

Cashless Transactions: Assessing The Impact Of E-Wallet On Customers' Security, Expenditure, And Satisfaction

RIZELLE ANGELICA B. PARUNGAO, MBA

Don Honorio Ventura State University
Cabambangan, Bacolor, Pampanga, Philippines
ranbituin@dhvsu.edu.ph

Abstract — The present study highlights the impact of e-wallet usage on consumers' security, expenditure, and satisfaction. The study also describes the respondents with regard age and sex, assess their adoption of e-wallet in terms of frequency of use, range of uses, and applications used for transactions. To achieve these objectives, the study uses descriptive-correlational design. Survey questionnaires adapted from both foreign and local authors were used as primary instrument to gather the data pertinent to the study. These instruments were administered online to the consumers who were selected using simple random sampling and purposive sampling techniques. After gathering the needed data, they were processed statistically to interpret the findings of the study. As a result, the study concludes that the use of e-wallets has significant impact on consumers particularly on their security, expenditure and satisfaction which implies that consumers will continuously use e-wallets as they are advantageous. It is recommended to further improve the present study by considering other variables and involving a larger number of respondents.

Keywords — *Cashless Transaction, E-Wallet, Security, Expenditure, Customer Satisfaction*

I. Introduction

Over the years, cash has played a pivotal role in the financial inclusion of individuals and businesses. It is primarily used by people in exchanging goods, debts and services. Perhaps, people prefer to use cash as payment instrument because of its nature as physical currency as well as its confidentiality in transactions. But with the innovations brought by technology in the fast changing world, new modes of circulation were introduced. As observed by Flavian et al. (2020), the rapid change in technology has resulted in the popularity of new payment technologies replacing traditional methods and attracting increasing attention. Such digital transformations have risen with tremendous developments in the modern times through the use of smartphones and computers. Esawe and Elwkeel (2020) underscore that digital transformation, as a dynamic phenomenon, evolves to create new forms and activities.

As cashless becomes the newest trend, e-wallets grow rapidly in the financial world. An e-wallet, according to Ramli and Hamzah (2021), is “a mobile device-based platform that facilitates cashless payments of a sales transaction—either in proximity or remotely, between consumers and merchants or service providers.” It thus allows customers to preload a specified amount to their

accounts registered with service providers and spend it in paying for goods and services either online or offline (Phuong et al., 2020). Prasad Yadav and Arora (2019) also mentioned that a consumer bank account can also be linked to the e wallet. Furthermore, e-wallet users can pay for the same receipt independently because they have the option to split expenses (Syifa & Tohang, 2020).

For most customers, e-wallets are not only easy to use but also allow them to complete transactions more rapidly and conveniently. According to Upadhayaya (2012), e-wallets provide all the functions of today's wallet eliminating the need to carry several cards. They also bring several benefits that significantly affect the choice of mode of payment as they offer a secure, convenient, and portable tool for online shopping and provide ease in recurring payments and transfers. As mentioned by Tiwari et al. (2019), e-wallets reduce the complexity of carrying physical money for payment because it is done electronically and money can be transferred to any other e-wallet or bank account. Fintech, as emphasized by Esawe (2022), has long played an essential role in the financial services industry by bridging the gap between technological and financial components and removing restrictions that traditional payment activities cannot overcome. Scholars have also paid attention to the adoption of e-wallet for numerous reasons since it is one of the most recognizable.

The use of e-wallets became popular most especially when the pandemic plagues the world. In the Philippines for example, the situation accelerated the shift to digital payments from the traditional mode of cash transactions and pushes more consumers- individuals, businesses and the government to use mobile wallets as per the Bangko Sentral ng Pilipinas (2019). However, the use of e-wallet also has disadvantages. Nasri (2011) claimed that perceived risk is a major impediment to the adoption of e-wallet. Security, for instance, has always been one of the primary concerns and most pressing problems in payment systems. Due to low security that could harm consumers, the use of online transaction app gains a negative impression. Security problems sometimes lead to loss of trust and reputation which might also harm web-based vendors (Al Karim, 2013). In the study of Wang et al. (2016), they also mentioned security risks in mobile payment systems particularly malware, SSL/TLS vulnerabilities, and data breaches. Karim et al. (2020) thus claimed that security is a positive significant component to influence the adoption of e-wallet. Zhen et al. (2017) thus emphasized that e-wallets need changes to existing services in order to protect customers' privacy and security. Accordingly, digital signature and pseudo-identity methods, for example, may be integrated to secure the mobile wallet and secure the privacy of the mobile user.

