

**MITIGATING THE COVID-19 ECONOMIC FREEZE:
HOW E-WALLETS PROPEL BUSINESS PRODUCTIVITY
IN TACLOBAN CITY, PHILIPPINES**

By

**MARIANE NOELLE A. ACOL
CAMILLE D. MERGAL
SHARA MICHELLE J. VY**



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ABSTRACT

The outbreak of the Coronavirus (COVID-19) drove the Philippines to go into lockdown. This resulted in many shocks to the actual economy, halting production in both households and businesses. Transactions and trade have been forced towards digitized processes utilizing e-wallets and other contactless means of payment due to the limits of physical mobility and the risks of managing physical money. E-wallets' propensity to stimulate economic growth goes beyond safety, security and ease of use. From this premise, this qualitative study sought to investigate the possibility of these e-wallets to assist in the restoration of the economy of Tacloban City, Leyte, by minimizing the effects of COVID-19 on local businesses. With a purposive sampling method, a total of fifteen (15) businesses who use e-wallets were selected to participate in this study. Data was collected through online interviews and analysed through thematic and content analysis. This study found that Tacloban City's situation amidst the COVID-19 pandemic called for greater use of digital payment platforms, for contactless and safer business transactions, yet the increase in adoption of e-wallets has been gradual. The aspect in businesses in which e-wallets contributed to the most was to the operations and increase of sales, while minimal effects to the activities in financing and investments.

KEYWORDS: e-wallets; business productivity; COVID-19; digital payments; real economic freeze

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CHAPTER 1

INTRODUCTION

The severity of economic doldrums bred by the COVID-19 pandemic is sorely evident in the Philippines, an emerging economy that had been forced into one of its deepest recession in history. Eastern Visayas (Region 8), in particular, faced the brunt of the recession, its economy shrinking by 7.6% in 2020. Industries in Tacloban City, the center of trade and commerce in the region, have been caught unprepared: some businesses were forced to close, some drowned in bankruptcy.

According to a study by Carlsson-Szlezak, Reeves, and Swartz (2020), the current public health crisis has manifested itself in the so-called "twin threats" to the real economy and the financial system. The slumps in the financial sector are characterized by slumps in capital formation and investment; whereas, the real economy freeze cripples the flow of production and cash flows in households and businesses. Both of these shocks decelerate economic growth.

Innovation is a measure to minimize the repercussions of the shocks in the financial system and real economy (Carlsson-Szlezak et al., 2020). Amid restrictions in physical mobility and the risk of handling hard currencies, payments and commerce have been pushed into digital procedures through e-wallets and other contactless modes of payment. Beyond the convenience and safety of e-wallets is its ability to propel economic growth (Visa, 2021). It has reduced the friction in the real economy, invigorating exchange on goods and services. Increased spending and consumption consequently leads to increased production, labor participation, and income, and ultimately, a more robust economic growth (Zandi et al., 2016).

E-wallets increase the velocity of money, meaning goods and services are exchanged more frequently. Higher velocity of money in the economy is indicative of a healthy

economy: money moves more frequently towards purchases and other forms of spending, leading to higher demand and justifying a higher degree of production. They also extend financial services to the previously unbanked population, promoting consumer confidence and financial inclusion. It also brings shadow transactions to the formal financial system and increases tax revenues to the government (Visa, 2021).

According to a five-year study by Moody's Analytics (2016), increased penetration rates of digital payments translates to increased gross domestic product (GDP). A one-percent increase in digital payments adoption corresponds to \$104 billion in GDP growth in developed and developing countries (Moody's Analytics, 2016). Statista (2020) reports that e-wallets penetration rate in the Philippines have reached 22.4 percent as of 2020, and is expected to increase up to 63.4 percent in 2025.

There are a myriad of existing studies on the implication of digital payments, especially online banking, QR codes on the business sector and the economy as a whole, but there is a research gap on e-wallets. E-wallets are a fairly new innovation that only became mainstream in 2015 with the release of digital wallets from Apple and Samsung. GCash and Paymaya, the leading ewallet providers in the Philippines, were also launched around the same year, but gained prominence during the COVID-19 pandemic due to its convenience and safety.

Based on the notion that innovation is the key to cushion the damages of the COVID-19 pandemic, particularly the damages on cash flow and production in households and businesses, the researchers arrived at the idea that e-wallets, as an innovation, have a potential to mitigate the disruptions in businesses, and the innovation output will further contribute to the economy. The proponents wanted to confirm if e-wallets, in fact, can redefine business dynamics in the midst of the pandemic.

As one of the highly urbanized cities in the Philippines, Tacloban City is a strong prospect as the research locale. The results of this undertaking will (1) reveal how the use of e-wallet systems galvanize the firm-level cash flows and production of goods and services in enterprises in Tacloban City; and (2) illustrate how e-wallet penetration minimizes damages in the real economy during the COVID-19 pandemic.

Statement of the Problem

Despite the decline in economic action during the COVID-19 pandemic, there has been a surge in the use of digital wallets. In 2020, digital payments accounted for 27% of the total value of payment transactions in the Philippines (Statista, 2020). The leading Philippine e-wallet provider, GCash, now has 60 million user accounts, which is 80% of the Filipino adult population. The public health crisis has paved the way to accelerate the adoption of e-wallets in the country. This also presents an opportunity to maximize the potential of the innovation to transform the current payment ecosystem, and contribute to the recovery of the economy. Therefore, the primary objective of this study is to investigate the role of e-wallets in minimizing the effects of the “real economy freeze” brought by the COVID-19 pandemic to the businesses in Tacloban City. To obtain all the essential knowledge, information, and data, the research sought to answer the following questions:

General Question: How do e-wallets mitigate the pandemic-induced damages to liquidity, production, and growth in enterprises in Tacloban City?

Specific Questions:

1. How do e-wallets galvanize cash flows and production of goods and services in business through strengthening activities in:
 - a. Operations;

- b. Financing; and,
 - c. Investments;
2. What are the implications of business productivity attributed to e-wallet penetration in businesses to the local economy?

Assumptions

The researchers assume that e-wallets can be used to address the damage mechanisms of the COVID-19 pandemic, particularly shocks to the real economy, because:

1. It promotes exchange of goods, services, and money in the current health crisis despite physical restrictions;
2. It drives business productivity through strengthening cash flows in operations, financing and investing activities, which leads to greater production of goods and services, and consequently, spending;
3. The use of e-wallets and its ensuing effects to business productivity have positive implications to certain industries of Tacloban City.

Theoretical Framework

This study will make use of the Crépon, Duguet, and Mairesse (CDM) framework in order to identify how the innovation in digital payments, that is the e-wallets, address the shocks to the real economy. The CDM framework was modeled to account for innovation's impact on firm-level productivity. The idea behind this framework is that the innovation input applied by the firm leads to innovation output, manifesting in their products or in production methods, which ultimately results in productivity growth.

The structure and perspective offered by the said theory will help in investigating how e-wallets, as an innovation input and as a change to the financial system, address the major concerns of this study which is the disruption in the cash flows and production in businesses.

Conceptual Framework

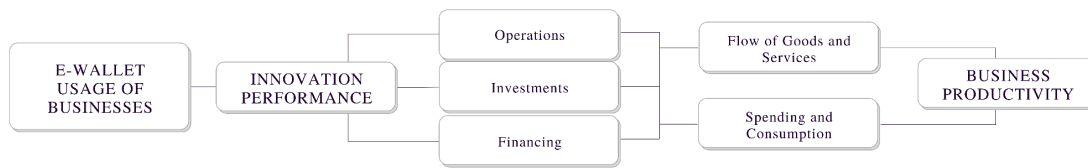


Figure 1. Research Model

This study is based on two premises: (1) the Carlsson-Szlezak, Swartz, & Reeves' Twin Economic Threats from COVID-19, that illustrates the risks brought by financial system shocks and real economy freeze to the economy, and (2) the Crépon, Duguet, and Mairesse (CDM) framework that accounts for innovation's impact on a firm's productivity. By connecting these two frameworks, the proponents were able to solidify the main assumption of our study: e-wallets, as an innovation, have potential to galvanize firm-level productivity, and this innovation output will further contribute to the economy.

The study aims to showcase how e-wallets can be used to mitigate the repercussions of the COVID-19 crisis, specifically on the economic freeze. Through the integration of e-wallets in enterprises, cash flow activities for operations, investments, and financing are driven forward despite the pandemic. This promotes a greater degree of production of goods and services, thereby encouraging spending and consumption in the economy.

Scope and Delimitation

The objectives of the research was centered on the role of e-wallets in addressing the damage mechanisms of the COVID-19 pandemic limited to shocks to the real economy in Tacloban City, Philippines. It investigated how e-wallets drive the following indicators in cash flow: (a) operations; (b) financing; and, (c) investment. Other damages caused by the

pandemic on physical and psychological health, environment, and the political arena were not considered, because these were not directly related to the use of e-wallets.

Impacts of e-wallet usage were studied within a two-year timeframe from the start of the COVID-19 pandemic to the present. As this research primarily aimed to find out the role of e-wallets in business productivity during the current pandemic, any period before the current health crisis, that is, before March 2020, was not deemed relevant to the study. Data on the impact of e-wallets from previous pandemics, recessions, or other crises were not covered.

Moreover, this study involved micro-small, small, medium, and large enterprises using e-wallets that belong to the three industries deemed by the National Economic and Development Authority to be the main growth drivers in Eastern Visayas, namely (1) agriculture; (2) tourism; (3) retail/commerce. Enterprises in Tacloban City that do not employ e-wallet payment methods were also not part of this research. Businesses outside the aforementioned sectors were excluded.

Significance of the Study

According to Carlsson-Szlezak and Swartz (2020), innovation can cushion the damage mechanisms of a crisis like the COVID-19 pandemic. With the commitment of the Bangko Sentral ng Pilipinas to harness the full potential of digital technology to establish a secure, reliable, and inclusive digital payments ecosystem in the Philippines, it becomes relevant to explore the impact of e-wallets on business productivity, and consequently, the economy.

This study supports the objectives of the United Nations' Sustainable Development Goal 8, which promotes entrepreneurship, creativity and innovation, and encourages the formalization of MSMEs. It also is relevant to the fulfillment of Sustainable Development

Goal 9, which is to foster innovation, increase access to financial services and markets, and support technology development.

