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THE PAYMENTS SECURITY AND CONVENIENCE ON CONSUMER OF MOBILE PAYMENTS IN BAGUIO CITY, PHILIPPINES

Amir Omar Ali[i]
Master in Business Administration Student,
University of the Cordilleras,
Baguio City, Philippines

Abstract:
This study investigated the payment security and convenience of consumers of mobile payment applications in Baguio City. Specifically, it assessed the level of acceptance of mobile payment applications, compared the acceptance of GCash with other mobile payment platforms, and identified the challenges faced by users of these applications. Using a descriptive research design, a sample of 150 respondents was selected through convenience sampling. Based on the findings, the research revealed a positive perception of ease of use, security, and usefulness as the primary factors driving the increased acceptance and utilization of mobile payments by users. Key challenges identified included difficulty in reversing erroneous transactions, delayed notifications, inaccessible customer service, network disruptions, slow processing times, and the absence of offline functionality. Furthermore, the findings revealed that GCash is significantly more accepted than other mobile payment applications, with consumer-operators displaying higher acceptance levels compared to individual consumers. These results provide valuable evidence for mobile payment operators to enhance their technological platforms, addressing user challenges and promoting increased adoption and usage among various client segments.

Keywords: ease of use, usefulness, security, mobile payment

1. Introduction

In today's global business landscape, the convergence of innovation, technology, and evolving socio-economic dynamics has brought transformative changes to financial services access. The relentless advancement of technology has not only benefited customers but also improved efficiency for governments, financial technology companies, and financial institutions (Abdallah *et al.*, 2020). With the ever-changing demands of customers and the shifting global business environment, organizations are increasingly compelled to invest in innovation and technology to remain relevant and

[i]Correspondence: omaraliahmed80@gmail.com

competitive. Mobile payment applications have become a pivotal innovation for organizations striving to maintain competitiveness in this dynamic landscape. The growing interest among researchers and academicians underscores the significance of these applications in revolutionizing financial transactions (Elhajjar & Ouaida, 2020). Rapid advancements in mobile payment technology have transformed the way organizations conduct financial transactions, offering seamless methods for transferring and paying for products and services. These applications enable users to send and receive money via mobile phones, facilitated by services provided by mobile network operators, thereby representing a paradigm shift in financial ecosystems.

Recent data highlights the global prominence of mobile payment services such as Apple Pay, Alipay, and PayPal, which collectively boast 1.48 billion users and generate a transaction value of US$2.48 trillion. Projections estimate this will rise to 1.8 billion users and a value of US$4 trillion (De-Best, 2023). The introduction of mobile payment technologies in the early 2000s marked a significant milestone, embraced by both developed and developing nations. These innovations empowered users to access financial services seamlessly through their mobile devices, irrespective of time or location, provided they had internet access. However, the acceptance and adoption of mobile payment applications depend heavily on factors such as technology awareness, user knowledge, access to internet-enabled phones, network quality, and the efficiency of financial technology systems (Abushamleh *et al.*, 2021; Aji & Adawiyah, 2021; Agarwal & Chua, 2020). Despite their global use in industries such as telecommunications, retail, real estate, and banking, early adoption rates were low due to the novelty of the technology and persistent security concerns (Chen *et al.*, 2023; Daragmeh *et al.*, 2021). Limited knowledge and evidence of the system's benefits further exacerbated users' fears about the safety of their funds, hindering widespread adoption. Notably, mobile payment applications were introduced in developing countries to enhance financial inclusion for individuals in rural areas with limited knowledge of formal banking systems (Alkailani & Nusairat, 2022). Emerging markets, driven by governments, banking institutions, and financial technology companies, embraced this innovation to uplift the impoverished and integrate them into the financial system (Gonu *et al.*, 2022; Khraiwish *et al.*, 2022). Consequently, mobile payment technology has significantly expanded access to financial services, particularly for unbanked individuals in remote areas (Al-Okaily *et al.*, 2020).

Despite their extensively researched benefits and robust security features, challenges persist in the adoption of mobile payment applications in some countries. Phan *et al.* (2020) established that adoption rates remain suboptimal among the unbanked population, despite the evident potential to enhance financial inclusion. The reluctance to adopt mobile payment systems often stems from security concerns, particularly among individuals with limited knowledge and awareness. Fear of unauthorized access or errors in financial transactions acts as a significant deterrent. Qu *et al.* (2022) argued that individuals are likely to reject mobile payment applications if the perceived risks

outweigh the benefits. Thus, improving knowledge and education levels remains crucial in addressing these challenges and fostering greater adoption.

The Philippines' emphasis on mobile payment applications is grounded in their technological efficiency, simplicity, and substantial contributions to the country's economic landscape, including GDP growth and direct and indirect employment generation. Digital payments, encompassing mobile payments, constituted approximately PHP 2 trillion or 9.4% of the country's GDP in 2022 (Dela-Cruz & Villanueva, 2023). Projections indicate sustained growth, with digital payments expected to contribute significantly to the country's economy, reaching an estimated market value of US$56 billion by 2027 (Statista Market Insights, 2023). Government directives encouraging reduced cash usage and increased formal banking sector participation align with the overarching goal of transitioning toward a cashless society (Tookitaki, 2022). The surge in digital payments, including mobile payments, was catalyzed by the COVID-19 impact, prompting people to adopt digital methods for their transactions due to mobility restrictions.