Moreover, other factors might also influence consumers in their expenditures. In the study of Yang et al. (2012), for example, they emphasized that social influence is a significant factor. Accordingly, users may be influenced by their friends or people close to them in adopting a new technology like mobile payment service. And because of the effectiveness and ease of transactions, it is also easier for students to spend their money as supported by the recent study of Hoang et al. (2023). Accordingly, perceived convenience and ease of use of e-wallets encourage consumers to

make more impulsive buying decisions. Additionally, the availability of promotions, discounts, and other benefits offered by e-wallet providers can attract consumers' attention and lead to increased spending (Tewu et al., 2022). Apparently, as e-wallets gain more popularity, they drive users to spend more. It could also be noted that their spending behavior can be formed through spending behavior carried out by individuals repeatedly so that these habits will shape individual behavior and personality (Aji & Adawiyah, 2022). Such habits like individual shopping can then affect high consumption levels and poor financial management (Nguyen & Meng, 2016).

Despite of the popularity of e-wallets due to their benefits as well as security issues, consumers will not shift from the traditional to this new mode of payment if they are not satisfied. This pertains to the consumers' levels of satisfaction while using mobile payment to pay for transactions (Chen & Wu, 2017). According to Singh et al. (2017), consumer satisfaction can be measured based on new technology acceptance, quality of the services, convenience, and consumers' perception. If expectations on reliability, safety, and ease of use are met, more consumers will consequently engage into mobile payment.

Convenience, problem-solving, effectiveness and security are the top sources of satisfaction. The capacity of mobile payments to send money easily and safely, independent of one's location or possession of physical tokens such as cash or credit cards, results in satisfaction. In the study conducted by Kahandawa and Wijayanayake (2014), they observed that customer satisfaction is also determined by usability, convenience of use, and other factors that should be given attention by financial institutions. If this fintech invention meets the consumers' needs, it will most likely be used by consumers again in their transactions (Lee et al., 2021). In addition, Sigar (2016) emphasized the role of mobile self-efficacy as critical factor in adopting e-wallets. Esawe (2022) added that mobile self-efficacy has a significant influence on perceived enjoyment which affects satisfaction, effort expectancy and performance expectancy.

The use of e-wallets has evidently been found to influence the spending behavior of consumers. Several factors have been identified by the aforementioned literature that contribute to this influence. Studies indicate that the use of e-wallets can both have positive and negative effects on consumers, depending on various factors such as security, perceived ease of use in their expenditures and satisfaction. The goal of the present study is thus to determine the influence of such factors on consumers' adoption of e-wallet that will contribute in expanding relevant knowledge and strategies in managing consumers' finances.

Conceptual Framework

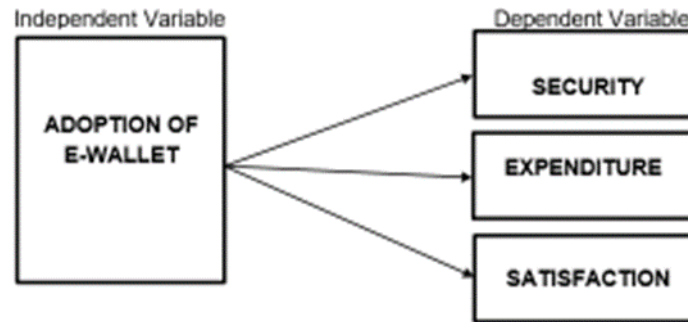


Figure 1. Paradigm of the Study

Figure 1 depicts the independent and dependent variables of the study. It illustrates that consumers' adoption of e-wallet directly influences their security, expenditure and satisfaction. The researcher believes that, based on the foregoing literature and studies, consumers will use this fintech innovation if it ensures the safety of their transactions, helps them manage their expenditures, and provides satisfaction.

Objectives

The goal of the study is to determine the impact of consumers' adoption of e-wallet on their security, expenditures, and satisfaction. The study specifically aims to answer the following questions:

1. How may the profile of the respondents be described in terms of age and sex?
2. How do the respondents assess their adoption of e-wallet in terms of frequency of use, range of uses, and applications used for transactions?
3. How do respondents assess the impact of e-wallet on their security, expenditure, and satisfaction?
4. Does frequent use of e-wallet significantly contribute to consumers' security, expenditures and satisfaction?