There is not a more opportune time to conduct this study, especially since the country was forced into one of its worst recession in history. This study can contribute to the limited body of literature on the significance of digital payments in driving economic productivity in times of recession and other crises. The variables and indicators incorporated in this study have also not been localized in Tacloban City. Findings should benefit the following individuals and organizations:

The Business Establishments. From the findings of this study, businesses in the area should be able to strategize their operations accordingly through the use of e-wallets. Establishments should be able to take advantage of the said innovation to strengthen the flow of goods and services, as well as their payment systems.

The Tacloban City Local Government Unit. The local government of Tacloban City can use the information from this study as a basis to encourage and implement the use of e-wallets for safer business transactions, as well as an aid for its local economic recovery plan.

The Key Institutions in the Country's Economic Recovery. The NEDA, BSP, DSWD, DOLE, and Tacloban LGU can employ the findings of this study to further promote the adoption and use of e-wallets in the country to bridge the gaps in the economy as a whole. These institutions may also expand the digital payments infrastructure in local areas to establish overall productivity in the economy.

Definition of Terms

Digital payments	The transfer of money from one user to another via digital or online modes
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E-wallet	A banked or unbanked digital payment option that can store balance, in app form.
Online banking	A feature offered by banks and financial institutions that allows clients to use banking services over the Internet
Productivity	The measure of efficiency in business cash flows and production of goods and services.
QR codes	A printed barcode that can be scanned with a smartphone or other devices enables customers to complete payment on the spot

CHAPTER 2

REVIEW OF RELATED LITERATURE

Introduction

This review will cover existing studies relevant to the role of e-wallet payment systems in mitigating damage mechanisms brought about by the COVID-19 pandemic in Tacloban City, Philippines. Such damage mechanisms will only be limited to the double macroeconomic shocks to supply: the freeze in the flow of goods and services and on the financial system (Carlsson-Szlezak et al., 2020). In line with the aforementioned objective, the impact and benefit of e-wallets will be focused on business productivity and the larger economy. It is important to note that there is limited literature on this topic, considering that the COVID-19 pandemic is recent and still unfolding. Thus, most of the studies reviewed have short- to medium- term assessment of the impact of e-wallets on the pandemic. The role of e-wallets in particular has not been explored in other studies, hence, this review will generally include digital or cashless payments, under which e-wallets are categorized.

Several studies recognized that digital payment methods are more cost-effective than cash payments (Meyer et al., 2020; Estioko et al., 2019; Zimmerman et al., 2014). Electronic payment methods such as mobile point-of-sale (mPOS), tap-to-phone solutions, scan-to-pay technologies (QR codes), and e-wallets have low initial investment and low costs of maintenance. This will increase financial accessibility and inclusion. (Meyer et al., 2020). Electronic payments also prove to be more cost-effective for the recipient.

According to Estioko (2019), the COVID-19 pandemic has unexpectedly accelerated the development and adoption of digital payments. Even prior to the current health crisis, the Philippine government has invested to strengthen the country's financial technology systems and promote financial inclusion. The Bangko ng Sentral ng Pilipinas (2020) has promoted policy initiatives for the nationwide transition from a cash-heavy to cash-light society,

leveraging digital innovations to establish a payment system for all Filipinos. With the dramatic disruptions in the national financial landscape due to the COVID-19 pandemic, what was previously a medium- to long-term digitalization program has been integrated into the forefront of crisis mitigation.

E-wallets and Business Productivity

The literature on the aspect of productivity is enormous, especially from a macroeconomic perspective, and an all-inclusive summary is not attempted in this paper. What is outlined here is some studies throughout the years which showcases how firms' adoption of innovation in their payment systems (deviating from cash payments) and the business productivity (which encompasses in the literature as business performance, firm growth and/or consumption) can interact, and how the literature has verified the relationship between them.

Dabla-Norris, Kersting and Verdier (2012) examined the causal relationship chain among firm productivity, innovation, and financial development across 63 countries. In this study, the necessity to explore how the financial development of a country impacts firm-level productivity, through the firms' adoption of innovative activities, products or procedures, was established. Two steps to properly sort out this agenda were followed: (1) study the impacts of firm-level innovation adoption to their productivity, and (2) figure out how a country's developments – financial and/or otherwise – facilitated increased productivity. Data was gathered from 14,000 firms of all sizes but with focus on SMSEs, from low- to high- income countries. For the estimation of productivity in this study, the information reported by the firms on their value of total sales, their fixed assets, as well as data on their employees, costs and wages were utilized. But the output per worker was the main variable that determined productivity from the effects of innovation. Results of this study are outlined in the following:

1. The broadly-defined innovation - new products to production innovations and adoption of new technology - was found to have an effect on firm performance. The effect was that these firms who have adopted innovation were more productive compared to those firms that did not.
2. The impact of innovation was greater to the production of firms in emerging countries, while it was less pronounced in the developed countries. This indicated that developing countries who are only adapting existing innovation resulted in greater productivity than those in developed countries who are closer to introduction of technology.
3. Evidence was discovered that the impact of innovation to firm productivity was not affected by the interventions of financial markets.
4. Implications suggested that policies, especially in the financial sector, which encourages the adoption of technology can be important to the productivity of emerging countries.

Hasan, De Renzis and Schmiedel (2012) conducted a study to find out how electronic retail payments impacted the overall economic growth in European markets. The objective of this study was to examine the importance of new developments in payment markets and then to analyse their effects on household consumption, trade and the real economic side, or GDP.

Existing panel data on retail payments from Statistical Data Warehouse (SDW) covering 27 European States, from a period of 1995 to 2009, confirmed that the shift to electronic retail payments had a significant impact on consumption, trade and GDP. It was concluded that the use of electronic retail payments have made the economy of the 27 countries more efficient. Further details of the study are as follows:

1. Results showed that non-cash payment instruments, which shifted the market away from both cash and cheques, have significantly increased across the 27 countries in Europe;
2. Less developed countries with less advancements in their financial systems have been noted to have lagged behind in terms of economic growth;
3. Card payments, debit and credit, resulted as the highest contributor to economic growth as it allowed for transaction efficiency and credit accessibility, which led in overall consumption smoothing;
4. It was shown that developments for integration and synchronization of electronic payments would further trade and consumption, which would benefit the economy as a whole.
5. Policy responses aimed to foster the adoption of electronic retail payments are presumed by the paper to impact the economy as it affects trade and consumption.

Jumbu & Wepukhulu (2019) attempted a study to find out the effects of a cashless payment system to the financial performance of supermarkets in Uganda. The results from this study were:

1. Financial accessibility from a cashless payment infrastructure greatly affected the financial performance of the supermarkets.
2. Financial innovations in the payment system, such as debit & credit cards, mobile banking and mobile wallets, significantly increased the financial performance.
3. Cashless payments lessened the need for high staff costs for cash handling, cash management and cash reconciliation purposes. Results indicated that the less costs and risks for cash-handling, the higher the performance.
4. Low recurrent transaction costs from cashless payments had an effect on financial performance, from reduced costs and increased sales.

5. Larger companies seemed to have benefited more from cashless payments than smaller establishments.

Moody's (2015) undertook a 4-year long study to analyze how electronic payments, specifically card usage, affected 95% of the global economy. This study was concentrated on card payments' impact to real private consumption in over 70 countries, from 2014-2015. Real private consumption was represented by a function which included card access rate, real disposable income, and real interest rates, determined from people's credit, debit and prepaid cards usage. The results inferred the following points:

1. Card usage increased the performance of the global economy from the data of these 70 countries in the span of 4 years.
2. Countries with the highest increase of electronic payments usage also recorded the highest increase in their GDP. Most countries also had an increase in card usage, regardless of the economic situation. And some countries declined in their card usage which resulted in weaker consumption.
3. Increase in the usage of electronic payments and its consequent effect of increasing GDP was more significant in developed countries than developing ones. This result proved that a better financial system present in the developed countries was a contributing factor in the increase of card usage and in the growth in consumption.
4. Further development of the electronic payment system was assumed to create positive impacts to the future of the global economy. For each 1% growth in card payment usage, an annual increase of consumption was experienced by the 70-included countries.
5. Spending habits were found boosted given the card payments' contribution to the increase in consumption. It was calculated that a 0.4% increase in global consumption was experienced due to the usage of electronic payments.

According to Islam, Muzi and Meza (2016), growing investments is one pillar of firm growth. Investments in fixed assets, in particular, have a direct influence on a firm's output growth. Islam and his group of researchers studied enterprises in Kenya, Uganda and Tanzania, to explore if and how mobile money use increased the firms' investments. They also pursued how these private investments, in turn, played a role in the development of the aforementioned countries with low economic growth rates and high poverty rates. They used information from a firm-level survey for the three countries conducted by World Bank's Enterprise Surveys of 2012, covering 1,228 manufacturing and services firms. Their sampling methodology was a stratified sampling method of three levels: firm-size, industry, and location/country.

Before directly investigating how mobile money use affected the firm investments, basic statistics for the firms' reasons for adoption or non-adoption of mobile money, and which firm types adopted mobile money, was first explored. The results are as follows:

1. Most reasons for adoption of mobile money are the reduction of costs and risks of transactions, and satisfying customer requests.
2. Cited reasons for non-adoption of mobile money are because of the difficulty of transactions for large sums of payments, and the non-adoption of customers and suppliers.
3. Firm types which mostly adopted mobile money are those firms who normally operate with gadgets or mobile phones; and the types of firms that do not use mobile money are the larger, older and more traditional firms.

The results for the relationship between mobile money use and firm investments are:

1. There was a significant positive relationship of investment on mobile money use from the outcome of the study's main explanatory, binary variable. However this result is susceptible to variable bias from omitted determinants of investments. Their other

explanatory variables retained the positive relationship outcome of mobile money use and investments, with a 0.16 percent probability of increase in investments. These results offered a more comprehensive specification, as more control variables were utilized compared to the binary outcome.

2. Results showed that smaller firms were the ones who mainly benefited from the use of mobile money, while no significant benefits for bigger firms in the formal private sector were identified.
3. This study contributed to the argument that mobile money use cuts financial costs while it increases credit worthiness of firms as it offers a correlation between mobile money use and investments.

