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Adoption of Cashless Payments by Retail Enterprises in Legazpi City

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Abstract. This study examined the adoption of cashless payment methods among retail businesses, identifying the types of payment methods utilized, the factors influencing their adoption, and the challenges retailers face. Data were collected through interviews with 50 retail owners and managers. Results indicate that mobile wallets, particularly GCash, are the most frequently used cashless payment method, followed by debit/credit cards and online banking. Factors driving adoption include ease of use, trust and security, and social influence. However, retailers need to work on technological complexities, customer expectations, limited cash-in and cash-out facilities for mobile wallets, and financial costs from banks and fintech companies. The study concludes that enhanced infrastructure and support are essential for the region's broader adoption of cashless payments. The findings underscore the crucial role of policymakers and financial institutions in addressing these barriers to foster a more inclusive and efficient cashless economy.

Keywords: Cashless payments; Retail enterprises; Philippines.

1.0 Introduction

Consumers are gradually transitioning from traditional payment methods to contactless devices, driven by the advent of new mobile and other cashless payment technologies. These innovative payment mechanisms eliminate the need for cash as a medium of exchange, thereby reducing cash management costs and enhancing security. They also offer consumers convenience and leave a data trail that can benefit budgeting, accounting, and tax compliance. Cashless payment methods have numerous benefits and are rapidly gaining recognition and popularity.

The COVID-19 pandemic expanded the global adoption of cashless payments (Gorshkov, 2021). According to Pal and Bhadada (2020), the virus responsible for the COVID-19 pandemic, SARS-CoV-2, may spread via banknotes and coins. Therefore, during the pandemic, cashless payment options became increasingly prevalent. It is especially relevant in the Philippines, where the pandemic has become the primary driver of growth in online purchasing, particularly cashless transactions made through e-commerce apps like Lazada and Shopee and food delivery apps like Foodpanda and Grab. Mobile wallets, also known as digital or e-wallets, have become more popular amid fears of the virus spreading. GCash and Maya, the country's major mobile wallet platforms, reported a significant increase in transaction value.

The Visa Survey of 2022 Consumer Payment Attitudes disclosed that 92% of Filipino consumers use cashless purchases during the pandemic. 78% expect to conduct more cashless transactions. 79% believe it is safer to pay electronically. Even in the wake of the pandemic and the "new normal," Filipino consumers are receptive and eager to adopt cashless payment options, as seen in the statistics above. Moreover, the Bangko Sentral ng Pilipinas

(BSP), the country's central bank, has stated that the use of cashless payments has increased by "more than 5,000%" as a result of the pandemic, owing to the increasingly widespread use of Quick Response (QR) codes to transfer money between individuals and merchants (Hilotin, 2021). According to the same Visa survey, 71% of Filipinos prefer establishments that accept cashless payment options. This should encourage businesses to utilize cashless payments since the mode of payment affects consumer behavior. When cash is used, less money is spent, and fewer products are purchased (Khan, 2011). The consumer basket value increases when cashless payment is used compared to hard cash payments (Abidi & Khan, 2019). These results should allow businesses to obtain a competitive advantage, specifically for retail merchants directly serving consumers.

However, many businesses have not yet adopted cashless payment systems. According to the Financial Inclusion Survey of BSP, 93% of payments made in 2021 were paid in cash. Cash is still the most popular method among those who pay the private sector and government. Additionally, BSP reported that only 12% of person-to-business (P2B) payments are digital in its Digital Payments Transformation Roadmap Report. P2B payments offer tremendous potential for the adoption of cashless payments. However, most merchants, or micro, small, and medium enterprises (MSMEs), do not support cashless payments. 1,076,122 MSMEs (99.6% of all establishments) are among the 1,080,638 establishments in the Philippine Statistics Authority's (PSA) 2021 List of Establishments. Most of the MSMEs in the Philippines comprise retail stores serving consumers daily. Moreover, just 18% of business-to-person (B2P) payments, which include salary and wage payments, are digital. The bulk of workers continue to be paid using cash and checks. In addition, supplier payments or B2B (business-to-business) payments continue to rely primarily on cash. According to BSP, 85% of all volume-based supplier payments were made in cash. Acopiado et al. (2022) mentioned in their study that adopters of digital payment technology were mostly medium to large enterprises. Larger companies adopt digital technologies because they have access to more advanced resources for employee skill development and a deep understanding of the significance of technology (Serafica, 2016).