II. Methodology

Research Design

The study used a descriptive-correlational design to meet its objectives. Descriptive research, according to Sahin and Mete (2021), describes a population, circumstance, or phenomena in the study. McCombes (2019) also mentioned that adopting a descriptive method is beneficial when gauging public opinion on a topic. As for correlational research, Bhandari (2021)

emphasized that this design investigates relationships between variables without the researcher controlling any of them. It can also provide initial indications for theories about causal relationships between two variables. The study is thus descriptive-correlational as it describes the consumers' demographics as well as their opinions on the use of e-wallet particularly in terms of security, expenditures, and satisfaction. It also determines the underlying relationship between the mentioned variables.

Population and Sample

The respondents of the study are the selected 205 consumers of electronic wallets from the Municipality of Guagua, Pampanga. These respondents have been using e-wallet for at least 2-3 months; are not one-time user; and use e-wallet for any transaction such as payment, purchase and money transfer. In selecting the respondents, the researchers used simple random sampling to give each member of the population of being selected. Purposive sampling was also used in order to select respondents who already have knowledge and experience with e-wallets. The researchers thus used both simple random sampling and purposive sampling techniques to produce a more factual assessment after having obtained a reasonable idea of the sample.

Instrument

The research instrument used in the study was adapted from the survey questionnaires of foreign and local authors. The researchers used these measures towards the satisfaction of the research objectives. Consumers' Adoption of E-wallet in connection with the Frequency of Use Assessment (Tenka et al., 2020) was adapted to assess the frequency on the use of e-wallet. Moreover, Consumers' Security, Expenditure, and Satisfaction Assessment (Yong et al., 2018; Gautam Parmar & Rathod, 2018; Cristobal et al., 2018; Davis et al., 2017) was adapted to assess the mentioned variables. The final survey questionnaire underwent validity and reliability tests. For validity, the instrument was modified and validated by three experts on its content and items were rated on their relevance to the construct. The content validity index (CVI) is 100% which implies that the instrument is valid. For reliability, the instrument was pilot tested and obtained an excellent internal consistency as indicated by the Cronbach Alpha Coefficient of 0.93.

Ethical Consideration

Ethical guidelines were observed in the conduct of the study. The respondents were adequately informed about the entire research process and the study did not push through without their consent. The respondents' participation is also on a voluntary basis and they are free to withdraw from the study at any time. Moreover, they were ensured that all the gathered information such as their personal information and responses will be confidential in accordance with the guidelines of Data Privacy Act of 2012 to protect the fundamental human right of privacy, of communication while ensuring free flow of information to promote innovation and growth (Republic Act No. 10173, Ch. 1, Sec.2).

Procedure

The researchers first sought permission to adapt the survey questionnaires. Upon approval, the questionnaires were modified and validated by three (3) experts in the fields of English, Accountancy, and Business Management. Copies of the questionnaires were created on a web-based survey platform (Google Forms). The researchers then forwarded the questionnaires to the respondents online to gather the necessary data. Only respondents who expressed their willingness to participate were oriented about the purpose of the study and were given time to respond to the instrument. After the data were retrieved, they were organized, analyzed and statistically treated for interpretation.

Data Analysis

The gathered data were processed and treated statistically. In describing the profile of the respondents in terms of sex and age, frequency count and percentage distribution were used. These were also used in evaluating the consumers' frequency of use of e-wallet and the range of uses, and the applications used by consumers for their transaction. In assessing the impact of e-wallet on consumers, weighted mean and standard deviation were used. In addition, regression analysis was used in assessing the further impact of e-wallet on consumer's security, expenditure, and satisfaction. Furthermore, the following table was used in interpreting the data:

Mean Interval	Numerical Response	Verbal Response	Verbal Interpretation
3.26 – 4.00	4	Strongly Agree	The respondent has a very high level of impact on security, expenditure, and satisfaction.
2.51 – 3.25	3	Agree	The respondent has a high level of impact on security, expenditure, and satisfaction.
1.76 - 2.50	2	Disagree	The respondent has a low level of impact on security, expenditure, and satisfaction.
1.0 - 1.75	1	Strongly Disagree	The respondent has a very low level of impact on security, expenditure, and satisfaction.