Evidence from a continuous worldwide study of World Bank's Research Development Group reported that digital payment systems have the potential to accelerate businesses around the world by conveniently, inexpensively, and safely connecting them to their consumers, employees, suppliers, and business partners. (Klapper, 2017) The findings are as follows:

1. For entrepreneurs in developing countries, the digital payment system allowed them to operate more smoothly and swiftly, from processing business permits to actual business transfers. Through electronic payments, small businesses obtained greater profitability due to less operating costs. And a more efficient way of tracking their delivery records, receivables, contracts etc. was also realized. (Klapper, 2017)
2. This digital payments system, in line with its impact on financial inclusion, opened up the access to savings and credit accounts as well. As access to credit became easier, business expansions to e-commerce became even more possible to these entrepreneurs (Klapper, 2017; Kang 2018).

3. For government programs and transactions, digital payments improve the transparency of financial transfers. In some countries, like India, authentication requirements within digital payments in doing cash transfers ensure that the government beneficiaries receive in full and on time. This way, payment transfers are delivered effectively and efficiently, and reduces the likelihood for corruption. (Muralidharan, et.al., 2016)
4. For employees whose salaries and wages are paid through formal financial services, credit opportunities became more accessible, increasing their financial control and security (Breza, et.al., 2017; Suri, 2017). A collection of literature by the World of Labor illustrates that workers who are paid through digital wage payments are more likely to become committed to saving money. (Karlan et.al., 2014)

Agarwal, Qian, Yeung and Zou (2018) investigated the effects of mobile wallet payment systems on the business growth in Singapore. They wanted to look into this topic at a time when mobile payments were predicted to increase at a rapid pace. Mobile wallets, when compared to traditional payment methods, can settle users' everyday transactions, both to other customers and to businesses, at a cheaper cost and with greater convenience. Mobile wallets have also been shown to improve shopping convenience and ease, which can lead to increased consumption. The approach of this study, then, was to evaluate the firms' sales after the implementation of the mobile payment system, in order to validate the claims. The following are the results from their investigation:

1. The usage of mobile wallets, especially in small-size transactions or payments are more convenient for businesses and consumers.
2. The resulting convenience in the aforementioned small-size payments moves consumer traffic and raises similar consumption with recognizable spill-over benefits:

- a. It reflected in their results that the small businesses where the small-payments were given to benefitted more in the shift from using cash-only payment methods to using mobile wallet payment methods, due to the improved payment convenience;
- b. Start-up businesses benefit more to the low-cost and convenience of mobile wallet technology;
- c. Another spill-over effect is the increase of retail traffic coming from the improved payment convenience, since larger portions of sales come from the post-shock of the mobile wallet introduction;
- d. Spill-over also manifested in the increase of invisible (international and intangible goods) trade, as well as increase in sales of both discretionary (not necessary) goods and non-discretionary (mandatory or necessary) goods;
- e. And the last is the benefit to dining providers in their increase of sales.

Yakean (2020) describes in an article the general advantages and disadvantages of a cashless payment system in Thailand's society within the COVID-19. Credit and debit cards, ATMs, mobile/Internet banking, e-Wallets, PromptPay, and QR codes are all forms of cashless payment in Thailand. One specified advantage of cashless payments is that it can help the government collect taxes more accurately and help users make financial transactions more transparent and efficient. Furthermore, the cashless system benefits businesses by allowing them to increase sales and extend their operations by giving clients simple, safe, and faster payment options for goods/services. It helps organizations save time and money on cash management while also reducing paperwork. The cashless payment system has made it much easier for students, women, and the elderly to conduct financial transactions without having to meet with financial institution staff. Other findings have indicated that the use of e-payment systems is able to reduce the spread of COVID-19 due to its contactless form.

Some of the disadvantages of a cashless payment system summarized in the article are its execution needing a working smartphone or tablet, which especially puts poor people at a drawback. The lack of a smartphone, which can be said for more people than not, can make financial transactions difficult to do. Some customers also lack the knowledge of this technology and become hesitant to use cashless payments, preferring the traditional cash transactions instead. And the last identified disadvantage is the e-payment system's easy-access to unwarranted attention, such as hackers breaking into accounts and accessing people's information and accounts.

Dhingra, Sachdeva, and Machan (2020), in a research article, stated that there has been a spike in cashless, digital or e-wallet transactions because of the progress in fintech (financial technology). Taking this into account, their research sought to determine the motivations, goals, and elements that led people, customers, and companies to utilize e-wallets. The key issues were also addressed. The study's findings revealed that the ability to use e-wallets from just about anywhere is the most enticing reason for embracing the usage of e-wallets, time-saving and user-friendly interface and it is not seen as a status symbol for individuals; hence, status symbol plays no part in influencing the use of e-wallets. It has also been shown that while e-wallets are favored for cell recharge, they are less preferred for toll fees and gasoline expenses. Shoppers are embracing e-wallets at an alarming rate, owing primarily to their convenience and ease of use. There is no doubt that e-wallets will become more popular in the future. Taking this into account, the present study proposes that e-wallet carriers should emphasize the efficient and safe execution of transactions, as well as develop e-wallet awareness efforts to make users more acquainted with the use of e-wallets. Furthermore, the survey emphasized the fact that most people are victims of fraud, which is the main concern that people have while using e-wallets. A research of non-users of e-wallets revealed that the major reasons for not utilizing e-wallets were their cash payment habits and

security concerns. The findings of this study have several implications for the improvement of the e-wallet system in India. As a consequence, based on the findings, this study makes a few recommendations for the future growth of e-wallet service providers.

Alam, Awawdeh, & Muhamad (2021) conducted a study focusing on the challenges and prospects of the usage of e-wallets in business development. Their research sought to investigate the problems and opportunities of using e-wallets in Malaysia, as well as the implications for businesses and customers. Strategies for leveraging strengths and opportunities, as well as overcoming weaknesses and dangers, were suggested.

According to this report, e-wallets in Malaysia have yet to fulfill their full potential. The SWOT analysis detected several strengths (e.g. financial inclusion, ease of access, security and safety, the simplicity for other transactions to connect to, market and consumer service operations, quick to actually enforce), weaknesses (e.g. poor infrastructure and 'tapping' of gadgets already besieged by the mobile market), and opportunities (e.g. eradicating theft, improved customer service, marketing that can be developed into user experiences), and threats (e.g. errors from virus attacks, frequent delays in inquiring whether various e-wallets are usable by customers, the issues surrounding E-wallet users' overspending). These results, particularly the advantages of e-wallets in terms of a wider connection to larger markets, are consistent with the studies of Alam et al. (2021), Gomber et al. (2017), and Hung & Luo (2016).

Sharma, Thao, Kagohashi, and Breda (2021), representatives of Women's World Banking and International Labor Organization, in a joint effort, looked into the potential for wage payment digitization to help workers become more financially included while also increasing business efficiency. The authors claim that the Philippines' growing digital economy and emergence of various digital solutions, together with the government's commitment to encourage digital payments and financial inclusion, present enormous

prospects to improve economic development of the country. However, the poorer populations, particularly the women in these segments, fall behind in adopting digital payment options. Moreover, smaller enterprises who cannot keep up with the digital revolution, still prefer and settle to transact and pay wages through cash. The COVID-19 pandemic has hastened digital payment adoption in the Philippines, as the government gave economic assistance payments online, and businesses and customers have rapidly adapted to the new digital ways of working in the aftermath of lockdowns. As a result, capitalizing on this impetus is critical to ensuring widespread uptake and application of mobile and e-wallet payments, particularly among low income-generating women and enterprises, with an emphasis on digital wage payments for wage earners.

The results of this qualitative study are as follows:

1. Small enterprises comprising 10-99 employees, who pay wages and salaries through cash, take longer in disbursing payment to their employees, compared to enterprises who distribute digital wages. Manual calculations of workers requires additional days to complete and upload to payrolls. Digital wages, on the other hand, are able to upload and be approved immediately.
2. While this study focuses on digital wage payments via online banking (bank transfer), upcoming digital solutions in payroll systems can significantly reduce the time (to minutes) and cost even more.
3. One of the most typical reasons, from the results, for not embracing digital payments include a lack of confidence, inaccessibility, and a lack of appropriate use.
4. Digital wage payments can reduce the time and effort spent on financial accounting, increasing effort and expense efficiencies while also delivering better precision and transparency inside the business.

5. There is still heavy reliance on ATM withdrawals and cash payments, even when the workers and the enterprise consider and acknowledge the benefits of digital payments. This is owing to existing technological hurdles, which generate hesitancy and distrust in both workers and businesses.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter exhibits the methods and tools that were used by the proponents during the research proper in order to answer the questions presented in this study. The subsections also offer justifications for the suitability of the methods and tools given the research problem.

Research Locale

The research was conducted in Tacloban City, Leyte, Philippines. Business enterprises using e-wallets operating within the city were the chosen respondents, interviewed to reach the pursued answers.

The proponents of this study chose Tacloban City as the locale due to two main reasons. The first is that Tacloban is the center of economic activity in Eastern Visayas and the only highly urbanized city in the region. It ranked 25th in the country according to DTI's 2021 rankings in the Economic Dynamism category. This fact proved the city to be potentially full of insights regarding business productivity useful for this study. It also ranked 20th in the same rankings under the Government Efficiency category, proving Tacloban City's administration more proficient in handling the pandemic than other municipalities in the region. The second reason behind the selection of Tacloban City was the researchers' limited capabilities to conduct the study and their living in proximity to the city. Larger scope than the chosen city would not have been feasible for the researchers to cover given their current circumstances.

Research Design

The study followed a qualitative research design. Marshall (1985) suggested that qualitative research be used on researches on little-known phenomena or innovative systems.

Marshall (1996) and Rossman (2006) define qualitative research as a broad approach to a study of a social phenomenon. They described it as a “discovery” research.

Additionally, they identified that qualitative studies have four purposes, one of which is exploration. This study is exploratory in nature. As there is limited information available about the role of e-wallets in a pandemic, this type of research was effective in obtaining a clear understanding of a phenomenon and providing foundation for later research (Zikmund, 2013; Cavana et al. 2001). It enabled investigation and description of the lived experience of the participants — in this case, how businesses used e-wallets in times of the COVID-19 pandemic and its effects on a business perspective (Yüksel and Yıldırım, 2015).

Sampling Frame

This research study aimed to understand how e-wallets mitigate shocks to the real economy brought by COVID-19. The target population that was prioritized in this study came from micro, small, and medium enterprises (MSMEs) to large enterprises in Tacloban City, that testified whether or not their decisions to use e-wallets indeed propel their business productivity.