The pivotal role of mobile payment applications in the Philippine services sector is underscored by the support and attention garnered from relevant stakeholders. The attributes of using mobile payment applications as a store of value, coupled with their safety, convenience, and customer benefits, are instrumental in their growth and adoption across developing countries, including the Philippines (Abdullah *et al.*, 2021). Although numerous mobile payment applications exist in the Philippines, including Coins Philippines, 7/11 Cliqq Pay, Grab Pay, Shopee Pay, Lazada Wallet, Gcash, and Maya (formerly Paymaya), the latter two dominate in popularity and utilization. Gcash, with substantial gross transaction values of 3.8 trillion and 6 trillion in 2021 and 2022, respectively, stands out as the market leader, capturing one in five adults in the country (Fintech News, 2022). Launched in 2004 by Globe Telecom, Gcash's mission was to broaden access to financial services for Filipinos, irrespective of their socio-economic status. Gcash's dominance persists, exceeding Php500 billion in gross transaction value by the end of 2022 (Globe Newsroom, 2022).

Maya, Gcash's formidable competitor, launched in 2007, is a subsidiary of Philippine Long-Distance Telephone (PLDT) and Smart Telecommunications. By the end of 2022, Maya boasted 44 million users and processed transaction values exceeding Php200 billion annually (Crisanto, 2022; BusinessWorld, 2019). Despite fierce competition, Gcash remains the preferred choice among Filipinos, as evidencedby the transaction values and the number of registered users. Both platforms offer similar financial services seamlessly, including bill payment, bank transfers, mobile top-ups, and payments for goods and services. Consumers' embrace of these mobile payment applications in the Philippines is attributed to their ease of use, convenience as a store of value, and the benefits of cashless transactions for goods and services. Gcash and Maya provide financial services to all Filipinos, regardless of their access to a physical bank. Their acceptance of in-store purchases further enhances their widespread use and

adoption among Filipinos, ensuring their continued dominance in the financial service landscape (Abdullah *et al.*, 2021).

1.1 Literature Review of Empirical Studies and Gaps

A multitude of empirical studies conducted globally were examined to support the findings in the subsequent sections of this study. Ajina *et al.* (2023) investigated the satisfaction and loyalty of mobile wallet users in Jordan, revealing that perceived ease of use, usefulness, and security did not impact customer satisfaction, and perceived ease of use and security had no bearing on customer loyalty. Hajazi *et al.* (2021) found that perceived ease of use positively influences the acceptance and usage of mobile payment systems. Their study highlighted that when an application is easy to operate, it reduces cognitive load and learning curves, increasing the likelihood of continued use. Similarly, Joshi & Chawla (2023) identified ease of use as a critical factor in the adoption of mobile payment applications, showing that users are more likely to adopt and consistently use user-friendly technology.

Laksamana *et al.* (2023) also found that perceived ease of use significantly determines the acceptance of new technologies, as it reduces cognitive burden and effort, leading to higher adoption rates. Additionally, Lin *et al.* (2022) discovered that facilitating conditions, such as available resources and support, enhance users' acceptance of technology. When users find it easy to obtain information and support, their confidence and acceptance levels increase. Tahar *et al.* (2020) identified perceived ease of use as a critical determinant of technology acceptance, showing that ease of use positively impacts users' attitudes and intentions. Similarly, Liébana-Cabanillas *et al.* (2020) found that perceived usefulness motivates users to adopt mobile payment applications due to tangible benefits like convenience, efficiency, and improved financial management. Ardiansah *et al.* (2020) corroborated these findings, revealing that perceived security significantly impacts user acceptance, with users prioritizing the protection of their financial information. Pal *et al.* (2021) confirmed that despite security concerns, users trust mobile payment systems, driven by perceived benefits and convenience.

In terms of perceived security, Huang *et al.* (2020) study found that regulatory oversight significantly enhances user trust and acceptance of mobile payment systems. Users are more likely to adopt these applications when they trust that credible authorities regulate them, reducing security and fraud concerns. Similarly, Sleiman *et al.* (2021) showed that perceived regulatory protection boosts user confidence in mobile payment services by assuring the safety of financial transactions. Verma *et al.* (2020) also noted that stringent security and privacy regulations increase user trust and adoption of mobile payment technologies. However, Cham *et al.* (2022) highlighted ongoing concerns about fraud and financial risks, such as identity theft and unauthorized transactions, which undermine user confidence. Razaq *et al.* (2021) reinforced this, showing that perceived vulnerability to fraud significantly diminishes trust and acceptance of mobile payment systems.