Republic Act No. 111271, commonly called "The National Payment Systems Act," acknowledges the significance of payment systems as integral elements of the country's financial infrastructure. It further acknowledges that the stability and efficacy of the monetary and financial systems are contingent upon the secure and efficient functioning of these systems. The Bangko Sentral ng Pilipinas (BSP), the government agency responsible for ensuring the stability and efficacy of payment systems in the country, expresses its support for digitalizing payments by micro, small, and medium enterprises (MSMEs) as they grow. BSP has issued implementing guidelines regarding registering promotions and adopting digital payments. However, some enterprises have yet to embrace digital or cashless payments. Furthermore, retail enterprises still encounter challenges that prevent them from using cashless payment methods despite the government's ongoing efforts to facilitate the adoption of these methods. The fact that these retail stores make up the bulk of establishments operating in the Philippines underlines their significance to economic growth. These retail stores, which are MSMEs, provide Filipinos employment, aiding the fight against poverty. They produced 62.66% of all employment in the country in 2020. These businesses contribute to the country's Gross Domestic Product (GDP). In 2020, 25% of the nation's total export revenue came from MSMEs (Philippine Statistics Authority, 2021). Therefore, it is essential to recognize that MSMEs, specifically retail enterprises, continue to face impediments to cashless payment adoption, which may hamper their ability to achieve their business objectives. Retail enterprises are vital in supplying the needs and wants of residents in Legazpi City, its adjacent cities, municipalities, and even provinces. Hence, this study assessed retail enterprises' adoption of cashless payments in Legazpi City.

2.0 Methodology

2.1 Research Design

The research employed both qualitative and quantitative analyses. This methodology involved collecting a wide range of perspectives from diverse participants and identifying the essential elements of the situation being evaluated to obtain substantial data that lead the researcher to reliable findings. The design involved talking directly to the study participants as the researcher gained in-depth information regarding the subject matter. Furthermore, the study is characterized by its descriptive nature since it provided a comprehensive description of the phenomenon under investigation, namely the use of cashless payments by retail enterprises.

2.2 Research Participants

The study's participants are 50 owners/managers of retail enterprises in Legazpi, determined using stratified sampling. The retail enterprises are adopters of cashless payment systems. Adopters refer to businesses that have implemented at least one (1) cashless payment method during the in-person interview. The research was centered on Legazpi City, with particular emphasis on the Legazpi Port District, which serves as the City's commercial business district.

2.3 Research Instrument

This study used a semi-structured interview guide to obtain data from the study participants. The researcher made an interview guide for soliciting questions and documenting responses before the interviews. Each participant was interviewed using open-ended questions to gather their insights and opinions.

2.4 Data Gathering Procedure

To obtain their consent, the researcher corresponded with the study participants using a written letter, which was disseminated before the in-person interview. The local dialect was employed during face-to-face interviews with individuals who were more familiar and comfortable with it. The interviewer ensured that the interview questions were translated to facilitate participants' comprehension and enable them to deliver suitable responses.

2.5 Data Analysis

The research employed both qualitative and quantitative analyses. The qualitative analysis of the study encompassed a methodical process of identifying themes and patterns within the data, which were subsequently interpreted. The researcher used several techniques, including analysis of word repetitions, key-words-in-context (KWIC), and utilization of a compare approach. Frequently occurring words were perceived to be significant. Themes were identified through the process of categorizing samples into groups that share similar meanings. The compare and contrast approach was used to identify and analyze the similarities and differences across texts. This study also used descriptive statistics, including frequency distribution and rankings. The researcher identified relevant concepts within the dataset and converted them into quantitative data to facilitate subsequent comparisons and analyses.