III. Results and Discussion

Respondents' Profile as regards Age

Table 1. Frequency and Percentage Distribution of Respondents' Age

Age	N	%
11-20	133	64.69
21-30	49	23.90
31-40	14	6.83
41-50	7	3.42
51-60	2	0.98
Total	205	100.00

Table 1 shows that 64.69% of respondents are between the ages of 13 and 20 which represent the majority. Only two (2) of the respondents are between the ages of 51 and 60. As observed, e-wallet usage starts early at the age of 13 and continues to rise, reaching its peak at the age of 51-60. This indicates that as younger generations get more immersed in smart technology. Further, millennials stand out for their technology use, but older generations also embrace digital life (Vogels, 2019)

Respondents' Profile as regards Sex

Table 2. Frequency and Percentage Distribution of Respondents' Sex

Sex	N	%
Female	127	61.69
Male	78	38.05
Total	205	100.00

Table 2 indicates that 127 (61.69%) of the respondents are female while 78 (38.048%) are male. Women in perceived ease of use pay attention to easy to operate, language easily understood, free online payments, view of application easy to operate, view of application easily understood (Indarwati, 2020)

Respondents' E-wallet Usage Frequency

Table 3. Frequency and Percentage Distribution of Frequency of Use

Frequency of Use	N	%
Occasionally	107	52.20
2-3 times a month	50	24.39
Once a week	31	15.12
Once a day	17	8.29
Total	205	100.00

Table 3 indicates that 107 (52.20%) of the respondents use e-wallet occasionally while only 17 (8.29%) use e-wallet once a day. As reflected in the table, e-wallet has been an integral part of consumers' daily lives.

Respondents' E-wallet Range of Usage

Table 4. Frequency and Percentage Distribution of the Range of Usage

Range of Usage	N	%
Online shopping	157	33.48
Payment for mobile load/credit	105	22.39
Payment for food deliveries	95	20.26
Payment for household bills	52	11.09
Payment for actual groceries	18	3.84
Insurance payments	15	3.20

Online games	12	2.56
School fees	12	2.56
Bank transfer	2	0.43
Investment & business purposes	1	0.21
Total	205	100.00

Table 5 shows that most of the respondents use e-wallet in online shopping, mobile load or credit, and food delivery payment. Other reasons were payment for household bills and groceries.

Applications Used by Respondents in Cashless Transactions

Table 6. Frequency and Percentage Distribution of Applications Used in Cashless Transactions

Mobile Wallet Applications	N			%
GCash	183			43.47
Shopee Wallet	96			22.80
7-11 CLIQQ Pay	49			11.64
Grab Pay	28			6.65
Lazada Wallet	26			6.18
PayMaya	16			3.80
Paypal	14			3.33
Coins PH	7			1.66
ATM	2			0.48
Total	421			100.00

Table 6 demonstrates that most of the respondents (183 or 43.47%) use Gcash for their transactions followed by Shopee Wallet (96 or 22.80%). This indicates that Gcash as e-wallet has become very popular to Filipino consumers.

Impact of E-wallet on Respondents' Security

Table 7. Descriptive Analysis of the Impact of E-wallet on Respondents' Security

INDICATORS	M	SD	Verbal Description
1. E-wallet met my standards with its security system and influences me to keep making transactions	3.55	0.55	Strongly Agree
2. Keeping my information private and confidential is one of the reasons why I continuously use an E-wallet.	3.43	0.57	Strongly Agree
3. I am confident in making payments through E- wallet because it ensures my protection against the risk of fraud and financial loss.	3.38	0.63	Strongly Agree
4. I trust E-wallet because it follows existing legal regulations for online transactions and payments.	3.46	0.58	Strongly Agree
5. I have freedom from danger, risk, and doubt about security whenever I utilize digital wallet.	3.12	0.71	Agree
6. Risking my personal and financial information discourages my decision to adopt an E-wallet.	2.82	0.81	Agree
Grand Mean	3.29	0.64	Strongly Agree

Table 7 presents the respondents' assessment on the impact of e-wallet on their security. Findings indicate that respondents strongly agree that e-wallets are safe. Their security system meets the expectations of consumers ($M = 3.55, SD=0.55$) and keep their information private ($M = 3.43, SD=0.57$). Respondents are also confident that e-wallets could protect them from possible fraud ($M = 3.38, SD=0.63$) and they follow legal regulations ($M = 3.46, SD=0.58$). The grand mean of 3.29 indicates that e-wallet has a high impact on consumers' security upon using it. This demonstrates how E-wallet payments provide users with the required completion in terms of security that various businesses provide (Azman et. al., 2021).