Participants were selected by following the eligibility criteria. Those who did not meet the criteria were excluded from participation. The inclusion criteria are the following:

- Tacloban City-based business registered under the DTI since or before March 7, 2020 that operated within these particular industries, (a) agriculture, (b) retail/commerce, and (c) tourism — the three industries recognized as the main growth drivers of Eastern Visayas by the National Economic and Development Authority (2017).
- Tacloban City-based business registered under the DTI since or before March 7, 2020 that used e-wallets as customer payment method during the COVID-19 pandemic
- Tacloban City-based business registered under the DTI since or before March 7, 2020 that used e-wallets for official financial transactions during the COVID-19 pandemic

Permissions to access the lists and conduct interviews and surveys had been sought and granted upon the approval of this paper.

Sampling Technique

This research study focused on the point of view of businesses to understand how e-wallets mitigated the damage mechanisms of COVID-19. Several studies asserted that the suitable number of interviewees for a qualitative research should be a minimum of 15 and a maximum of 50 (Saunders, et al., 2018; Bengtsson, 2016; Palinkas et al., 2015; Mason, 2010). For this study's respondents, the fifteen (15) businesses came from the key economic areas of Eastern Visayas: (a) agriculture, (b) retail/commerce, and (c) tourism. Enterprises ranging from micro-small and medium enterprises to large organizations.

This study necessitated a non-probability selection of participants who possessed relevant data about the topic. Based on intended research outcomes, purposive sampling according to defined criteria have been adopted. This allowed researchers to focus on information-rich cases — individuals, groups, and entities can provide significant knowledge and experience of the phenomenon of interest (Palinkas et al., 2015; Cresswell & Plano Clark, 2011). Articulate insights allowed for intensive evaluation of information (Spradley, 1979; Rai & Thapa, n.d.).

Data Gathering and Procedure

The researchers collected data from eligible participants through interviews. Informed consent was sought from the participants before recruitment for this study. Selected businesses took part in one-on-one interviews during the participants' most convenient time.

Due to limited face-to-face interactions, interviews have been conducted through video conferences, online messaging, and/or phone calls. These were audio-recorded, given that the participants provided their consent. They were given the range of topics covered

beforehand because some questions required quantitative data, if allowed and available. This also improved the overall pace of the interviews.

Research Instrument

Researchers conducted interviews for selected enterprises. This consisted of personalized and included close- and open-ended questions. Semi-structured interviews allowed the dialogue to adhere with the agenda but encouraged flexibility to different responses, as well as add follow-up questions (Adams, 2015). Questions were asked covering how the use of e-wallets affected the productivity of the enterprise.

The interview questionnaire consisted of four parts. Part 1 gathered information for the profile of the respondent such as enterprise category and size. Part 2 of the questionnaire consisted of structured questions to answer the effectiveness of e-wallets to business productivity in terms of (a) operations; (b) financing; and (c) investment. The responses were aggregated into a composite scale for thematic analysis.

Data Analysis

The researchers utilized percentage frequency distribution to represent the profile of the enterprises. This suggested identifying the total number of observations and the total number of observations within each data point; then dividing the total number of observations within each data point by the total number of observations (Lakravas, 2008).

Interviews on enterprises were carefully transcribed and translated into English for systematic analysis. The researchers employed an inductive coding approach, with a content and thematic process to identify emergent themes in the data by quantifying the results, as well as detailing nuanced account of data. This was suitable for the evaluation of different perspectives of a large set of respondents, which allowed for an articulate summary that iterated similarities and differences and key insights (Nowell et al., 2017; Braun & Clarke, 2006; King, 2004).

The three researchers read the transcripts until they established familiarity with the text. Data were organized into condensed units and grouped into codes aligned with the study's objectives and theoretical framework. Data collected revolved around the impact of e-wallets, as an innovation to the payment system, on firm-level productivity. These were aligned with the idea of Carlsson-Szlezak et al.'s Economic Twin Threats, which severely affect the liquidity and capital formation of businesses and households. Thus, the proponents focused on data on the effects of usage of e-wallets on cash flow activities, such as operations, financing, and investment.

Through an iterative process, codes were reviewed until they represented the data accurately and meaningfully. These codes were further categorized as subthemes and final themes. The Crepon, Duguet, and Mairesse framework was a basis in identifying major themes connecting the innovation performance of e-wallets to its corresponding innovation output. Any discrepancies were resolved through consensus that ensured data reliability and reduced bias.

CHAPTER 4

ANALYSIS AND PRESENTATION OF DATA

This chapter presents the results and analysis of the data gathered. Each set of data was analyzed and transcribed, identifying emergent themes in the data. A total of ten (15) business owners participated in this study. Semi-structured interviews with open- and closed-ended questions were conducted to business owners in Tacloban City to gather the qualitative data and to gain deeper understanding of the subject at hand. Results from the interview were extracted and analyzed according to content.

The presentation of the findings was arranged based on the sequence of the research questions presented before the conduct of the study.

Profile Distribution of the Respondents

Based on the inclusion criteria for participation in this research, Tacloban City-based enterprises registered under the DTI since or before March 7, 2020, the onset of the pandemic, that operate within the following key industries will be purposively chosen: (a) Agriculture; (b) Retail/Commerce; (c) Tourism. The National Economic and Development Authority (2017) recognizes these three industries as the main growth drivers of Eastern Visayas in the next six years.

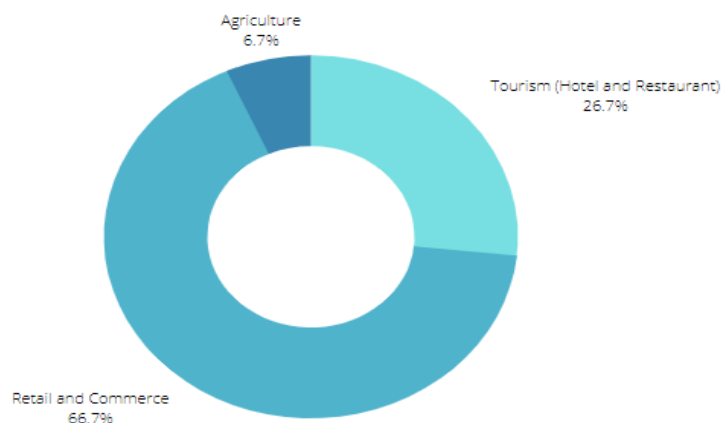


Figure 2. Enterprise Category by Industry

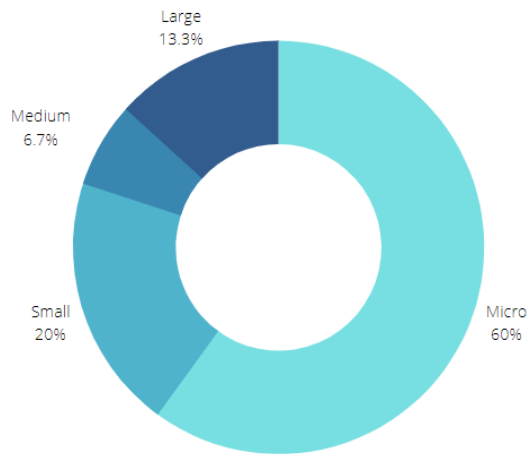


Figure 3. Enterprise Category by Size

A total of fifteen (15) eligible business owners based on the methodology's inclusion criteria participated in this study. Majority of the respondents are operating a micro enterprise (60%). Small enterprises comprise 20% of the respondents, followed by large enterprises (13.3%) and a medium enterprise (6.7%).

E-wallet Usage of the Respondents

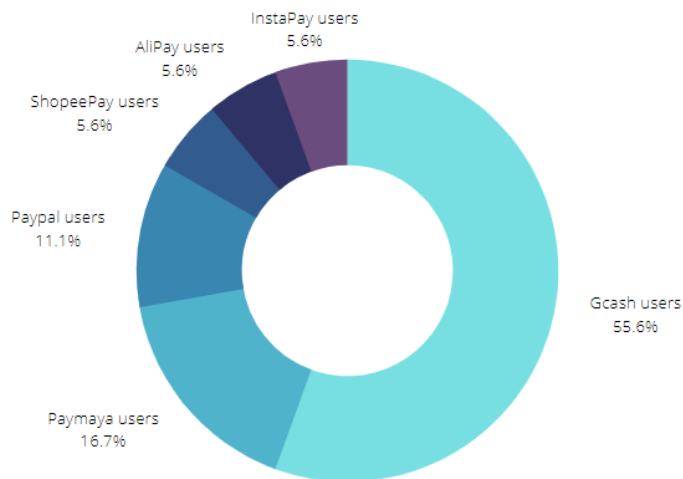


Figure 4: Breakdown of E-wallet Platforms Used by Respondents

The data revealed that GCash is the most commonly used e-wallet platform in business transactions, supported by fifty percent (50%) of the respondents. Fifteen percent (15%) use PayMaya, while five percent (5%) each use the platforms PayPal, ShopeePay,

InstaPay, AliPay, and also other third-party e-wallet platforms connected to enterprise websites.

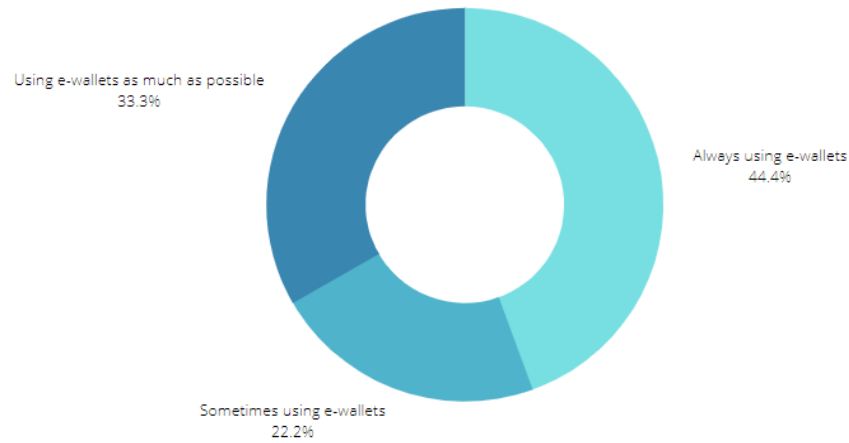


Figure 5: Frequency of Use of E-wallets

E-wallets have been integrated in the financial management of enterprises in Tacloban City. A total of 44.4% of the respondents use e-wallets in their everyday business transactions. While 33.3% of the respondents use e-wallets as much as possible or whenever it is only requested by the consumers.