2.6 Ethical Considerations

Through a letter to the participants, the researcher obtained the participants' permission to conduct the study before data collection. The participants obtained complete disclosure regarding the following: identification of the researcher and the educational institution, provision of contact information in case questions arise, selection of participants, the purpose of the research, benefits of participation, level, and type of participant involvement, assurance of confidentiality and anonymity, and the participant's right to withdraw from the study at any time. The City of Legazpi, particularly the Mayor's Office, was also informed of the study when the researcher requested pertinent information to set the study's population and sample size.

3.0 Results and Discussion

3.1 Profile of Retail Enterprises in Legazpi City

Table 1. Descriptive statistics of the profile of the retail enterprises in Legazpi City

	Frequency	Ranking
Form of Business Organization		
Sole Proprietorship	34	1
Partnership	0	3
Corporation	16	2
Type of Enterprise		
Micro (1-9 employees)	50	1
Small (10-99 employees)	0	2
Medium (100-199 employees)	0	2
Length of Operations		
Less than one year	6	4
One year to less than five years	16	2
Five years to less than ten years	21	1
Ten years or more	7	3

The generalizability of the results is limited by the narrow scope of the retail organizations interviewed since all businesses included were micro-enterprises with a workforce of fewer than ten individuals. The researcher opted to employ the classification provided by the Philippine Statistics Authority (PSA) in determining the categorization of micro, small, and medium enterprises (MSMEs), as opposed to relying on the Magna Carta for MSMEs (Republic Act No. 9501). Although according to the Philippine Statistics Authority (PSA) List of Establishments 2021, micro-enterprises comprise the highest proportion among the three (3) categories of enterprises, namely micro, small, and medium, due to the lack of data on small and medium enterprises, the results cannot confirm that the conclusions derived from the study apply to micro, small, and medium enterprises (MSMEs) in general.

The influence of technology adoption in organizations remains consistent regardless of the differing lengths of operations observed across the companies under examination. Some businesses sustained operations spanning more than ten (10) years, whereas others are still in their formative stages, having been actively operating for only a few months. Therefore, the research findings partially align with previous investigations' findings. To begin with, a positive association exists between the age or length of a business and its adoption rate. Organizations increasingly recognize technology as crucial for attaining sustainability as they evolve and accumulate expertise. Furthermore, Trinugroho et al. (2021) have presented findings that demonstrate a favorable association between the utilization of digital technology and the existence of younger businesses and individuals who possess internet connectivity.

3.2 Cashless Payment Methods

Table 2 presents the cashless payment methods retail enterprises use in Legazpi City.

Table 2. Descriptive statistics of the cashless payment methods used by retail enterprises in Legazpi City

	Frequency	Ranking
Person to Business (P2B) Payments		
Credit/Debit Card	10	3
GCash	49	1
Maya	12	2
Online banking	6	4
None (Cash)	0	5
Business to Person (B2P) Payments		
Debit Card (ATM)	11	2
Online Banking	0	4
GCash	1	3
None (Cash)	38	1
Business to Business (B2B) Payments		
Credit/Debit card	0	4
Online Banking	32	1
GCash	9	3
None (Cash)	18	2

Mobile Wallets

GCash, a mobile application holding a mobile wallet, e-wallet, or e-money, is the most used cashless payment method among the retail enterprises involved in the study, specifically for consumer payments or P2B (person-to-business) transactions. A limited number of retail firms (18%) utilized the mobile application for B2B (business-to-business) payments. In contrast, 2% of the surveyed retail firms have adopted mobile wallet technology to facilitate B2P (Business-to-person) payments. This observation indicates that GCash is not commonly utilized to pay suppliers for merchandise bought and remunerate employees despite its popularity in consumer payments.

Other mobile wallet platforms are available in the country, such as Maya, Coins PH, GrabPay, PayPal, BanKo, Moneygment, Alipay, DragonPay Credits, Lazada Wallet, ShopeePay, 7-11 CLIQQ Pay are not commonly used by retail enterprises in Legazpi City. This observation highlights the lack of success in the Department of Trade and Industry (DTI) endorsements for different digital wallet platforms. Among the endorsed platforms, only one (1) (GCash) has achieved popularity in the retail sector, specifically in Legazpi City.