In terms of perceived usefulness, Zhao and Bacao (2021) found that the speed and convenience of transactions significantly influence user acceptance of mobile payment systems. Users value quick transactions that save time and streamline the payment process. This aligns with Pal *et al.* (2021), who revealed efficiency as a critical determinant of mobile payment adoption. Similarly, Flavian *et al.* (2020) study revealed that efficient management of payments is crucial for user acceptance, as users appreciate the convenience and control mobile payment applications offer. Kwabena *et al.* (2021) also found that effective management of financial transactions is a key factor in users adopting mobile payment systems.

Studies also explored differences in responses among different user variables toward mobile payment acceptance. Kalinic *et al.* (2020) revealed that men were more likely to use mobile payments than women, and Alabdan and Sulphey (2020) found that male respondents exhibited better mobile acceptance than females. Pu *et al.* (2020) found that users are more inclined to adopt platforms with a positive reputation for reliability and user experience. This aligns with Gcash's higher acceptance in the Philippines, where it meets user expectations for reliability, trustworthiness, and features. Lian and Li (2021) also found that platform reputation influences trust in mobile payment systems, with users favoring platforms known for security and reliability despite potential security concerns. Kadjie *et al.* (2023) revealed that user preferences vary based on context and objectives; SME operators, for instance, prioritize features that enhance business efficiency. Similarly, Moghavvemi *et al.* (2021) emphasized the importance of catering to diverse user needs to promote the widespread adoption of mobile payment technologies.

The existing literature has provided information on the challenges faced by mobile payment users, addressing critical issues that influence adoption. Moghavvemi *et al.* (2021) explored the drivers and barriers to mobile payment adoption among Malaysian merchants, highlighting factors such as technology incompatibility, complexity, cost, critical mass, and knowledge as deterrents. In a study on mobile crypto-currency wallets, Voskobojnikov *et al.* (2021) found that users, both experienced and new, encountered difficulties and needed assistance to navigate mobile payment issues. Frustration, disengagement, and misconceptions about transaction reversibility resulted in mistakes and irreversible monetary losses. Olagunju *et al.* (2020) highlighted the challenges users face in resolving mobile payment errors, leading to dissatisfaction and mistrust. Chawla and Joshi (2023) stressed the importance of seamless dispute resolution mechanisms for promoting user confidence in mobile payment systems. Koghut and Al-Tabbaa (2021) revealed that delayed transaction notifications negatively affect user trust and satisfaction. Similarly, Behera *et al.* (2023) found that network disruptions and slow processing times impact user experiences with mobile payment platforms. Kuo (2020) emphasized the significance of offline functionality in mitigating the effects of network disruptions on uninterrupted access to mobile payment services. Other studies identified barriers like complexity, incompatibility, lack of trust, technological anxiety, and risk hindering mobile payment adoption (Cham *et al.*, 2022). Challenges such as customers' limited awareness, knowledge on mobile payments, and lack of computer literacy were

also revealed as key obstacles (Jayarathne *et al.*, 2023). Collectively, these studies enrich the understanding of the multifaceted factors influencing consumer adoption of mobile payment applications and offer valuable insights into the nuances across diverse user demographics and contexts.

The existing empirical research, while informative, revealed notable gaps that have been addressed by this study. Firstly, none of the studies were conducted in the Philippines, creating a research gap given the potential disparities in perceptions among mobile payment consumers in different countries. This study filled this void by examining the unique context of mobile payment adoption in the Philippines, considering the distinctive technological architecture and socio-economic factors at play. Furthermore, the majority of reviewed studies did not explore significant differences in the acceptance of mobile payment applications between consumers and consumer-operators, relying more on demographic factors like age and gender. This study addressed this gap by examining the roles of consumers and consumer-operators as variables, providing a detailed understanding of their impact on mobile payment acceptance.

Finally, some of the reviewed studies provided contradictory results, highlighting the need for further investigation to confirm or refute these findings. This study aims to contribute to the existing literature by assessing the payment security and convenience on consumer of mobile payments in Baguio City. It investigated three key areas: the level of acceptance of mobile payment applications, significant differences in acceptance levels between consumers and consumer-operators, and the challenges faced by users of different mobile payment applications. Through this, the study provided valuable information and knowledge into the dynamics of mobile payment acceptance in a specific geographical and socio-economic context.

1.2 Theoretical Framework

The study was guided by Davis's (1989) technology acceptance model (TAM). Central to this theory is perceived ease of use and usefulness, influencing people's beliefs, attitudes, and behaviors regarding technology adoption (Rootman& Krüger, 2020). According to this model, the simpler a technology is to use and the more benefits it offers, the more likely people are to adopt and use it. The author's model demonstrated that when users perceive a technology as easy to use and beneficial, they are more likely to embrace and integrate it into their routines (Davis, 1989). Karsen and Juwitasary (2019) noted that mobile payment adoption increases when transactions require minimal effort. Features enabling quick information retrieval, flexibility, and streamlined procedures enhance user preference. Abdullah *et al.* (2021) emphasize time savings and rapid transaction delivery as key benefits of mobile payments, influencing positive consumer behavior and attitudes toward the technology.