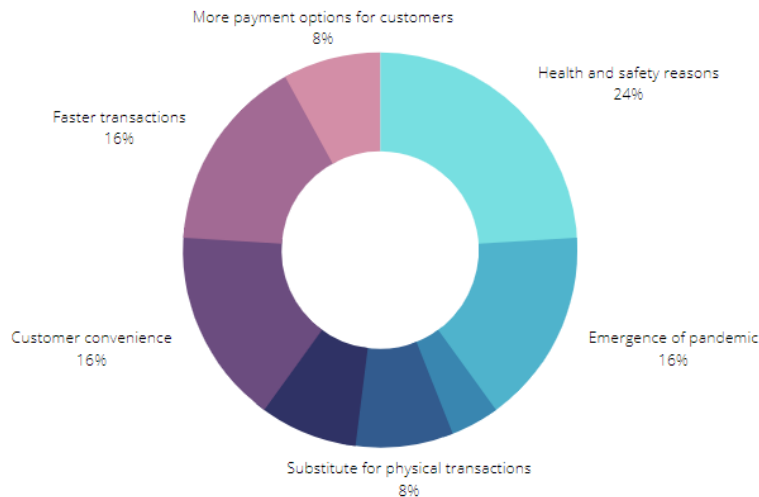


Figure 6: Reasons Respondents Use E-wallets

The COVID-19 pandemic is a primary reason that prompted business owners to integrate e-wallets in their business operations. This innovation enables speedy transactions electronically, eliminating the need of handling physical cash. This minimizes the risk of

contracting the virus and promotes health and safety, as indicated by twenty-four percent (24%) of the respondents. Sixteen percent (16%) have reasoned that using e-wallets is in accordance with the health protocol in social distancing, lessening physical contact with customers. Findings also reveal that e-wallets promote convenience to consumers and overall increase the speed of transactions. As a substitute for hard cash, e-wallets present more payment for customers, as claimed by eight percent (8%) of respondents.



Figure 7. Respondents' Start of E-wallet Use

Fifty-three percent (53%) of the respondents have already installed e-wallet systems in their respective business even before the emergence of the pandemic, proving that enterprises have begun to embrace and financial digitalization. Meanwhile, forty-six percent (46%) only started using e-wallets during the pandemic. The public health crisis today has prompted the necessity for businesses to prioritize the safety and health of their stakeholders by providing digital payment options to lessen the risk of spreading Coronavirus through hard cash.

E-wallet Use in Business Operations

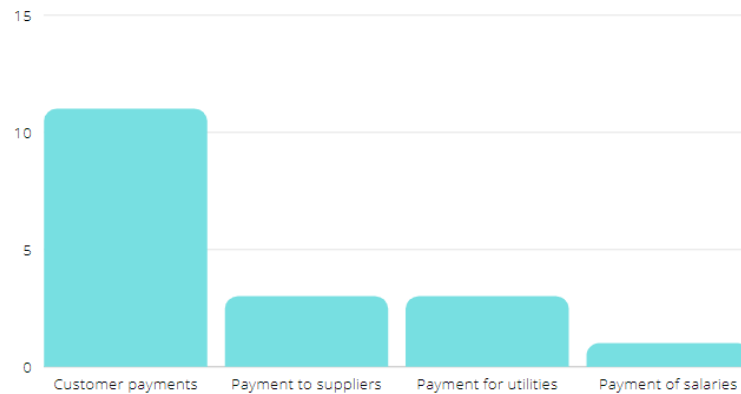


Figure 8. Operating Activities Where E-wallets are Used

Among the possible operating activities that the respondents use e-wallets for in their businesses, sixty-seven percent (67%) of the population have claimed that receiving payments from customers was their most frequent daily operating activity. Some respondents use e-wallets for paying their suppliers and their business utilities with twenty percent (20%) of the population, and the remaining use e-wallets to pay their employees' salaries.

Findings reveal that the usage of e-wallets was able to solve problems or inconveniences within the business operations. The top two problems solved were the expanded payment options and the improvement in daily operation flow. The additional payment method of the business gives an appeal to a wider demographic, those who have no cash on hand. E-wallets also allowed the business to execute transactions faster and safer.

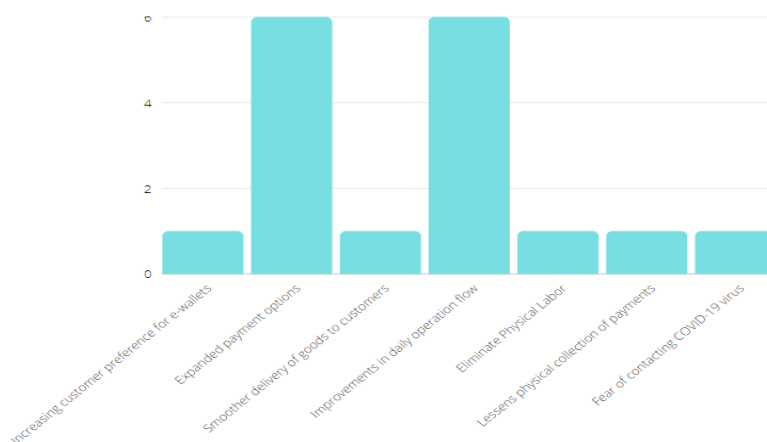


Figure 9. Problems or inconveniences within business operations solved by e-wallets

Findings reveal that the usage of e-wallets was able to solve problems or inconveniences within the business operations. The top two improvements brought by e-wallets are expanded payment options and a streamlined daily operation flow. E-wallets provide an additional payment method for the business, giving an appeal to customers who prefer to transact electronically. E-wallets also allowed the business to execute transactions faster and safer.

From the perspective of merchants, e-wallets lessen physical labor, such as manual computing or counting of money. It also allows a smoother execution of deliveries for the businesses who have online services.

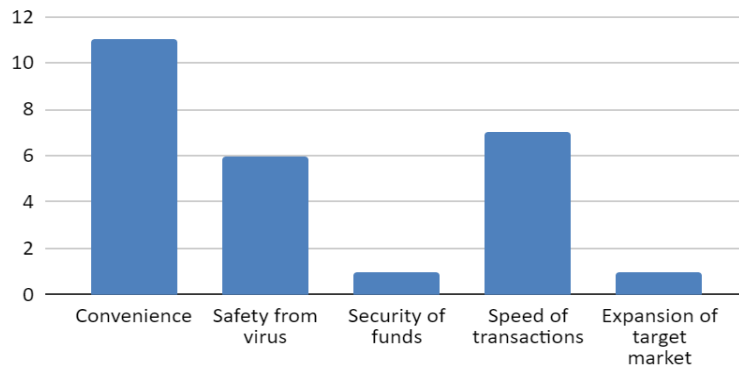


Figure 10. Benefits of E-wallets in Business Operations

All of the respondents agreed that e-wallets have brought a myriad of benefits to the operations of their respective businesses. Seventy-three percent (73%) emphasized that the said innovation makes transactions more convenient and seamless for both the consumer and the merchant. Forty-six percent (46%) recognizes the instantaneous payments made through e-wallets, given its advanced mechanisms that enable payment with a few taps on a mobile device. In light of the pandemic, e-wallets are pivotal in maintaining safety and minimizing the spread of the virus, as confirmed by forty percent (40%) of the participants. Moreover, an enterprise mentioned that e-wallets strengthen the security of its funds, preventing robbery and other fraudulent acts. Another attested that the number of its customers increased thanks to e-wallets, with its wide reach and accessibility through technology.

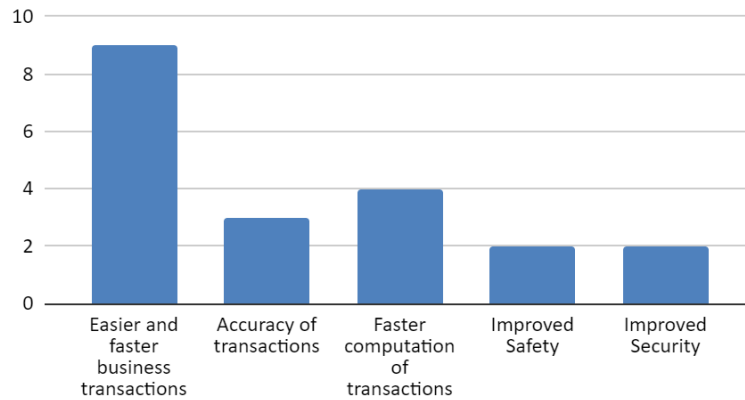


Figure 11. Improvements brought by e-wallets in business operations relative to cash payments

The improvements brought by e-wallets that were found in business operations, relative to cash payments, are the following: (1) the daily business transactions became easier and faster, (2) a faster computation of payments; (3) e-wallets resulted in an accuracy within the transactions where it was used for; (4) e-wallets improved the security of the business funds; and (5) e-wallets offered more safety for employees, customers, suppliers, etc, against the virus during operations. Forty-five percent (45%) of the responses indicated the first improvement, twenty percent (20%) responded with an indication to the second, fifteen percent (15%) answered the third, while the remaining responses of fifteen percent (15%) inferred the last two aforementioned improvements.

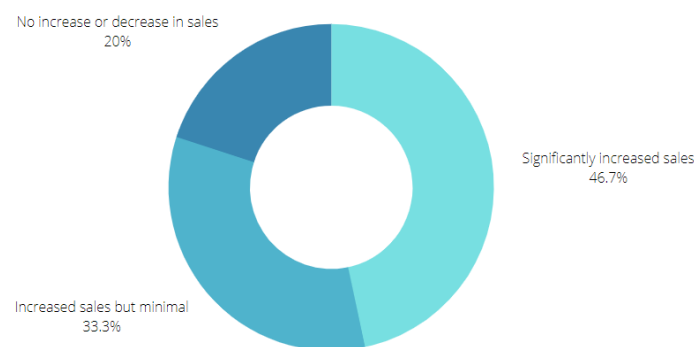


Figure 12. Sales after using e-wallets

In terms of sales after integrating e-wallets, seven (7) respondents have stated that there has been a significant increase in sales. Five (5) respondents stated that there was an

increase but only minimal, with the reason being they do not use e-wallets in all aspects of their operations. Lastly, only three (3) respondents had no increase or decrease in sales regardless of using e-wallets. The findings show that usage of e-wallets positively impact the sales of a business.