Online Banking

Online banking is the second most frequently utilized form of cashless payment. The bank involved is contingent upon the bank account held by the retailer and the sender or receiver of the payment. The study indicates that online banking is frequently employed for supplier payments or business-to-business (B2B) transactions. This phenomenon can be attributed to the amount of funds transferred between two (2) bank accounts. The transaction limits for online banking are typically higher than those for mobile wallets, with the specific limits varying depending on the bank. Another contributing factor is the tendency for users to maintain higher balances in their bank accounts relative to their mobile wallets. This can be attributed to security, wallet limit, and the earned interest in a bank account. Furthermore, individuals can circumvent the associated charges incurred when moving funds from a regular bank account to a mobile wallet account, followed by transferring funds to another bank account. Consumer or P2B payments using online banking are utilized only by a few retail enterprises, while B2P payments using online banking are uncommon. Online banking is only an option for paid employees using debit cards. They can access their earnings in their payroll account by utilizing an ATM (automated teller machine) card (a debit card) issued to them or by effectively overseeing and controlling their finances by utilizing the bank's mobile application.

Credit/Debit Cards

The utilization of card payments, such as credit and debit cards, is limited to a small number of retail establishments. This may be because the study's respondents were all micro-merchants, constituting a significant study limitation. It is imperative to acknowledge that the operation of card payments is contingent upon utilizing payment terminals. The acquisition of these payment terminals is facilitated through financial institutions, including banks such as BPI and BDO, as well as fintech companies like Maya. (Note: Fintech is a portmanteau derived from the combination of the terms "financial" and "technology." "Financial technology" encompasses various applications, software, and technological tools that enable individuals or organizations to digitally access, manage, analyze, or execute financial transactions. (Trificana, 2023).) Maintenance of payment terminals requires a monthly threshold of transactions. The ability of micro merchants to meet the requirements set by banks and fintech companies may vary depending on certain conditions such as daily sales level, income, and financial position. Furthermore, card payments include supplementary expenses, including fees accompanying each transaction and the fixed cost represented by the subscription fee. The observation that all respondents are micro merchants provides a potential explanation for the low number of card payment acceptance in this retail enterprise in Legazpi City since micro-enterprises are described to have high volume, low-value transactions.

Moreover, based on the findings, some retail enterprises that adopted cashless payments in P2B payments do not necessarily use cashless payments in B2P and B2B payments. Some only make use of cashless payments in consumer payments. The results build on existing evidence of the following: 1) According to the Visa Survey of 2022 Consumer Payment Attitudes, a significant majority of 92% of Filipinos employed cashless payment methods when purchasing goods and services. 2) The Bangko Sentral ng Pilipinas (BSP) report highlights that B2P transactions, specifically the remuneration of salaries and wages, accounted for a mere 18% of the overall payment landscape. 3) Additionally, the reliance on cash remains prevalent in B2B transactions, which involve settling supplier payments. Hence, this shows that some of the retail enterprises in the study are still reliant on cash in their business transactions apart from consumer payments.

3.3 Factors Influencing Cashless Payment Adoption

The factors under consideration include ease of use, device barriers, trust and security, availability of resources, and social influence (see Table 3).

Table 3. Descriptive statistics of the factors influencing cashless payment adoption

	Frequency	Ranking
Ease of Use	36	2
Device Barriers	6	5
Trust & Security	15	4
Availability of Resources	21	3
Social Influence	44	1

These factors influenced the decision-making process of retail firms in adopting cashless payments. Based on the Technology-Organization-Environment (TOE) Framework, the technology component encompasses the factors of ease of use and device barriers. The organization component includes trust, security, and availability of resources, while the environmental aspect covers the social influence factor. The factors above are consistent with the findings of Raj et al. (2022), where the authors identified perceived ease of use, device barrier, anxiety, perceived cost, and social influence, among other variables, as influencing factors to cashless transactions.

Ease of Use and Device Barriers

Ease of use pertains to an individual's perception of the effort required to utilize a specific system. Cashless payments provide convenience to both parties involved in cashless payment transactions. People see cashless payments as convenient because they eliminate the need to carry physical currency. (Ching, 2017; Ha, 2020; and Francisco, 2020). Consumers and businesses can pay the exact amount of the transaction without causing concerns for the other party regarding change availability. (Dave, n.d.). Different cashless payments are very accessible nowadays. Before, most cashless payment users needed a bank account to use a credit and debit card for payments. Today, even unbanked individuals can use cashless payment methods like mobile wallets. Mobile wallets do not require their users to have a bank account. Instead, they only require an individual to have a cellphone number registered to a telco (telecommunications service provider). Ease of use also refers to learnability.