While TAM focuses on ease of use and usefulness, criticism arises from its omission of security factors, which significantly impact consumer attitudes (Cabanillas *et al.*, 2020). This study extends TAM to include security as a crucial determinant of mobile

payment adoption. Recognizing that security concerns influence trust a key factor in behavioral intention, emphasizes the importance of integrating security (Chandra *et al.*, 2019). This is also because consumers prioritize trust but express apprehensions about data and fund security in mobile payments, potentially hindering adoption. Thus, justifying the extension of TAM to encompass security elucidates the multifaceted considerations influencing mobile payment adoption and acceptance.

The choice of Davis's (1989) TAM in this study is supported by its proven efficacy and relevance in understanding technology adoption dynamics. TAM provides a comprehensive framework for exploring mobile payment adoption, focusing on perceived ease of use, usefulness, and security, offering insights into factors shaping user acceptance. TAM's versatility makes it accessible to both researchers and practitioners, facilitating straightforward assessment and actionable insights. Its widespread adoption in previous electronic payments research highlights its reliability, enhancing the study's credibility and aligning it with existing literature.

1.3 Research Objectives

The major goal of this study was to assess the payment security and convenience of consumers of mobile payments in Baguio City. Specifically, the study provided answers to the following research objectives:

1. To determine the level of acceptance of mobile payment applications in Baguio City along:
   a. perceived ease of use;
   b. perceived security; and
   c. perceived usefulness?
2. What is the difference between Gcash and other mobile payments on the level of acceptance of using mobile payment applications if grouped according to:
   a. mobile applications; and
   b. type of users (consumers and consumer-operators)?
3. What are the problems or challenges faced by users of different mobile payment applications?

1.4 Significance of the Study

The implications of this study extend to various stakeholders, offering direct advantages to financial institutions, mobile payment providers, financial technology consultants, the general public, small business owners, and future researchers. Financial institutions, such as banks and insurance companies, can gain valuable information into the factors influencing consumers' acceptance of mobile payments. With this knowledge, they can improve their mobile payment services to align with consumer preferences, promoting increased acceptance and satisfaction. Mobile payment providers in the Philippines will gain a detailed understanding of how their services impact consumer and consumer operators' acceptance. By identifying both positive and negative influences, as well as

consumer/consumer-operator's challenges, these providers can refine their services to enhance future customer experiences.

Financial technology consultants can enhance their consultancy services by staying updated on the latest trends in mobile payment acceptance. This enables them to better assist mobile payment service providers, improving their service offerings and saving time and effort for both consultants and providers. The general public in the Philippines stands to benefit from this study by staying informed about the latest developments in the mobile payment sector. Increased awareness may encourage both current users and non-users to utilize mobile payments, recognizing the numerous benefits associated with this technology.

Small business owners will find the study particularly valuable as it provides information on how mobile payments can optimize payment collection and contribute to overall business success in today's evolving business landscape. Finally, future researchers will have a strong foundation for conducting similar studies, drawing meaningful conclusions from the information generated by this research. This contributes to the growing body of literature, especially within the realms of financial technology and mobile payments, promoting a deeper understanding of these dynamic domains.

2. Methodology

2.1 Research Design and Methodology

The researcher used the descriptive design method. Descriptive research, as defined by Zheng *et al.* (2020) is suitable for studies aiming to understand patterns and trends within an identified study population in its natural setting without the researcher's interference. In alignment with this study's context, the use of a descriptive research design is justified. Thus, the descriptive research design was used to describe the data for the level of acceptance of mobile payment applications, the notable disparities in acceptance levels across various mobile applications and user types, and the challenges confronted by users of diverse mobile payment applications in Baguio City.

2.2 Population and Locale of the Study

The study targeted consumers and consumer-operators currently using mobile payment applications such as Gcash and Maya in Baguio City. While the exact number of mobile payment application users in Baguio City was not available, a sample of 150 respondents was deemed sufficient for this research. Respondents were selected using convenience sampling, focusing on individuals who were conveniently located, accessible, and willing to participate on the day the questionnaire was administered.

2.3 Data Gathering Tools

A questionnaire was used to collect the primary data in this study. The questionnaire was accompanied by a cover letter explaining the purposes of the research and seeking the consent of the respondents to participate in the study. To determine the reliability of the

questionnaire, a pilot test was conducted with 15 respondents who were not part of the main study. The analysis revealed a coefficient of 0.971, suggesting that all the items had a very high degree of internal consistency within the questionnaire. This high level of reliability was crucial for the validity of the research findings, as it indicates that the measurement tool used was effective and that the data collected can be trusted to reflect the respondents' perceptions and experiences accurately.

