.46% of firms have operated for 6 to 10 years; most companies are capitalized above three million pesos. All respondents offer customs brokerage services, while a smaller portion (30.77%) provides logistics and trucking services. However, specialized services like forwarding and cargo consolidation are relatively uncommon, indicating a market focused on essential logistics functions. The industry demonstrates high operational efficiency, particularly in accurate documentation and timely completion of requirements, though challenges remain in certain areas. Most firms achieve substantial results in goods declaration and delivery timelines, but occasional delays are attributed to electronic system malfunctions, vehicle issues, and weather disruptions. Furthermore, administrative changes in port management and high destination charges add complexity and potential delays to operations. Companies generally manage perishable goods and unexpected delivery interruptions effectively, yet ongoing improvements in digital systems and contingency planning for logistical challenges could enhance resilience and efficiency across the sector.

RECOMMENDATION

To enhance operational efficiency, companies could prioritize regular updates and maintenance of their electronic lodgment systems to reduce downtime and prevent manual interventions. Implementing frequent staff training on documentation accuracy could minimize errors, preventing delays caused by incomplete or incorrect information. Companies can develop contingency plans for logistical challenges, such as vehicle breakdowns and severe weather, ensuring that deliveries remain on schedule. Building stronger, proactive coordination with port authorities can prevent process disruptions, particularly during leadership changes. Lastly, companies should monitor destination charges and incorporate flexible pricing strategies to manage costs effectively, maintaining timely deliveries and customer satisfaction.

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ASSESSING THE LEVEL OF FINANCIAL LITERACY AMONG SENIOR CITIZENS IN A BARANGAY IN CEBU CITY: A BASIS FOR DEVELOPING A FINANCIAL LITERACY PROGRAM

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ABSTRACT

This study aimed to assess the level of financial literacy among senior citizens in a barangay in Cebu City, serving as the basis for developing a financial literacy program. It specifically evaluated their financial knowledge in three key areas: savings, spending behavior, and investments, while also describing their demographic profile, including age, gender, and previous occupation. The motivation for this research arose from the financial struggles many senior citizens face and the need to equip them with essential financial management skills. Senior citizens must understand how to manage their finances, particularly regarding savings, spending control, and investment strategies. The study was conducted in a barangay in Cebu City, with 30 senior citizen respondents selected through convenience sampling. A quantitative research approach, specifically descriptive survey research, was employed to gather data, with a weighted mean used to evaluate their knowledge of savings, spending, and investments. The findings revealed that many senior citizens have a fear of and lack knowledge about investing. Based on these results, the study recommends developing a targeted financial literacy program to help senior citizens understand the importance of financial literacy in improving their financial well-being.

Keywords: *Savings, Spending Behavior, Investments, Senior Citizens, Financial Literacy*

INTRODUCTION

Saving and investing are crucial elements of financial management for senior citizens, providing a strong foundation for their finances and ensuring long-term financial security. Seniors can accumulate funds for future needs, emergencies, and other long-term objectives by saving. Safe and strategic investing is also key to mitigating the risk of running out of money during retirement. However, many elderly individuals face increased housing and healthcare costs, reduced mobility, and job loss, all of which can strain their finances. Retirement often leads to shifts in spending habits, with research indicating that household expenditures typically decline post-retirement. Studies show that spending habits decrease after retirement, with 33% of families experiencing an increase in their spending six years post-retirement (Hanna, 2018). Despite this, a significant percentage of individuals aged 50 and above—44%—expect their expenses to remain the same, while 34% anticipate a decrease, and only 22% expect an increase (Lusardi & Mitchell, 2017). Similarly, the U.S. Bureau of Labor Statistics (2020) highlights that retirees often allocate a larger portion of their budget to healthcare, a key factor that influences their overall financial security.