Many respondents reported that it is easy to get familiar with cashless payments, specifically mobile wallets since it is a mobile application just like other applications on their cellular phones. However, a small subset of store owners (identified by the researcher as middle-aged adults (50-59)) have a contrasting viewpoint. The individual's attitude towards the technology is detached. Additionally, there is a perception among specific individuals that the necessary tools for cashless transactions, such as mobile phones, payment terminals, laptops, or computers, pose challenges in terms of usability. Device barriers encompass various aspects that include user interface, simplicity of navigation and input, display clarity, and the quality of the mobile device. These characteristics can significantly influence the user's opinion of service quality, thus affecting their inclination to utilize mobile payment methods.

Adopting the technology above was mainly influenced by the presence of proficient staff capable of utilizing it. This aligns with the complexity characteristic defined by the Diffusion of Innovation (DOI) theory, utilized as a theoretical framework in this study. Complexity refers to the extent to which an innovation is relatively challenging to comprehend and utilize. Retail firms carefully evaluate the complex nature of the technology they intend to employ before its implementation. These enterprises must adopt technology that does not impose a burden but facilitates operations and enhances efficiency.

Trust and Security

Trust and security are two interrelated factors. Individuals may worry and worry while considering the security, safety, and utilization elements of technology, particularly about cashless payment systems. Therefore, it is imperative to consider both trust and security when using cashless payment systems. The study observed that in addition to the ease-of-use factor, respondents expressed confidence in the security of their digital payment methods. However, this does not apply to all. Some respondents reported experiencing issues, including financial losses when using cashless payment methods. Users must trust cashless payment technologies. Trust is also an important factor in financial inclusion, which enables financial services to be available to a wide range of users (e.g., bank account ownership, access to credit and insurance, etc.) Financial inclusion is a step to the shift from using cash to cashless payments. Hence, financial inclusion should be prioritized so that cashless payment technologies can also be enhanced.

Availability of Resources

The availability of resources within an organization also influences the adoption of cashless payments. The system's proper utilization necessitates internet access and the employment of suitable equipment or devices to allow the execution of transactions. Multiple respondents have indicated that they own Wi-Fi connectivity within their respective enterprises, hence facilitating the establishment of an Internet connection. In contrast, retail enterprises without Wi-Fi rely on mobile data for internet connectivity. The availability and quality of mobile data services are contingent upon the signal strength provided by the telcos (telecommunications service providers).

Additional resources required include electronic devices such as cellular phones, card payment terminals, laptops, and computers. Furthermore, it is crucial to acknowledge that resources could also encompass sufficient financial means to cover the necessary expenses of utilizing cashless payment methods. Availability of resources is synonymous with perceived cost, which refers to the subjective evaluation of the expenses associated with utilizing technologies, encompassing the procurement of necessary gadgets, internet expenditures, and fees imposed by financial institutions and banks.

Social Influence

Social influence refers to the phenomena in which individuals are affected by the attitudes, beliefs, and behaviors of others. According to the study's findings, most retail firms have committed to meeting their customers' demands by accepting at least one (1) cashless payment method. Most of the study's respondents underscored their customers' significant impact on integrating cashless payment systems within their enterprises. This is consistent with the findings of Chairunnisa et al. (2020) and Xena and Rahadi (2019), who identified the social influence component as a factor that needs to be considered before adopting cashless payments. Given the preference of numerous customers for cashless payment alternatives, retail businesses have duly considered the potential revenue implications associated with policies aimed at accommodating cashless payments.