2.4 Data Gathering Procedures

The following procedures were applied to gather the data for this study. First, the researcher communicated the results of the questionnaire reliability test and sought permission from his research adviser to begin administering the questionnaire to the targeted respondents in Baguio City, which was granted. Second, the researcher printed and reproduced a total of 150 copies of the questionnaire, which were distributed to the respondents. Face-to-face distribution and collection of all questionnaires by the researcher were utilized. While distributing the questionnaires, ample time was given to each respondent. The researcher verbally assured them of the ethical principles of anonymity, confidentiality, freedom from risks, and the freedom to quit at any phase of the study without further questioning or consequences.

Anonymity was guaranteed by not collecting any personally identifiable information from the respondents. Confidentiality was maintained by ensuring that all responses were kept secure and only accessible to the researcher. Freedom from risks was assured by explaining that participation involved no physical or psychological harm. The freedom to quit was emphasized by informing respondents that they could withdraw from the study at any time without any repercussions. Finally, the collected questionnaires were tallied, tabulated, and statistically analyzed using the appropriate statistical tools identified in this study with the help of a statistician.

2.5 Statistical Treatment of Data

The gathered data in this study was systematically organized and interpreted using the following statistical tools: Weighted mean was used to organize and interpret the data for the level of acceptance of mobile payment applications. Analysis of Variance (ANOVA) was used to organize and interpret the data for the significant difference in the level of acceptance in using mobile payment applications if grouped according to mobile applications and type of users. Finally, thematic coding was used to identify, classify and codify the written statements on the challenges or problems experienced by users while using mobile payment applications.

3. Results and Discussion

3.1 Level of Acceptance of Mobile Payment Applications

Table 1: Level of Acceptance of Mobile Payment Applications

No.	Indicators	Weighted Mean	Interpretation
1	Perceived ease of use	3.48	High level of acceptance
2	Perceived usefulness	3.40	High level of acceptance
3	Perceived security	3.31	High level of acceptance
	Overall Weighted Mean	**3.40**	**High level of acceptance**

Presented in Table 1 are the results for the level of acceptance of mobile payment applications, with an overall weighted mean of 3.40 and a qualitative interpretation of "high level of acceptance." This suggests that users generally perceive mobile payment applications favorably across various aspects measured. The high level of acceptance implies that users find these applications valuable and effective tools for facilitating financial transactions and managing their finances.The implication of this finding suggests that users generally perceive mobile payment applications favorably across various aspects measured. For mobile payment providers, this high level of acceptance indicates that their efforts to develop user-friendly and beneficial platforms are resonating with consumers, likely contributing to sustained user engagement and market growth. For small business owners, the positive perception of mobile payment applications highlights an opportunity to tap into a growing consumer preference for digital transactions, which could streamline operations and improve customer satisfaction. Financial institutions, on the other hand, may recognize this finding as a signal of shifting consumer behavior towards digital financial solutions, prompting them to further integrate mobile payments into their service offerings. The overall favorable perception underscores the importance of collaboration between these stakeholders to enhance the adoption and effectiveness of mobile payment systems in the evolving financial landscape.

The dimensions that measured the level of acceptance of mobile payment applications are presented as follows starting with the highest mean of: 3.48 for perceived ease of use, 3.40 for perceived usefulness, and 3.31 for perceived security. All the dimensions got a qualitative interpretation of “high level of acceptance”. From the findings, it is evident that respondents in this study had a high level of acceptance for using mobile payment applications primarily due to perceived ease of use. This indicates that users find these applications intuitive and straightforward to use, which enhances their overall experience and satisfaction. Perceived ease of use streamlines the process of conducting financial transactions, reducing user effort and minimizing the learning curve associated with adopting new technologies. This finding further justified the use of Davis (1989) TAM who posited that perceived ease of use significantly influences user acceptance of technology. The author’s model demonstrated that when users perceive a technology as easy to use, they are more likely to embrace and integrate it into their

routines. This aligns with the present finding, as perceived ease of use contributes to users' positive attitudes and high acceptance of mobile payment applications.

Consistent with this notion, Tahar *et al.* (2020) identified perceived ease of use as a critical determinant for the acceptance of a technology revealing that ease of use positively impacts users' attitudes and intentions to use technology, highlighting its importance in driving user acceptance. This supports the notion that the perceived ease of use plays a significant role in shaping users' acceptance of mobile payment applications.Furthermore, perceived usefulness emerged as the second most significant factor influencing the respondents' acceptance of mobile payment applications in this study. This suggests that users value the practical benefits and advantages offered by these applications in facilitating financial transactions and managing their finances. Perceived usefulness includes various aspects, including convenience, efficiency, and effectiveness, which contribute to users' positive attitudes towards mobile payment technologies. The finding also justified the use of Davis's (1989) TAM in this study, who posited that perceived usefulness is a key determinant of user acceptance of technology and that when users perceive a technology as useful and beneficial, they are more likely to adopt and use it. This aligns with the present finding, as perceived usefulness significantly influences users' acceptance of mobile payment applications.