For those who have accumulated wealth, wise savings and investment decisions are often the key to their financial stability. However, older generations face challenges as work and retirement have not evolved simultaneously. According to the Organisation for Economic Co-operation and Development (OECD, 2019), pension schemes are often insufficient to cover rising costs, making it difficult for seniors to maintain their standard of living. Furthermore, changes in employment patterns, such as the decline of defined benefit pension plans in favor of defined contribution plans, have placed a greater responsibility on retirees to manage their own savings effectively (Munnell & Webb, 2018).

Another pressing concern for senior citizens is financial fraud and exploitation. The Consumer Financial Protection Bureau (CFPB, 2021) reports that older adults are increasingly vulnerable to scams, deceptive investment schemes, and fraudulent financial advisors, which can significantly impact their savings and long-term financial stability. Financial literacy plays a crucial role in protecting seniors from such risks. Studies indicate that higher levels of financial literacy are associated with better investment choices, improved wealth accumulation, and a greater ability to navigate complex financial products (Klapper, Lusardi, & Van Oudheusden, 2019).

The financial well-being of senior citizens plays a significant role in restoring quality and dignity to their lives. Many older individuals spend more, invest in liquid financial instruments, and support family members financially. As such, it is essential to maintain an appropriate amount of cash for short-term expenses and contingencies in retirement. Financial advisors recommend that seniors diversify their financial portfolios to balance risk and ensure stable income streams, particularly through a mix of annuities, fixed-income investments, and low-risk assets (Mitchell & Poterba, 2020). Additionally, the role of financial education cannot be overstated, as it helps seniors make informed decisions regarding savings, insurance, and investments (Lusardi, 2019).

This study aims to assess the level of financial literacy among senior citizens in a barangay in Cebu City, providing the foundation for developing a financial literacy program to help senior citizens better manage their finances. By exploring key areas such as savings, spending behavior, and investments, this research seeks to understand the gaps in financial knowledge among seniors and offer recommendations for improving their financial literacy and overall financial health. Addressing these gaps through targeted financial education programs can enhance financial decision-making, improve retirement preparedness, and ultimately contribute to the financial well-being of senior citizens in Cebu City.

METHODOLOGY

This study employed a descriptive research design to assess the financial literacy levels among senior citizens in a barangay in Cebu City. The researchers utilized an adapted questionnaire to gather relevant data. Convenient sampling was applied, as it was deemed sufficient for the primary investigation, and no specific eligibility criteria were set for participation. Data were collected through a self-administered questionnaire distributed to the selected respondents. The questionnaire aimed to assess the respondents' financial literacy and the impact of this knowledge on their financial management practices. The questionnaire was divided into two sections. The first section gathered demographic information, including age, gender, and previous work experience. The second section



focused on key financial indicators, which were assessed using a 1-4 Likert scale with corresponding interpretations based on the framework by Box (year). The study employed descriptive statistical methods such as weighted mean, percentage, and frequency distribution to analyze the collected data. These measures provided insights into senior citizens' financial behaviors and literacy levels, allowing the researchers to draw meaningful conclusions about their financial management practices.

RESULTS AND DISCUSSION

This study aims to assess the level of financial literacy among senior citizens in a barangay in Cebu City. Below is a discussion of the study's results.

Results

Table 1
 Distribution of the Respondents According to Age

Age	Frequency	Percentage (%)
60-65 years old	16	54%
66-70years old	10	33%
75 years old	4	13%
Total	30	100%

Table 2
 Distribution of the Respondents According to Gender

Gender	Frequency Distribution	Percentage Distribution
Female	19	63%
Male	11	37%
Total	30	100%

Table 3
 Distribution of the Respondents According to Previous Work

Previous Work	Frequency Distribution	Percentage Distribution
Government	13	43%
Private	9	30%
Self- Employed	8	27%
Total	30	100%