Impact of E-wallet on Respondents' Expenditure

Table 8. Descriptive Analysis of the Impact of E-wallet on Respondents' Expenditure

INDICATORS	M	SD	Verbal Description
1. Paying using an E-wallet urges me to spend more.	3.18	0.82	Agree
2. With mobile wallet, the consumption experience feels less painful than paying in hard cash.	3.27	0.71	Strongly Agree
3. Every time I use an E-wallet for my purchases, I incur at least ₱1000 expenses.	2.58	0.76	Agree
4. For my purchases, mobile payment apps are compatible with the way I shop online in this time of pandemic.	3.40	0.58	Strongly Agree
5. I do prefer using E-wallet in paying for my bills and expenses (electricity, water, food, etc.) that plays a substantial role in my spending.	3.16	0.68	Agree
6. I am motivated to transact with sellers using mobile payment apps because it is more convenient than bringing cash.	3.32	0.64	Strongly Agree
Grand Mean	3.20	0.70	Agree

Table 8 shows the respondents' assessment on the impact of e-wallet on consumers' expenditures. It indicates that respondents feel less painful when using e-wallet as compared to using cash ($M = 3.27, SD=0.71$). They are also compatible with the way they purchase in online shops ($M= 3.40, SD=0.58$). Moreover, respondents find e-wallets convenient to use when transacting to sellers ($M = 3.32, SD=0.64$). In general, respondents agree (3.20) that e-wallet affects their expenditures. This lends enough support to the study of Boden et al. (2020) who found out that mobile payments increase the payment convenience, thus triggering more spending behavior. This illustrates how e-wallet payment gives fulfillment to users that make them disregard the cost and make them spend more.

Impact of E-wallet on Respondents' Satisfaction

Table 9. Descriptive Analysis of the Impact of E-wallet on Respondents' Satisfaction

INDICATORS	M	SD	Verbal Description
1. I find the step-by-step navigation of mobile wallet to be flexible to interact with.	3.49	0.57	Strongly Agree
2. With 24/7 accessibility services of E- wallet I experience an easier and faster way to accomplish transactions.	3.55	0.55	Strongly Agree
3. Transactions performed through E-wallet are correct and properly backed up with supporting receipts and invoices that push me to value and use the service.	3.54	0.53	Strongly Agree
4. Providing clear, simple and understandable guidance impact my intention to perform transactions through e-wallet	3.48	0.56	Strongly Agree
5. Safety and convenient to use in case of emergencies affect my satisfaction with the services	3.50	0.57	Strongly Agree
6. Response speed affects my satisfactory finding in E-wallet.	3.47	0.57	Strongly Agree
Grand Mean	3.51	0.56	Strongly Agree

Table 9 shows that the respondents are very satisfied with the features and services provided by e-wallets. This could be attributed to the simple navigation, accessibility, convenience and safety of e-wallets. The grand mean of 3.51 indicates the high satisfaction level of the respondents implying continuous usage in future transactions. This is consistent with the findings of Hoque et. al. (2017) who found out that e-wallet influences a consumer's satisfaction. Thus, e-wallet services should be improved more to attract new consumers, satisfy their needs and improve customer relations (Gomachab, 2018).

Regression Analysis of the Effect of E-Wallet on Respondents' Account Security, Expenditure, and Satisfaction

Table 10. Effect of E-Wallet Usage on Respondents' Account Security, Expenditure, and Satisfaction

Dependent Variable/s	Beta Coeff.	Std. Error	t	P	Significance
Security	0.126	0.032	1.811	0.032	Significant
Expenditure	0.577	0.054	10.059	0.000	Significant
Satisfaction	0.611	0.056	10.993	0.000	Significant

Table 10 shows the regression analysis of the effect of e-wallet usage on consumers. Findings reveal that frequent use of e-wallets has a considerable impact on account security, expenditure, and satisfaction of consumers. This just means that consumers prefer e-wallets since they are safe, convenient to use in purchasing products and services, and provide users satisfaction.

IV. Conclusion

Based on the findings, the study concludes that the use of e-wallets has significant impact on consumers. E-wallets have been a part their lives as they use them frequently since they find them safe to use because of increased security. Consumers also recognize the compatibility and convenience of e-wallets which affect their spending behaviors. Moreover, the overall features of e-wallets which include their accessibility, reliability, safety, and ease of use, make consumers very satisfied. This indicates that they will continue to use e-wallets in their daily transactions.

Based on conclusions drawn, the study recommends to digital wallet service providers to promote the advantage of using e-wallet payment system and how it can benefit potential users especially among male consumers who are not trend driven customers. Service providers should also continuously innovate services to maintain good reputation among customers. Furthermore, future researchers may improve this research study by considering other variables and involving a larger number of respondents.

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