This finding also compares closely with that of Liébana-Cabanillas *et al.* (2020), who identified perceived usefulness as a critical factor and also discovered that those users are motivated to adopt mobile payment applications when they perceive tangible benefits, such as convenience, efficiency, and improved financial management. This supports the notion that perceived usefulness plays a vital role in shaping users' acceptance of mobile payment technologies. Finally, although perceived security was the least ranked dimension of acceptance of mobile payment applications in this study, it still received a qualitative interpretation of "high level of acceptance." This suggests that while security concerns may not have been the primary driver of acceptance, users still place significant trust in the security measures implemented in mobile payment systems.

Corroborating this finding, a study by Ardiansah *et al.* (2020) found that perceived security significantly impacts user acceptance of a payment technology. The researchers revealed that users prioritize security when evaluating mobile payment systems, as they want assurance that their financial information and transactions are protected from unauthorized access and fraud. This aligns with the present finding, as users' acceptance of mobile payment applications despite security concerns indicates a level of trust in the security measures implemented. Similarly, the finding also confirms the result of Pal *et al.* (2021), who found that despite security concerns, users still trust mobile payment systems, highlighting that while users may have reservations about potential security risks, their overall trust in mobile payment platforms remains high due to perceived benefits and convenience. This supports the notion that perceived security, although least ranked, still influences user acceptance and trust in mobile payment applications.

Table 2: Difference between Gcash and Other Mobile Payments on the Level of Acceptance of Using Mobile Payment Applications

Comparison	t - value	df	P- value	Significant difference
Gcash vs. other mobile applications	11.04	150	<0.001	Yes
Consumer vs. Consumer-Operators	8.18	150	<0.001	Yes

Significant at $p < 0.005$ level.

Table 2 presents the results comparing the acceptance levels of Gcash and other mobile payment applications, categorized by mobile applications and user types (consumers and consumer-operators). Utilizing ANOVA statistics, the analysis revealed a significant difference in acceptance levels between Gcash and other mobile payment applications, with Gcash demonstrating a significantly higher acceptance level ($p < 0.001$). The results suggest that Gcash holds a notably higher acceptance level compared to other mobile payment applications, emphasizing the importance of platform-specific attributes in shaping user preferences. The implication of this study highlights the critical role of platform-specific attributes in shaping user preferences. For mobile payment providers, this finding reiterates the importance of differentiating their offerings through features, usability, and reliability to achieve higher acceptance levels similar to Gcash. Small business owners can interpret this as an indication that integrating Gcash into their payment options might align with consumer preferences, potentially enhancing customer satisfaction and transaction efficiency.

For financial consultants, the marked preference for Gcash over other platforms points to the necessity of advising clients on the most widely accepted and trusted mobile payment solutions, which could be pivotal in financial planning and consumer engagement strategies. Lastly, financial institutions might view this significant preference for Gcash as a signal to explore partnerships or incorporate similar attributes within their digital offerings to remain competitive in an increasingly digitalized financial market. The significant differences in acceptance levels between Gcash and other mobile payment applications suggest that platform-specific attributes significantly influence users' perceptions and adoption decisions. Gcash's higher acceptance level implies that users perceive it as more reliable, trustworthy, or feature-rich compared to alternative platforms, highlighting the critical role of platform reputation and user experience in shaping user preferences.

Supporting this finding, a study by Pu *et al.* (2020) revealed that users are more inclined to adopt platforms with a positive reputation for reliability and superior user experience. This aligns with the present finding, as Gcash's higher acceptance level in the Philippines suggests that users perceive it as meeting or exceeding their expectations in terms of platform reliability, trustworthiness, and feature richness. Furthermore, research by Lian and Li *et al.* (2021) investigated user perceptions of mobile payment security and found that platform reputation influences users' trust in mobile payment systems. The study highlighted that users are more likely to trust platforms with a positive reputation for security and reliability, even in the face of potential security concerns. This corroborates the notion that Gcash's higher acceptance level may be attributed to users'

perceptions of its reliability and trustworthiness, which are critical determinants of user adoption and usage behaviors.

Similarly, the analysis indicated a significant difference in acceptance levels between consumers and consumer-operators, with consumer-operators having a higher acceptance level ($p < 0.001$). The differences in acceptance levels between consumer and consumer-operator user types reiterate the need for tailored features to meet the diverse needs within the mobile payment ecosystem. The significant difference in acceptance levels between consumer and consumer-operator user types reiterates the diversity of user needs and expectations within the mobile payment ecosystem. Consumer-operators, who likely engage more frequently in commercial transactions, demonstrate a higher acceptance level, indicating that they may value specific features or functionalities tailored to their business needs. Supporting this finding, research by Kadjie *et al.* (2023) revealed that users' preferences and requirements vary depending on their usage contexts and objectives. Specifically, SME operators, who rely on mobile payment services for business-related transactions, may prioritize features that streamline their commercial activities and enhance operational efficiency.