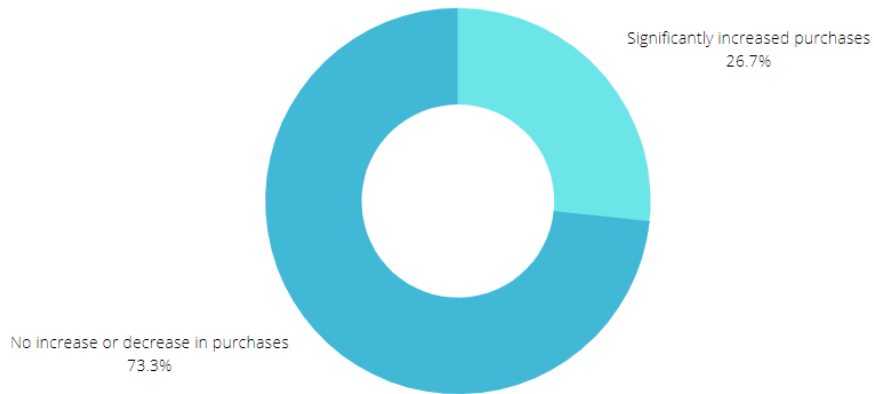


Figure 13. Purchases after using e-wallets

Among the 15 respondents, only four (4) employ e-wallets in the purchase of their supplies for daily operations, with significant increases in purchase amount in their balance sheets ranging from P10,000 to P20,000. These respondents mentioned that it is easier to buy items online through e-wallets.

E-wallets in Business Financing



Figure 14. Reasons for non-usage of e-wallets

Based on the responses, businesses do not opt to use e-wallets for their financial activities. Forty percent (40%) responded they prefer bank accounts for payments and issuance of loans. Twenty-seven percent (26.67%) answered that they did not have enough information on loans offered by e-wallets. Twenty percent (20%) said they eluded the use of e-wallets for security reasons, and the remaining amounting to thirteen percent (13.33%) of the respondents claimed to have no current need for e-wallets for their financing activities.

This result shows that the role of e-wallets in financing still needs to be magnified to potential users. Certain business owners execute financing activities electronically, but only on a different platform.

E-wallets in Investing

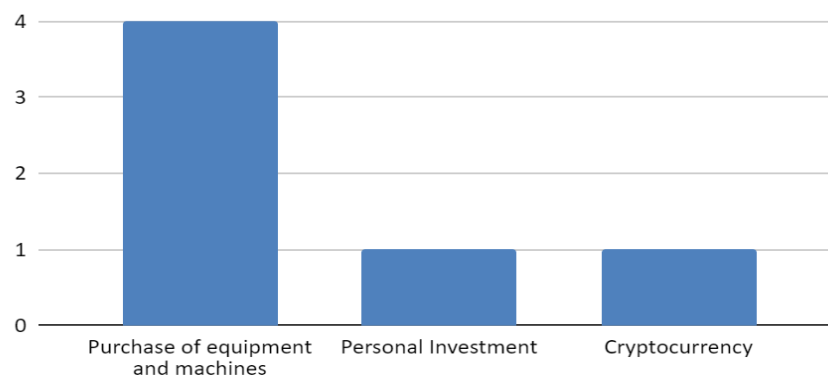


Figure 15. Investing activities where e-wallets are used

Aside from operating activities, e-wallets can also be used for investments. Four (4) respondents use e-wallets in purchasing equipment and machines, especially when buying online. It has made their buying experience much more convenient.

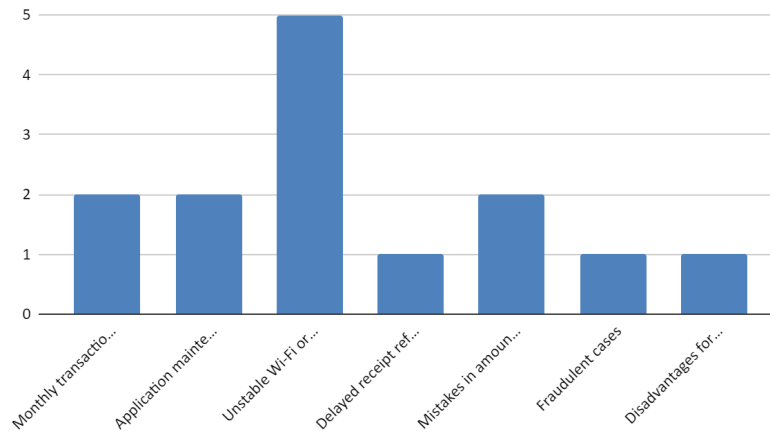


Figure 16. Inconveniences the respondents encountered using e-wallets

Despite the vast advantages, the usage of e-wallets in business also has its pitfalls. The most common mishap encountered by the respondents are technical difficulties brought by unstable Wi-Fi or data connection, which have been experienced by thirty-three percent (33%) of respondents. This is followed by in-app problems such as monthly transaction volume cap of e-wallet providers (13%) and application maintenance, both of which delay or even cancel transactions (13%). According to thirteen percent (13%) of the respondents, merchants and consumers, especially the ones with eyesight problems and less technological know-how, are also prone to mistakes in the amount entered in e-wallets. One enterprise also experienced delayed receipt reflections on e-wallet applications, another encountered fraudulent transactions.

CHAPTER 5

DISCUSSION OF RESULTS

Using the firm-level data collected from the interview of 15 various enterprises in Tacloban City, the researchers found evidence that the introduction of innovation, particularly e-wallets, have a significant effect on firm productivity, in lieu with the mitigation of one of the damage mechanisms of the COVID-19 pandemic: the so-called real economy freeze. As the flow of goods and services in businesses are disrupted due to mobility restrictions and looming health risks of the Coronavirus, e-wallets galvanize production of goods and services in response to the economic freeze by strengthening cash flows, particularly operating, financing, and investing activities. This is further supported by the theoretical framework, the Crepon, Duguet, and Maraisse (CDM) framework that underscores the contribution of innovation, that is, e-wallets in this case, to enterprise performance.

E-wallet Usage of the Respondents

The respondents involved in this study were enterprises that use e-wallets in Tacloban City, ranging in size from micro, small, medium, to large. An important criterion for their eligibility for participation is the registration under the Department of Trade and Industry before March 7, 2020, which marks the emergence of the COVID-19 pandemic. The main reason for this is to determine if the integration of e-wallets can cushion the adverse effects of the current public health crisis on business productivity, as well as highlight improvements within the enterprise attributable to the said innovation.

The respondents chosen are part of the following industries that the National Economic and Development Authority (2017) deems to be the growth drivers in terms of employment and revenues: (a) agriculture and fishery; (b) tourism; (c) commerce/retail/manufacturing. Majority of the participants that use e-wallets in their businesses belong to retail/commerce, followed by tourism-focused firms. Rosnidah et al.

(2019) and Agarwal (2018) support that e-wallets have recently become a staple payment method in tourism and hospitality industry, and food and restaurant services.

The results of this study show that most respondents who use e-wallets, particularly for customer payment methods, are operating a micro to small enterprise, but larger firms maximize the innovation by integrating it into more areas of the business. In the study conducted by Jumbu and Wepukhulu (2019), results show that larger companies benefit more from cashless payments compared to smaller establishments. This, however, contradicts the results made in the study of Islam, et. al. (2016) stating that smaller firms benefit more from mobile money than larger firms.

Findings also suggest that although there are a large number of e-wallet providers available to consumers, the use of GCash, a Philippine mobile wallet and payment service, dominates the industry. Aside from money transfers, it offers a variety of financial services such as savings, loans, investment, and insurance (Globe, Inc., 2021).

E-wallets in Operations

The findings of the study reveal that the specific reasons that prompted business owners in Tacloban City to integrate e-wallets in their business operations are similar with that of the results of the previous studies of Islam, Muzi and Meza (2016), Reddy et al. (2017), Agarwal et al. (2018), Jumbo and Wepukhulu (2019), and Huang et al. (2020). The most common reasons for adopting e-wallets are the reduction of cost and risk, convenience, and satisfaction of customer preferences. E-wallets reduce transaction costs, allowing for greater profitability for enterprises. With an improved and streamlined payment system, there is greater retail traffic, consequently increasing sales. Translated answers given during the interview are as follows:

"We are promoting the customer's convenience to pay directly online via e-wallets...through e-wallets, instead of stopping to pay by cash or through liquid payments, they are instantly good to go." (Respondent 1)

"We decided to adopt e-wallet usage to have payment system choices for clients at their convenience." (Respondent 3)

"..The world is offering a digital payment system, so we keep up and adapt these systems to the business slowly... e-payments will eventually be a normal thing in the Philippines, just like how it is normal in other countries especially in the first world countries." (Respondent 6)

However, unlike the previous study that was done before the COVID-19 pandemic, respondents have added health and safety as their topmost reason why they use e-wallets. This sentiment is reflected in the answers of respondents:

"Getting the change or the excess usually takes time, and with the pandemic right now, we can't take the risk of having too much contact with guests, so e-wallets eliminate that hassle." (Respondent 1)

"...we use e-wallets whenever it is possible in accordance with the health protocols today." (Respondent 13)

"We use it to receive payments from customers. They often ask if they can pay through-wallets." (Respondent No. 11)

Additionally, e-wallets are also used by business owners for payments to their suppliers and sometimes for their utility bills. Respondents explain:

"It makes our lives easier especially if we have to make small payments to our suppliers in Manila. When we need something to be shipped out immediately from Manila, we can just pay using digital banking or gcash instead of asking our staff to go to the bank and

make a deposit to our suppliers' account. By using e-wallet, we conserve time, manpower, and gas!" (Respondent No. 6)

This is consistent with the findings of Klapper (2017) stating that digital transactions with suppliers and utility operations are cost-effective and safer. This can reduce working capital expenses and the accumulated interest on trade credit (Klapper, 2017). Moreover, supplier and utility payments through e-wallets can improve transparency and minimize the incidence of fraud because of the traceability of electronic trails. It is however noted that a few business owners refrain from using e-wallets in certain operational activities due to a number of reason similar of the studies of Islam, et al. (2016) and Sharma, et al. (2021).