The finding above aligns with the research conducted by Heckel and Waldenberger (2022) and Francisco (2020), which stresses the tendency of consumers to favor establishments that provide diverse options for cashless transactions and the subsequent impact on sales. Social media and digital platforms can also facilitate social influence in the adoption of cashless payment. Social media serves as a platform for marketing different cashless payment methods, which, in return, influences merchants such as micro retail enterprises. Promoting cashless payment systems to merchants and their stakeholders, particularly customers is crucial for achieving widespread acceptance. Marketing plays a significant role in raising awareness among consumers and businesses about its various aspects, including its features, benefits, costs, promotions, and incentives.

As a result of this phenomenon, marketing strategies have the potential to persuade both people and businesses to transition from utilizing physical currency to adopting cashless payment methods. Marketing allows payment services to differentiate their offerings from competitors so that users have varying options. It plays a crucial role in fostering confidence and establishing credibility between suppliers of cashless payment solutions and their end consumers. Marketing helps payment service providers to retain their users through personalized offers and updates regarding their services. Marketing can provide pertinent information, such as tutorials regarding cashless payment usage, to help users understand how to use it effectively. Finally, marketing serves as a means of obtaining input from its user base. This feedback can potentially assist payment service providers in improving their cashless payment services.

3.4 Challenges Encountered Before Cashless Payment Adoption

Adopting cashless payment methods presents organizations with the problem of managing technological complexities, especially with middle-aged and older people (see Table 4). Several store owners who were interviewed expressed their perception that using cell phones and mobile applications for cashless payments is complicated. Middle-aged and older persons with limited knowledge and expertise in technology frequently encounter the psychological factor of lacking confidence due to their limited exposure and unfamiliarity with rapid technological progressions. Most cashless payment technologies have only been popular recently. It may be stressful for these people to learn the technology, and they may fear failing to learn it.

Table 4. Descriptive statistics of the challenges encountered prior to cashless payment adoption

	Frequency	Ranking
Technological complexities	6	4
Satisfying client demands in terms of a variety of cashless payments offered	15	2
Meeting requirements of cashless payment	26	1
None	12	3

Moreover, middle-aged and older individuals can experience various physical barriers, like visual and hearing impairments, or muscle conditions such as arthritis, which can potentially impede or restrict their capacity to effectively make use of technology such as smartphones, terminals, laptops, and computers that are necessary for

cashless payment adoption. Digital ageism, which pertains to the social marginalization of older individuals with the advancement and utilization of digital platforms, leading to a discernible separation between physical and digital realms (Chu et al., 2022), may manifest itself in businesses adopting cashless payment systems. Therefore, it is imperative to look into this issue. These individuals depend on younger staff members with the knowledge and skills to effectively manage emerging technologies. Therefore, as per the interviews conducted with these primary sources, it was seen that they have designated individuals to handle the implementation of cashless payment options within their retail business. This strategic decision was made to accommodate customers who prefer non-cash payment methods. According to Ching (2017), the availability of user-friendly software and systems will encourage the adoption of digital payment methods. This should be true for middle-aged and older adults as well. Technology should also cater to these age groups' needs, not just certain ones.

Before implementing cashless payment systems, several respondents reported encountering an issue with achieving customer expectations about various available payment methods. This compelled them to embrace a minimum of one (1) cashless payment method to accommodate the demands of their customers. This trend can also be observed in retail firms that have previously implemented a cashless payment system. Customers search for various cashless payment options because they do not always use one payment method. Retail businesses consider it a challenge since their clients frequently seek additional options. In the context of B2P payments, the recipients and employees of the respective businesses do not possess discretionary power to determine the payment method for their salaries and wages. The decision rests on the organization, which is its employer. The scope of this investigation does not encompass that particular area. Therefore, it has the potential to be a subject of future research. A future study endeavor might be undertaken to assess the inclination of employees towards various forms of salary payments.

To facilitate debit and credit card payments, a financial institution issues a terminal necessary for the transaction. Obtaining the terminal posed a significant issue for some retail firms that have embraced the adoption of cashless payment systems since specific requirements need to be met before receiving one, depending on the financial institution that will provide the payment terminal. In connection with the availability of resources, retail enterprises should be able to cover the expenses associated with using card payment terminals. On the other hand, a steady internet connection (either by Wi-Fi or mobile data) and a device that will support the mobile application linked with these cashless payment options are necessary for mobile wallets and online banking. To facilitate cashless transactions, businesses must furnish the necessary equipment, which incurs associated expenses. Therefore, retail enterprises should exercise caution and thoroughly evaluate the financial implications before selecting the cashless payment methods they intend to use.