Similarly, a study by Moghavvemi *et al.* (2021) identified user diversity as a critical determinant for the acceptance of payment technology. The research highlighted the significance of understanding and catering to the distinct requirements of different user segments to promote widespread adoption and usage of mobile payment technologies. This aligns with the present finding, as the higher acceptance level among consumer-operators signified the importance of tailoring mobile payment solutions to meet their specific business needs and objectives. Overall, the results indicated that differences in acceptance levels exist between Gcash and other mobile payment applications, as well as between consumer and consumer-operator user segments. Understanding these disparities and addressing platform-specific features and user preferences are essential for enhancing user acceptance and driving widespread adoption of mobile payment technologies.

Table 3: Problems or Challenges Faced by Users of Different Mobile Payment Applications

No.	Indicators	Frequency (F)	Percentages (%)
1	Difficulty in reversing erroneous transactions	82	34.17
2	Late transaction notifications	47	19.58
3	Inaccessible customer support	33	13.75
4	Network disruptions	32	13.33
5	Slow processing time	29	12.08
6	Lack of offline functionality	17	7.08
	Total	**240***	**100.0%**

*Multiple Responses

Presented in Table 3 are the findings for the problems or challenges faced by users of different mobile payment applications. The most prevalent issue reported by 34.17% of users was difficulty reversing erroneous transactions. Other challenges included delayed transaction notifications (19.58%), inaccessible customer service (13.75%), network

disruptions (13.33%), slow processing times (12.08%), and the absence of offline functionality, accounting for 7.08% of responses. The implication of this finding revealed critical areas for improvement that directly impact user satisfaction and trust. With majority of users reporting difficulty in reversing erroneous transactions, mobile payment providers need to recognize the need for more efficient and user-friendly processes to address such errors, as these issues significantly affect user confidence in the platform. For small business owners, these challenges could lead to customer dissatisfaction and potential loss of sales if payment issues are not promptly resolved, highlighting the importance of reliable and responsive payment systems in maintaining customer loyalty. Financial institutions are also impacted by these findings, as the challenges associated with mobile payments, such as delayed notifications, inaccessible customer service, and network disruptions, could deter users from fully embracing digital financial solutions.

The prevalence of difficulty in reversing erroneous transactions indicates a significant concern within the mobile payment ecosystem. Users likely experienced frustration and inconvenience when attempting to rectify transaction errors due to several factors. Unclear procedures within the mobile payment application may have made it challenging for users to navigate the process of reversing transactions, leading to confusion and uncertainty about the necessary steps to take. Limited support channels could have compounded the issue, as users may have struggled to access timely assistance or guidance from customer support representatives. Additionally, technical constraints within the mobile payment system, such as glitches or errors, may have hindered users' ability to successfully reverse transactions, exacerbating their frustration and dissatisfaction with the overall experience. This finding aligns with research by Olagunju *et al.* (2020), which highlighted the challenges users face in navigating the resolution process for mobile payment errors, often resulting in dissatisfaction and mistrust. Similarly, a study by Chawla and Joshi (2023) emphasized the importance of seamless dispute-resolution mechanisms in promoting user confidence and trust in mobile payment systems. These studies corroborate the notion that difficulties in reversing erroneous transactions can adversely impact user experiences and highlight the need for streamlined and user-friendly resolution processes in mobile payment applications.

Additionally, the reported challenges, such as delayed transaction notifications, inaccessible customer service, network disruptions, and slow processing times, likely contributed to users' frustration and dissatisfaction within the mobile payment ecosystem. Delayed transaction notifications may have caused uncertainty and anxiety among users, leading to concerns about the status and completion of their transactions. This finding is supported by research conducted by Koghut and Al-Tabbaa (2021) which found that delayed transaction notifications have a negative impact on user's trust and satisfaction with mobile payment platforms. Delayed notifications can create uncertainty and frustration among users, as they may not receive timely updates regarding the status of their transactions. This lack of transparency can erode trust in the platform's reliability

and may lead to concerns about the security and integrity of the transaction process.Moreover, inaccessible customer service channels may have exacerbated users' frustrations, as they lacked timely assistance or support when encountering issues or concerns with their transactions. Users rely on accessible customer service channels to address concerns promptly and resolve any discrepancies or errors in their transactions. When these channels are inaccessible or unresponsive, users may experience heightened frustration and anxiety, as they are left without a reliable means of seeking assistance. This lack of support can prolong the resolution process for transaction-related issues, further exacerbating users' dissatisfaction and eroding their trust in the mobile payment platform.

Furthermore, network disruptions and slow processing times likely impeded users' ability to conduct transactions smoothly and efficiently, leading to inconvenience and dissatisfaction. Network disruptions can interrupt transaction processes and hinder users' ability to complete payments smoothly, while slow processing times prolong the transaction duration, causing inconvenience and impatience. This revelation appears to complement the research of Behera *et al.* (2023), who found that network disruptions and slow processing times adversely affect user experiences and perceptions of mobile payment platforms.