Among the fifteen (15) respondents, two respondents claimed to use e-wallets for the payment of salaries. According to one of them:

"Employees are paid their wages through e-wallets. Most employees have started using e-wallets to receive wage payments." (Respondent No. 14)

This reflects the results of the same study by Klapper (2017) and Breza et al. (2017). Aside from the reduction of physical contact, disbursement of wages through e-wallets also prove to be more secure for employees than hard cash payments, which are prone to stealing or misappropriation. Employees may also cash out their salaries at their own discretion. For enterprises, digital wage payments guarantee accuracy and smoother audit procedures.

However, several suppliers and employees still prefer the traditional payment method, bank/cash transfers and ATMs, hence the non-adoption of e-wallets of these actors suppresses the businesses to take advantage of the benefits of the said innovation. This is comparable to the results of the study conducted by Sharma, et al., claiming that despite acknowledging the benefits of digital payments, they still rely on ATM withdrawals and cash payments.

E-wallets have also lessened the cost for cash handling and management, allowing the business to execute faster and safer transactions, as well as lessen the need for a number of

staff. This is similar to the findings of Jumbo and Wepukhulu (2019), which stated that the lesser the costs for cash management, the higher the performance. Respondents claim the following:

"It allowed us to eliminate physical labor and inconveniences brought about by manual cash and check transactions. It also allowed us to easily and quickly transfer payment to our suppliers." (Respondent No. 9)

"... there are times when we find it difficult to collect/receive payments in person. E-wallets have made it possible to address and resolve problems/inconveniences like these." (Respondent No. 3)

The usage of e-wallets has helped business owners solve problems and inconveniences in their daily operation flow. Matching the results of the study made by Jumbo and Wepukhulu (2019), digital payments have positively affected the financial performance of the business. The businesses benefited from a reduction in costs and increased sales. Respondents explain:

"We have a wider range of payment options for our customers, and this can benefit us as well in terms of sales." (Respondent No. 15)

Benefits and/or improvements to the business operations in using e-wallets were identified from the collected data and were divided into four categories: (1) the convenience and ease of using them, (2) the safety and security it brings, (3) the efficiency of transactions, and (4) its aid in broadening the target market of an enterprise.

Some of the specific answers which points to the aforementioned benefit of convenience are listed below:

"E-wallets are convenient to use for our customers and staff and make transactions easier to execute." (Respondent 12)

"It is convenient for payments and a useful substitute for physical currencies."

(Respondent 15)

The identified benefit of convenience corresponds to the studies of Agarwal, Qian, Yeung and Zou (2018), whose results showed, that included in the spill-over effects of using e-wallets, are the benefits to the small-size transactions and/or payments becoming more convenient for businesses and consumers alike. The convenience of usage creates “retail traffic”, which in turn increases sales, especially for small-size and start-up businesses. Shoppers are also embracing e-wallets at an alarming rate, owing primarily to their convenience and ease of use (Dhingra, et al., 2020).

Results from articles such as Yakean’s (2020) provides support to the benefits of e-wallets such as offering safety, security, and efficiency as e-wallets reportedly increase the transparency of financial transactions, offers safe payment options for customers, and had indications of reducing the spread of the COVID-19 virus. The cashless system benefits businesses by allowing them to increase sales and extend their operations by giving clients simple, safe, and faster payment options for goods/services.

The raw data of the current study conducted in Tacloban City, Philippines corresponds with these studies from international origin:

"It (e-wallets) helps us (the business) in reducing physical contact and the risk of spread of virus through physical money. This is very important because we are a drugstore. Overall, we can reduce the risk of spreading COVID-19 and promote safety through contactless payments." (Respondent 14)

"E-wallets are convenient and instantaneous as a payment system." (Respondent 14)

"This is also so people need not transport sizable amounts in an unsecured fashion, and to prevent unfortunate events like robbery, etc." (Respondent 3)

"The method is quite fast, and because of the features the e-wallet offers, we can have the payments debited to our business accounts." (Respondent 3)

And the fourth benefit indicated from the data can be corroborated by a continuing study by the World Bank which revealed that with the existence of e-wallets, businesses are able to expand their market especially with their participation in e-commerce (Klapper, 2015).

"E-wallets have broadened our market. Since payment can be done conveniently through GCash, our customers have increased and the majority of them are from online transactions." (Respondent 13)

Data from this current study attested to other improvements brought by e-wallets to some aspects of the businesses who use them, such as the greater accuracy of computations, and its function as an additional payment option for the customers. However, prior studies that can testify to these findings are yet to be made:

"E-wallets also improved the accuracy of transactions and reduced computation variances because our payment system will not recognize a purchase as completed if the exact amount on the receipt is actually paid/sent by the customer via GCash." (Respondent No. 14)

"Having e-wallets means more options for the customers to choose from, and it offers more convenience." (Respondent 1)

Varying testimonies from the respondents were received regarding the effect of using e-wallets to their sales. Majority, however, have answered that their sales increased due to the fact that they use e-wallet platforms in their business activities. Respondents share their testimonies:

"On average, we are able to increase around ₱180,000 more to the monthly income stemming from new enrollees due to the switch to online learning and online payments." (Respondent 3)

"Sales increased by 50%, about P50,000." (Respondent No. 13)

Extended operations due to the simplicity, safety and fast payment options using e-wallets have allowed an increase of sales per the study of Yakean (2020). The result of an increase in sales also resemble with Agarwal, Qian, Yeung and Zou's (2018) conclusions which stated that the shock within the industry when mobile wallets were first introduced resulted in increase in sales of both discretionary (not necessary) goods and non-discretionary (mandatory or necessary) goods, as well as increase in sales of dining providers.

The increase in sales demonstrated by the businesses who have adopted innovation in their payment systems by using e-wallets, have proven true the Crépon, Duguet, and Mairesse (CDM) framework from which this study's main idea is based.

The remaining data gathered from the respondents pertaining to their sales, pointed out that using e-wallets did not affect them whatsoever:

"Sales, it is basically the same since we used e-wallets. We cannot say that there has been a significant value or effect in terms of increasing sales." (Respondent No. 1)

"Sales are almost the same." (Respondent No. 8)

Majority of the respondents claimed that their purchases within and for the business have neither increased nor decreased when they implemented the use of e-wallets. Respondents expressed the following:

"The changes are negligible since the purchases made are done during regular intervals, and we do not use e-wallets for them." (Respondent 3)

"No increase because we do not use e-wallets for purchases." (Respondent No. 14)

This somewhat matches with existing studies on e-wallets which only states that the increase in e-wallet purchases only reflect in individual consumers, and has no mention that it is necessarily applicable to companies and business establishments. According to Alam (2020) rather than cash or cheque, electronic wallets offer incentives to encourage consumers to think that for certain purchases, they are better for such things as fuel, food, or travel, or discounts. Researches, other than this one, that explore if there are changes to a business' purchasing activities have yet to surface.

E-wallets in Financing Activities

The businesses as respondents for this study have all answered a non-existing involvement in financing activities using e-wallets, activities which usually pertains to the issuance, availment, and payment of loans, as well as other inflows and outflows of cash and non-cash from investors. According to respondent

"As of the moment, we have not considered taking loans through e-wallets. We simply have not found the need to do so in current business; No. We don't issue loans, and debts are usually paid after a brief period." (Respondent 2)

"No (do not pay loan through e-wallets), all loans are auto debited to bank account." (Respondent No. 13)

These results do not coincide with a recent study, also conducted in Asia, that has concluded that their financial industry has begun to evolve and progress with a new credit scoring system, internet lending, digital insurance, computerized investing advice, and other innovations – as a country dominated by mobile payment services. Three factors were believed to be contributors to the success of mobile wallets in their country: the sudden shortage of traditional payment services, the regulatory systems in place that promote the use of payment innovations, and the overall development of their financial technology (Huang, et al., 2020). These three factors, unfortunately, cannot be said to exist as much in the

Philippines, especially in the context of this current study's locale. Tacloban City, although considered a first class urbanized city in Eastern Visayas, still lack (1) a significant development in internet technology, (2) the support of a regulatory environment, and (3) a shortage of the traditional payment industry, to reinforce the shift to a digitized payment system.

E-wallets in Investing Activities

E-wallets prove to bring convenience in investing activities in enterprises, particularly the purchase of long-term assets. Certain participants have expressed that buying furniture and fixtures, machines, and equipment are easier, especially with the mobility restrictions of the pandemic. As explained by a research respondent:

"This [purchase of equipment] is convenient because we do not have to visit the stores." (Respondent No. 13)

"It was convenient to use e-wallets when we were buying [equipment] online." (Respondent 3)

This sentiment is supported by the findings of a study by Klapper (2017), emphasizing that digital payment infrastructure serves as a convenient and affordable bridge between entrepreneurs and new markets for their goods and services. E-wallets open doors to larger markets, further extending services that are believed to provide more value to its users.

Moreover, purchasing fixed assets, which are usually bulky and heavy, through electronic means reduce travel time and expenses for business owners. This is consistent with the conclusions of Alam et al. (2021), saying that transaction costs are significantly reduced because the requirement of a middleman is eliminated. Published papers from Hung & Luo (2016) and Gomber et al. (2017) underscore the low cost and convenience of purchase for assets through e-wallets. However, buying property, plant, and equipment via e-wallets are

subject to limitations due to size, nature, and price of the asset, as well as the monthly volume cap imposed by e-wallet providers.

On the other hand, results of this study reveal that e-wallets are not commonly used in other investing activities such as sale of long-term assets, purchases of marketable securities, and acquisitions or divestitures. One respondent, however, mentioned that he uses e-wallets for cryptocurrency as a personal investment. Since the majority of the respondents are micro enterprises, they do not make the aforementioned large-scale business investments. Larger enterprises involved in this study, however, claimed that they prefer bank transactions for major investments and capital expenditures. Kang (2018) asserts that most individuals prefer traditional transactions in the local banks because of tighter security and protection of user confidentiality.

Inconveniences in Using E-wallets Encountered by Businesses

Despite the wide range of advantages brought by e-wallets to elevate the dynamics of local businesses, the said innovation has its fair share of drawbacks that can affect its outcomes. The most common problem experienced by the respondents is the difficulties brought by unstable Wi-Fi or data connection. This causes delays in both in-store and online transactions, and even failed transfer of payments that could affect the income of the business. Some entrepreneurs also experience long intervals between the transfer of payment and the proof of receipt sent to their mobile, or even the reflection of said payment to their accounts. Business owners involved in the study narrated such inconveniences:

“Since e-wallets are reliant on a stable Internet or data connection to work, we encounter technical problems sometimes. This happens when the customers do not have a stable connection. Instead of an instantaneous transaction, it becomes prolonged because the customer cannot send the payment.” (Respondent No. 14)

“The challenge of using e-wallets in the enterprise is the internet connectivity, since most of the time there is no internet or signal. There would be times where we had to wait 2-3 days, so it does decrease the income of the store.” (Respondent No. 10)

This heavy reliance of e-wallets to a stable Internet connection to be able to operate can be considered as “operational constraints” to users. Abdul-Halim et al. (2021) defines operational constraints as barriers attributed to technology. This usually causes inaccessibility and difficulty of usage of e-wallets and digital payments in general.