3.5 Challenges Encountered After Cashless Payment Adoption

Table 5. Descriptive statistics of the challenges encountered prior to cashless payment adoption

	Frequency	Ranking
Technological difficulties	47	1
Lack of cash-in and cash-out machine	3	3
Finance costs imposed by banks/fintech companies	6	2
None	0	4

As shown in Table 5, the primary type of challenge respondents of the study experienced was technological challenges after implementing cashless payment systems. Store owners and managers have claimed instances of delayed or nonexistent notifications regarding payment receipts from consumers, unexpected system maintenance or issues with the mobile application, unaccounted financial losses, and poor internet connectivity. The matter of internet connectivity is not surprising considering the June 2023 data from Ookla's Speedtest Global Index, which positions the Philippines at 83rd in mobile and fixed broadband speeds. The country has long been plagued by poor internet connectivity, which hurts cashless payments. Issues with the use of automated teller machines (ATM) and cash-in machines have been associated with cashless payments as well because merchants must take money from their mobile wallet (cash-out) and bank account (withdraw) and put money into their mobile wallet (cash-in), respectively. It should also be noted that certain card terminals tend to unexpectedly disconnect from their online network, thereby catching users off guard. This sudden offline status of the terminals creates a sense of surprise, as businesses cannot utilize them to accept card payments. Certain card terminals may

be outdated due to their reliance on point-of-sale (POS) equipment. Wireless payment terminals, which are increasingly prevalent, operate independently of point-of-sale (POS) devices. It can be utilized if an internet connection is available, and a sim card is registered correctly with the device.

Moreover, unaccounted financial loss has been an issue for a few study participants. In the past, multiple cash losses occurred in mobile wallets and bank accounts that were subsequently disclosed on social media platforms. Unexpectedly, one's hard-earned money can become misplaced within the digital realm. People are concerned about their online security. Certain concerns were resolved, while others remained unresolved, as indicated in the study's findings. It is also important to acknowledge that electronic money, also known as e-money, stored in mobile wallets does not fall under the scope of insurance provided by the Philippine Deposit Insurance Corporation (PDIC). The PDIC's insurance coverage is designed to protect depositors of member banks, offering insurance coverage of up to P500,000 per depositor per bank. For funds to be eligible for insurance coverage by the Philippine Deposit Insurance Corporation (PDIC), they must be deposited in a bank account rather than being held in alternative forms such as electronic money or mobile wallet platforms.

These technological challenges prove that despite technological advances, it is not perfect. At the same time, it means that there is room for improvement. According to Acopiado et al. (2022), ensuring the enhancement of data security measures for those utilizing cashless payment systems should be seen as a paramount concern. This aligns with the conclusions drawn by Ching (2017), who argued that advancing more secure electronic payment systems would contribute to the expansion of cashless transactions. Moreover, Sahoo and Arora (2017) stated that using cashless payments poses a lower risk than using physical currency if sufficient cybersecurity exists. Hence, fixing these technological issues is imperative to ensure the smooth operations of cashless payment technologies. It is crucial to recognize that stakeholders within the cashless payment ecosystem are responsible for improving digital payment systems. It is worth acknowledging that a significant challenge faced by most retail firms participating in the study pertains to technological challenges. Addressing this issue is crucial for stakeholders seeking to promote the growth of cashless payments. This issue necessitates the involvement of various stakeholders, including regulators, policymakers, cashless payment service providers, media and content creators, merchants, and consumers.