Table 4
 Level of senior citizens' financial literacy in terms of savings

Savings	Mean	Interpretation
Save money for retirement	1.5	Not utilized
Save money for medicines	2.9	Moderately utilized
Save money for household expenses	3.0	Moderately utilized
Save money for daily needs	2.8	Moderately utilized
Save money in the bank	1.7	Slightly utilized
Save all the time when you have an excess/extra money	2.3	Slightly utilized
Save money for any emergency	2.7	Moderately utilized



Save money to invest	1.8	Slightly utilized
Saving money for family gatherings or vacations	1.9	Slightly utilized
I do not have savings	1.8	Slightly utilized
Average Weighted Mean	2.3	Slightly utilized

Table 5
 Level of senior citizens' financial literacy in terms of spending

Spending Behavior	Mean	Interpretation
Spending money for daily needs	3.56	Highly utilized
Find it more satisfying to spend money than to save it for the long term	2.90	Moderately utilized
Spending money on vacation	1.83	Slightly utilized
Spending money for healthcare needs	2.96	Moderately utilized
Tend to buy some gifts for grandchildren	2.06	Slightly utilized
Tracking monthly expenses	1.80	Slightly utilized
Prioritize to spend money for daily meal	3.83	Highly utilized
I tend to spend money as soon as I get it	3.03	Highly utilized
Spend on home appliances	1.96	Slightly utilized
Spending money on vicious	1.70	Slightly utilized
Average Weighted Mean	2.56	Slightly utilized

Table 6
 Level of senior citizens' financial literacy in terms of Investment

Investment	Mean	Interpretation
Invest in real estate	1.0	Not utilized
Invest in life and health insurance	2.2	Slightly utilized
Invest in housing loans	1.1	Not utilized
Invest in corporate bonds	1.0	Not utilized
Invest in long-term investments	1.23	Not utilized
Invest in small business	1.4	Not utilized
Invest in gold jewelry	2.0	Slightly utilized
Invest in an emergency fund	1.3	Not utilized
Invest in treasury bills	2.0	Slightly utilized
No investment	2.6	Moderately utilized
Average Weighted Mean	1.6	Slightly utilized

Discussions

Table 1 presents respondents' frequency and percentage distribution based on age. The findings reveal that most respondents are between 60 and 65, comprising 54% of the total sample. The second largest age group falls between 66 and 70, accounting for 33%, while only 13% of respondents belong to the 75-year-old and older category. The prominence of respondents in the 60–65 age range indicates that this group is likely the most financially active among senior citizens. This highlights the importance of tailoring financial literacy programs to this age group, as they may still be involved in economic decision-making. Financial literacy initiatives targeting this age range could focus on



strengthening financial management skills, particularly in areas such as retirement planning.

Table 2 illustrates the gender distribution of the respondents. A majority, 63%, of the participants were female, while 37% were male. This shows a predominantly female representation, which suggests that financial literacy programs for senior citizens should consider gender-specific challenges. For women, particularly those in senior age groups, issues such as savings, pensions, and economic security may be more pressing due to longer life expectancies and potential gaps in retirement savings. Tailoring financial education to address these gender-related factors could improve outcomes for senior women.

Table 3 highlights respondents' previous work experience. The largest group of respondents, 43%, had worked in government positions, followed by 30% who had worked in the private sector and 27% who were self-employed. Given that many respondents have a background in government service, they likely have access to pension plans or other forms of government-provided financial support. This emphasizes the need to incorporate financial literacy education into retirement planning programs, especially for government employees. Financial literacy programs could focus on building personal savings and investment strategies for those with private or self-employment backgrounds, as they may not have the same pension guarantees.

Table 4 presents the level of financial literacy among senior citizens in terms of savings. The average weighted mean for the respondents' overall savings behavior is 2.3, indicating that savings are "Slightly utilized." Respondents save moderately for household expenses (mean = 3.06), medicines (mean = 2.93), and daily needs (mean = 2.80). However, they are less likely to save for emergencies (mean = 2.73), family gatherings or vacations (mean = 1.93), and retirement (mean = 1.53). The low engagement in saving for retirement, in particular, points to a significant gap in long-term financial planning. Financial literacy programs should focus on encouraging senior citizens to prioritize saving for retirement and emergencies alongside their immediate needs.