Although lack of offline functionality emerged as the least reported challenge among users of mobile payment applications in this study, its significance cannot not be overlooked. Offline functionality enables users to complete transactions even in areas with limited or no internet connectivity, enhancing the accessibility and reliability of mobile payment services. This finding is consistent with Kuo's (2020) research, which emphasized the crucial role of offline functionality in mobile payment applications. The researchers' study revealed how offline capabilities can significantly reduce the negative effects of network disruptions, ensuring that users can continue accessing mobile payment services even when internet connectivity is poor or unavailable. This is particularly relevant in areas like Baguio City, where internet infrastructure is often unreliable. The current study reinforces the researchers' findings by demonstrating that offline functionality is essential for providing uninterrupted access to financial services, especially in regions where internet access is inconsistent. This emphasizes the importance of designing mobile payment applications with robust offline features to cater to users in such environments, ensuring that they can rely on these services regardless of network conditions.

4. Conclusions

Mobile payment applications are widely adopted due to their user-friendly design, which simplifies financial transactions by minimizing effort and complexity for users. These applications are perceived as valuable tools for managing finances and facilitating transactions, offering the convenience and accessibility of making payments anytime and anywhere via smartphones. The high acceptance of mobile payment platforms is largely

driven by users' trust in their security measures. Perceived security plays a crucial role in fostering user confidence and willingness to engage in digital transactions, making it a cornerstone of their widespread adoption and continued use. Among the various platforms, Gcash enjoys a higher level of acceptance, as users perceive it to be more reliable, trustworthy, and feature-rich compared to its competitors. Consumer-operators, who frequently engage in commercial transactions, demonstrate particularly high acceptance levels due to the platform's tailored features that meet their business needs. However, a notable challenge across mobile payment applications is the difficulty in reversing erroneous transactions. This issue arises from unclear procedures, limited support channels, and technical constraints, which contribute to user frustration and dissatisfaction. Addressing these pain points is essential to enhancing user experience and ensuring sustained growth in mobile payment adoption.

4.1 Practical Implications/Recommendations

Mobile payment providers can improve accessibility and clarity by simplifying user interfaces and ensuring that essential information, such as transaction history, fees, and usage instructions, is easy to locate within the app. This can be achieved through intuitive navigation menus, search functionalities, and prominently displayed help sections. In-app tutorials or interactive guides can further aid users in familiarizing themselves with platform features. Regularly updated FAQ sections and real-time chat support can also provide users with quick access to information, enhancing the overall user experience and satisfaction with the services offered.

Strengthening security measures is another priority for mobile payment providers, with a focus on implementing advanced encryption technologies and multi-factor authentication (MFA) to protect transactions and user data. Real-time fraud detection systems that monitor for suspicious activities and notify users immediately can further enhance safety. Providers should regularly update security protocols to address emerging threats and align with industry standards. Additionally, educating users about these security features through clear notifications and in-app messages can build trust and reassure them about the safety of their financial transactions. By combining technical enhancements with transparent communication, providers can significantly boost user confidence in their platforms.

Enhancing functionality and user experience is crucial for making mobile payment platforms more efficient and intuitive. Providers can introduce features like detailed transaction tracking, budgeting tools, and automated payment scheduling to help users manage their finances effectively. Integrating visual analytics can offer insights into spending patterns, enabling users to make informed financial decisions. These enhancements can position mobile payment platforms as indispensable tools for users seeking efficient payment management. To match Gcash's high acceptance levels, other mobile payment providers should focus on improving reliability, trustworthiness, and feature richness. Regular updates to security measures, transparent communication about platform reliability, and innovative features tailored to user needs are essential.

Actively soliciting and acting upon user feedback can further foster trust and demonstrate a commitment to meeting user expectations.

To close the acceptance gap, providers should prioritize understanding the needs of consumer users and enhancing features to cater to their preferences. Simplifying user interfaces, offering personalized transaction insights, and providing educational resources can build confidence in using the platform. Establishing user-friendly customer support channels and incorporating feedback into service improvements can further enhance user experience and drive higher acceptance levels. Addressing the difficulty in reversing erroneous transactions requires a focus on clear procedures, expanded support channels, and resolving technical constraints. Providers can implement user-friendly interfaces to guide users through the reversal process, offer 24/7 support via chat, email, and phone, and invest in technology upgrades to streamline reversals. Proactive communication and regular updates on reversal statuses can alleviate user frustration, improving overall satisfaction with the application.

Conflict of Interest Declaration

The researcher declares that no conflict of interest exists concerning this study. All findings, analyses, and recommendations have been conducted and presented impartially, without any influence from personal, financial, or professional interests.

About the Author

Amir Omar Ali, MBA, is a Libyan professional with a robust academic background and a strong commitment to advancing business excellence. He earned his Master of Business Administration degree from the University of the Cordilleras in Baguio City, Philippines, in November 2024, following a Bachelor of Science in Information Technology from the College of Technical Sciences, Libya, completed in December 2018. With expertise in problem-solving, decision-making, adaptability, and marketing, Amir is well-equipped to tackle complex business challenges and drive organizational success. His professional objective is to leverage his education and leadership skills to secure a managerial role in a dynamic organization, where he can lead strategic initiatives, optimize operations, and contribute to sustainable growth.

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