In addition to technological challenges, the research has revealed a deficiency in cash-in and cash-out machines linked to mobile wallets. Despite the extensive network of partners that mobile wallet providers like GCash have established to facilitate the inflow and outflow of money for its users, these efforts may not be sufficient. Certain partner retailers impose substantial fees that can prove costly for mobile wallet users. This observation highlights the existing demand for additional cash-in machines. Furthermore, the machines could include cash-out functionalities, resembling the automated teller machines (ATMs) commonly seen in banks. The machines are unique to mobile wallets since they will not require EMV chip-based cards. As a result, these devices will no longer be referred to as cash-in machines, as they will now facilitate cash-in and cash-out transactions. Enojas et al. (2023) conducted a study wherein they successfully designed and developed a G-Cash machine capable of facilitating cash-in and cash-out functions. The designed machine can take Philippine peso bills. The machine underwent evaluation in the conducted study, whereby its functionality, acceptability, and usefulness were assessed, resulting in favorable outcomes. Globe Fintech Innovations Inc., the corporate entity responsible for GCash, has the potential to leverage this design to develop a future-oriented machine for its users to utilize. Apart from the acceptability of peso bills in cash-in and out machines, GCash could investigate a deposit machine that enables coins to be deposited, such as Bangko Sentral ng Pilipinas' Coin Deposit Machine (CoDMs), which was launched last June 2023. CoDMS allows the public to deposit coins and store the value of those coins in their e-wallet or mobile wallet accounts or shopping vouchers of a well-known shopping mall in the Philippines. After only four (4) months since CoDMS was launched, P98.9 million coins have been deposited into the machines from over 37,000 transactions; the highest single transaction recorded so far among the CoDMS is worth P100,260. (Bangko Sentral ng Pilipinas, 2023). This shows that there is also a demand for machines that allow the public to deposit their coins. This can be viewed as an opportunity for cashless payment providers.

Lastly, some individuals identified charges imposed by banks and fintech companies as challenges in using cashless payment methods. Banks and fintech companies levy fees as a method of generating income. The income generation strategy employed by this financial institution is monetizing the services offered to customers,

particularly merchants utilizing card payment terminals for consumer payments. Understanding that these companies must also be compensated for their services is essential. Retail businesses should comprehensively analyze the benefits that cashless payments offer their firm, compared with the associated fees. By doing so, they will recognize that offering a variety of cashless payment alternatives is beneficial, as it effectively offsets the finance costs imposed by financial institutions. However, this could be mitigated.

4.0 Conclusion

As the digitalization of payments continues to grow, it is important to understand the overall experience of adopters. The following statements present the conclusions drawn from the study: 1) retail businesses in Legazpi City accept mobile wallet platforms such as GCash and Maya, bank transfers (online banking), and credit and debit cards as cashless payment options; 2) ease of use, device barriers, trust & security, availability of resources, and social influence are essential factors that retail enterprises in Legazpi City consider in cashless payment adoption; and 3) retail enterprises face several challenges prior to and after cashless payment adoption which involves effectively managing technological complexities linked to these systems, satisfying client demands in terms of the variety of cashless payment options provided, meeting the requirements for the selected cashless payment alternatives, lack of cash-in and cash-out machines for mobile wallet platforms and the finance costs imposed by banks/fintech companies.

The shift from utilizing cash to cashless payments is an endeavor that necessitates continuous improvements. Stakeholders should work together to improve such systems, considering the benefits they provide to their users. The recommendations of this study aimed to address the challenges encountered by retail enterprises in Legazpi City in cashless payment adoption and to promote cashless payment use in retail businesses, in general. The recommendations are as follows: 1) the government should continue its efforts in financial inclusion and financial literacy among Filipinos since it directly affects the rate of cashless payment adoption, improve internet connectivity across the nation since poor internet connection has a negative effect on cashless payment use, consider insuring e-money, work with payment service providers to make card payment terminals cheaper and more accessible; 2) payment service providers should prioritize addressing technological concerns faced by their users, implement additional security measures, enhance the present functionality of their mobile applications, develop a machine that incorporates both cash-in and cash-out functions, promote the adoption of wireless payment terminals, deploy agents to MSMEs to conduct periodic inspections of their system use at the grassroots level, develop a system for salary payments and employ various promotional strategies, including social media marketing to MSMEs; and 3) retail enterprises should prominently display signage on their entrances or in highly visible locations such as the cashier counter indicating that they accept cashless payments to inform and encourage customers and indicate that they accept cashless payments in their social media platforms (if any).

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7.0 Conflict of Interests

The author asserts that there are no conflicts of interest regarding the publishing of this paper.

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