Another operational constraints found in this study are in-application problems such as monthly transaction volume cap imposed by e-wallet providers. A respondent explained:

“We have experienced internal problems like the limit on monthly transactions. It becomes inconvenient when we exceed the limit because we cannot perform transactions.” (Respondent No. 13)

The most used e-wallet by the respondents, for instance, is GCash, which allows basic membership accounts with a limit of PHP 10,000 for both incoming and outgoing monthly transactions. Fully verified users are limited to PHP 100,000 worth of incoming transactions, while those fully verified accounts with linked bank or GSave/GInvest profiles, have a PHP 500,000-limit for monthly incoming transactions. Daily outgoing limit for fully verified users is PHP 100,000, but no monthly or yearly cap. Paymaya, the second most used e-wallet from the results, has a monthly transaction limit of PHP 50,000 for non-upgraded accounts and PHP 100,000 for upgraded ones. Daily, monthly, or yearly transaction limits for every e-wallet vary depending on the service provider.

Another participant also expressed another problem in using e-wallets:

"There are times when GCash undergoes maintenance, so it becomes unavailable."

(Respondent No. 10)

Application maintenance and system updates can also temporarily restrict the operation of e-wallets. Users experience intermittent access to e-wallet applications which are under system maintenance, or no access at all for a period of time. This results in delays or even cancellation of payment transactions. Although service providers provide advisory for such procedures on their social media platforms, most users are not notified until they open the application and experience troubleshooting.

Respondents cited instances where they made mistakes in the amount entered on their e-wallet devices. According to one of them:

"Sometimes the wrong amount is also punched, so we would have to correspond with Globe if adjustments can be made." (Respondent 4)

This is parallel to the conclusion of Ma et al. (2016) about how the limited scale, display, and keypads of e-wallets on mobile devices can be an encumbrance to users. This is attested by respondents in the study that have eyesight problems and limited technological

know-hows, as they are more prone to make errors in executing business transactions. One even expressed that she is hesitant and nervous to use e-wallets because of the reason above.

Although not common to everyone, results of the study also reflect that there are fraudulent cases in business transactions through e-wallets. A respondent narrated:

“There was once a fraudulent occurrence where the customer paid online, only to find out that the account was not theirs.” (Respondent 1)

Yakean (2020) highlighted this in their study: the cases of cybercrime and financial fraud increase because online transactions through e-wallets are prone to more risks such as hacking and money laundering. Sharma & Sharma (2019) also stated that risks related to protection and privacy are heightened in digital transactions. As e-wallets are a personalized service, individual and personal data are stored in the system, and must be treated with utmost confidentiality and protection to avoid fraud (Abdul-Halim, 2021; Sharma & Sharma, 2019). However, these findings are opposed to the conclusions of Huang et al. (2020) and Suri (2017) asserting that payments and remittances through digital payments are more secure due to reduction in transaction frictions, visible costs and invisible attrition such as theft.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

Main Findings and Inferences

The study provides detailed insights on the role of e-wallets in minimizing the effects of the real economic freeze brought by the COVID-19 pandemic. Compared to previous knowledge about the adoption of e-wallets, this study brings important findings on e-wallets in the context of increasing business productivity in times of a pandemic.

Objective 1.

Despite the wide availability and its existence of digital payments in the last decade, the progress of adopting the system in the firm's daily operations is relatively slow. The main determinants of using e-wallets as an additional payment method are its convenience, security, and its adaptability to modern times. The emergence of the COVID-19 pandemic and the implementation of different health protocols have boosted the digitalization of payment. It has become a new factor for consumers to accept cashless payments as it promotes a safer payment method, reducing physical contact with others and the risk of contracting the COVID-19 virus.

Objective 1.1. Operations

The adoption of e-wallets has proven itself to increase sales. This is due to numerous reasons such as easier and faster transactions and the increase of potential customers because of the wide reach and accessibility of e-wallets. This produces more retail traffic that supports profitability. Certain areas of business operations have significant improvements, such as wage distribution and transactions with suppliers.

Objective 1.2. Financing

Despite e-wallets offering a variety of financial services such as loans, business owners still rely on banks for issuance, availment and payment of loans. This is due to the

lack of awareness of enterprises on the services offered by e-wallet providers such as loan, insurance, and banking options. Business owners need guidance and literacy on the strategic potential of e-wallets to leverage them on their financing activities.

Objective 1.3. Investments

The potential of e-wallets in providing investment options for business owners is not fully utilized. Investments executed via e-wallets are limited by the nature and size of long-term term assets because of the outgoing transaction cap of e-wallets. While business owners may adopt e-wallets in purchasing small investments, such as furniture, machines, equipment, they still opt for cash or bank transfers for higher costing investments for security reasons.

Objective 2.

The pandemic became a catalyst for the growth of digital payments, increasing the number of users in the Philippines. E-wallets are pivotal facilitating new business exchanges that would not have been possible without the existence of such innovation. These are effective in increasing the volume and value of transactions conducted in times of pandemic. Business owners have shown themselves flexible to unforeseen events and ever-changing consumer behaviors. Efficiency in entrepreneurship and trade are continuously promoted through a greater degree of transactions of goods and services through e-wallets despite mobility restrictions.

Implications of the Findings and Limitations

This study fills a research gap in the literature, by identifying how e-wallets can be utilized to address the economic freeze caused by the COVID-19 pandemic. It should be emphasized that the data gathered are limited to the business productivity in Tacloban City. As this is a qualitative study, data and conclusions were based on narratives and personal experiences of the chosen respondents regarding the use of e-wallets in their respective

businesses and the improvements on operations attributable to the said innovation. This can be complemented by quantitative and financial data, such as the volume of digital payments as compared to cash, the number of transacting parties who use e-wallets, and their average incoming and outgoing funds that go through electronic channels.

The reviewed literature portrayed a wider implication for small businesses and start-ups benefitting from the use of e-wallets. However, the respondents for this study were not focused and/or limited to only small-sized businesses, so this produced a different conclusion from existing studies. This, on the other hand, shows that digital financial technology is utilized only to a certain extent, especially for smaller firms.

Recommendations

As Bangko Sentral ng Pilipinas continue to promote financial inclusion through digital finance, it is critical to improve the financial technology literacy of Filipinos. Increasing the awareness among entrepreneurs, start-ups, and aspiring entrepreneurs about the benefits of e-wallets could strengthen the digital transformation of payment systems in the Philippines. Additionally, the government should introduce new policies focused on empowering digital payment to increase accessibility of financial services to Filipinos nationwide. A stronger infrastructure of digital payments and increased access points to financial services will also encourage a wider use of digital payments.

Having a strong internet connection is one of the contributing factors of adopting digital payments. The Philippines have long struggled with internet connectivity. The government and internet providers should work on developing the digital infrastructure in the country by designing policies that would help entrepreneurs be introduced to the strategic potential of e-wallets. These entities should encourage wider participation on the usage of e-wallets by having local government agencies lead the shift to digital payments through in-depth demonstration and workshops to lessen resistance to the said innovation.

The proponents encourage further research in the area of digital payments or e-wallets. Much of this research has been restricted by the small number of respondents, due to its qualitative nature and limited research locale. Thus, there is a need to promote data collection nationally, using qualitative and quantitative techniques and analysis, following a consistent methodology across regions. To determine the exact contribution of e-wallets in the country's Gross Domestic Product (GDP), further quantitative research will be most useful. It is further suggested that industries other than the ones included in this study, such as service, pharmaceuticals, construction, and real estate, should be assessed to find the respective degree of e-wallet penetration and adopt measures to widen usage.

Moreover, case studies on specific industries are encouraged to identify how e-wallets can be leveraged. As major industries in the Philippines, manufacturing and agribusinesses, as well as industries within these categories, should be studied on how the use of e-wallets can affect and aid them within the context of this pandemic. The implications of this study to small businesses and start-ups should be further explored as well, since it has been indicated that lesser transaction costs with the use of e-wallets benefit these industries.

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Appendix A: Interview Questionnaire

I. One-on-one Interviews

A. Enterprises and Firms

- a. What kind of problems/concerns arose in the business when COVID-19 started?
- b. Was the productivity of your firm affected by the lockdown?
- c. How was your sales affected?
- d. What made you switch from the traditional cash payment system to a digital payment system?
- e. When did your business start using e-wallets:
 - i. If even before the COVID-19 pandemic started,
 1. In which specific transactions do you use e-wallets in your business?
 2. How did your use of e-wallets address the problems or inconveniences that occurred within the business? To what extent?
 3. How did e-wallets address the problems that occurred when the pandemic started? To what extent?
 4. What are the differences or improvements that e-wallets have brought in the flow of your operations, compared to your cash payments?
 5. What problems/inconveniences did you encounter using e-wallets?
 6. If you were to estimate it, how many percent of your employees, customers, suppliers, etc., are also using e-wallets?
 - ii. If during the pandemic,
 1. In which specific transactions do you use e-wallets in your business? (customer payment, business purchases, transactions with suppliers, investment activities, wages)
 2. How did e-wallets address the problems that occurred when the pandemic started? To what extent?
 3. What problems did you encounter with cash payments that e-wallets were able to solve or help with?
 4. What benefits did you experience in using them? (convenience, safety, instantaneous)
 5. What are the differences or improvements that e-wallets have brought in the flow of your operations, e.g., payment system, transactions, compared to your cash payments?
 6. What problems/inconveniences did you encounter using e-wallets?

7. If you were to estimate it, how many percent of your employees, customers, suppliers, etc., are also using e-wallets?
- f. Have your employees increased, decreased, or remained the same during the pandemic?
- g. If quantifiable, (business performance ratios)
 - i. How much did your sales increase/decrease after using e-wallets?
 - ii. How much did your purchases increase/decrease after using e-wallets?
 - iii. How much did your investments increase/decrease after using e-wallets?