Table 5 examines the respondents' spending behavior. The findings indicate that spending on daily meals (mean = 3.83) and daily needs (mean = 3.56) is "Highly utilized." Many respondents also report spending money as soon as it is received (mean = 3.03), suggesting impulsive spending habits. Spending on healthcare (mean = 2.96) and a tendency to find spending more satisfying than saving (mean = 2.90) were moderately utilized. Conversely, respondents were "Slightly utilized" in spending on vacations (mean = 1.83), gifts for grandchildren (mean = 2.06), and tracking monthly expenses (mean = 1.80). The overall mean for spending behavior was 2.56, interpreted as "Moderately utilized." These findings highlight the need for financial education programs that teach senior citizens the importance of budgeting, tracking expenses, and prioritizing essential spending, especially given the limited income that many senior citizens face.

Table 6 explores the financial literacy of senior citizens in terms of investing. The average weighted mean of 1.6 suggests that investment behavior is "Slightly utilized" by most respondents. Some respondents showed moderate utilization in having no investments (mean = 2.56), while others showed minimal engagement in life and health insurance (mean = 2.2) and gold jewelry (mean = 2.0). Investment in real estate (mean = 1.0), corporate bonds (mean = 1.0), and long-term investments (mean = 1.23) were very



low, indicating limited involvement in these areas. This suggests a significant gap in knowledge about investment opportunities among senior citizens. Financial literacy programs should focus on introducing safe, low-risk investment options suitable for senior citizens and exploring alternative income-generating methods, such as social programs. Additionally, senior citizens' limited investment options due to age-related restrictions and risk aversion should be addressed within broader financial planning strategies.

These findings align with Rajeswari's (2015) assertion that investment options for senior citizens are often restricted, primarily due to age-related limitations and a preference for low-risk investments. Moreover, external factors such as rising inflation and declining interest rates further complicate investment decisions. In light of these challenges, savings may present a more feasible method for senior citizens to generate income in their later years, supported by expanding public services and investments in human capital.

CONCLUSION

Based on the findings, most respondents are 60-65 years old. Based on the study's results, the conclusion highlights the importance of spending, savings, and investments in shaping the financial stability of senior citizens in a barangay in Cebu City. While spending on daily needs and personal expenses is crucial for their immediate well-being, many senior citizens prioritize these daily expenses over long-term financial planning, such as savings and investments. Their living conditions primarily influence this tendency, which does not always allow for consistent savings. Regarding investments, the lack of interest and knowledge, combined with concerns about stability and age, further limits their engagement with investment opportunities. Most senior citizens in this study preferred securing their health and insurance rather than exploring other financial avenues. Despite their limited involvement in savings and investments, senior citizens demonstrated considerable control over their spending habits, often making financial decisions based on necessity rather than long-term financial goals. This study underscores that while senior citizens in the barangay make thoughtful decisions about daily expenses, there is a significant opportunity to enhance their financial literacy, particularly in saving and investing. Financial literacy programs tailored to this demographic should address their specific needs, focusing on retirement planning, low-risk investment options, and building savings, ultimately contributing to their financial well-being and long-term stability.

RECOMMENDATION

It is recommended that financial literacy programs for senior citizens in Cebu City be tailored to address their specific needs and challenges. These programs should focus on practical savings strategies, particularly encouraging saving for emergencies and retirement, areas where senior citizens showed less engagement. Additionally, the programs should introduce low-risk investment options suited to their financial situation and provide guidance on budgeting and managing limited incomes. By improving their understanding of basic financial concepts, senior citizens can make more informed financial decisions, enhancing their overall financial security and well-being.



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