A Tale of Two Billfolds: A Comparative Study on Behavioral Intention of Filipino Consumers in Using e-Wallet and Cash During In-Store Transactions

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Abstract

The COVID-19 pandemic catalyzed the use of digital payments. However, this is still far from reaching the cashless economy that Bangko Sentral ng Pilipinas seeks. With the ease of lockdown restrictions, cash may still dominate physical transactions due to the limited adoption of e-wallets in the country. This study aimed to determine whether Filipino consumers prefer the use of cash or e-wallets in dealing with in-store transactions. A self-administered survey was distributed to 252 individuals residing in Greater Manila and Pampanga. It gathered socio-demographic variables and a Likert scale to measure factors, namely performance, usefulness, trust, ease of use, security, responsiveness, transparency, perceived enjoyment, and behavioral intention. The results of the survey were analyzed through Non-Parametric Tests such as the Wilcoxon Signed-Rank Test, Kruskal-Wallis Test, Mann-Whitney U Test and Kendall-Theil Test. The results of the study showed that most of the Filipino consumers still prefer having cash transactions in the current and future times and are not yet able to adapt to the usage of e-wallet. Having an aim to become a 'cashless' society, e-wallet service providers must make improvements to encourage more consumers to use e-wallets in dealing with in-store transactions.

Keywords
Behavioral Intention, e-wallet payments, Cash, Non-parametric, Cashless

1. Introduction
Digital wallets, also known as e-wallets, are financial transaction systems that run on mobile devices. This technology is mainly known for enabling contactless or faster remote transactions for personal, business, or government purposes. Moreover, as the COVID-19 pandemic started, digital wallet companies have found a new prominent purpose: *to let users experience a contactless and 'more lightweight' payment system during in-store transactions.* Bangko Sentral ng Pilipinas (2020) reported a 14% increase in e-wallet payments in 2019 and 20.1% in 2020 in terms of volume. In terms of its value, e-wallet payments have increased from 24% to 26.8% during the same period. In 2020, government-related payments (G2X) is reported as the most cash-lite payment sector. This progress should drive the digitalization of payments and push the government to start initiatives and policies establishing the digital transaction system (Estioko et al. 2021). However, since this payment system is yet emerging and progressing, drawbacks were experienced by the Philippines in using it - cybersecurity risks, social class and financial literacy, and the role of physical cash in having a 'cashless' life. Even though the pandemic has prompted the people in utilizing e-wallets, the scam and cybersecurity issues has held them from trusting them. Even with the rise of e-commerce, cash on delivery is still preferred by most users since they feel safer with their purchases through it. Internet connectivity such as poor access, slow speed, and affordability is still being experienced in the county which hinders the use of e-wallet. It was estimated that 57% of households in the country do not have internet access, so cash is still the primary mode of payment since digital methods cannot fully be utilized (World Bank 2020). The findings of the study served as a determinant of the readiness of the Philippines to be a cashless society and the need for e-wallet companies to provide more accessible, user-friendly, and optimized services. It can also aid e-wallet developers in better understanding user

behavior and upgrading the e-wallet system. In addition, the study determined whether or not using an e-wallet is beneficial to customers and the outcome metrics for saving time during payment transactions.

1.1 Objectives
The study primarily aims to determine the payment preference of Filipino consumers in dealing with in-store transactions during and after the surge of the COVID-19 pandemic in the country. Moreover, the study also aims to specify the significant factors mainly affecting their behavioral intentions in using cash and e-wallet for in-store transactions. It also intends to compare the perceptive difference of consumers to cash and e-wallet concerning the given key constructs. Lastly, the study aims to develop predictive models derived from the correlation of the responses in estimating the behavioral intention of another individual.

2. Literature Review
In the Philippines, e-wallet use has become an emerging trend due to the COVID-19 pandemic. The e-wallet payment adoption is slowly increasing but Filipino consumers are still wary about the risks of its use. There are also disadvantages to any payment method but being a recent technology, the disadvantages of e-wallets possibly weigh more than cash. This leads to various factors that can affect the behavioral intention of a consumer in using a payment method for their in-store transactions.

2.1 Digital Payments in the Philippines
Digital payments have been recognized by the Bangko Sentral ng Pilipinas as a policy priority, however, 85% of total retail sales in the country are still done by cash. In 2001, the Philippines pioneered digital payments through e-wallets, headed by Smart Communications. Despite the digital innovation, e-wallet payments have only accounted for 1% of the country's total transaction volume, or 26 million out of 2.5 billion transactions monthly, in 2013. Moreover, the total monthly transaction volume for e-wallets increased between 4.6 to 5.8 billion transactions in 2018 (Funa 2020). While digital payments increased to 20.1% of the monthly personal transactions in 2020, more Filipinos still prefer doing cash transactions. In average, 3.624 billion cash transactions and 910 million digital transactions were made in 2020 (Estioko et al. 2020). A good internet connection is an integral part to the growth and achievement of a 'cashless society'. The digital infrastructure in the Philippines is urban-centric, meaning that cell sites for stable internet connectivity are lacking in rural areas, and thus creating an unfair environment for equal, reliable, and affordable internet access. The Philippines is estimated to have 20,000 towers, which is relatively less than Vietnam, with 70,000 towers, and Indonesia, with 90,000 towers. Out of 103 million people and 23 million households in the Philippines, 40% and 57% respectively do not have access to the internet. Moreover, according to the EIU standards, the affordability rate of internet services in the Philippines scored less than 70, which makes it the least affordable, despite its poor performance, among the ASEAN countries (World Bank 2020).

2.2 E-wallet Acceptability in the Philippines
As e-commerce has become an increasing demand in the Philippines, around 50% of Filipino adults still prefer paying their orders through cash on delivery, due to their doubts about the security of digital payments (Department of Commerce USA 2021). The Bangko Sentral ng Pilipinas has provided three ways for the consumers to ensure their digital safety - BSP Circular No. 649 Section 4 or the record-keeping system maintenance of electronic money institutions (EMIs), the requirement of EMIs to maintain a Grievance Redress Mechanism (GRM) for filing of complaints, and the internal control, technology and system advancement, proper security policies and measures, and other risk management systems followed by the EMIs. Moreover, Filipinos aged 41 to 56 years old (Gen X) can adapt to modern technology, yet they are less accepting of digital payments. The analyzed influencing factors to their affirmative behavioral intention are ease of use, rebates, and the most significant one which is social influence. However, their perceived risk is what made Generation X less accepting of it (Cacas et al. 2022).

In a similar study, 83 marketing department employees of a company based in Taguig City were used to study the factors influencing their decisions in adopting the e-wallet payment system. 53 of them experienced delays and unease with use, while the others experienced no issues. Analyzed influencing factors to include perceived risk, security, perceived advantage, trust, usability, and use of web assurance seals. Security, trust, and usability were the most significant factors for the respondents upon ranking. However, there seemed to be minimal to no correlation between the four factors mentioned above and the adoption intention of the respondents, except for perceived risk and security which incurred a slightly higher correlation (Raon et al. 2021). In another similar study, 433 firm owners and managerial employees in different Philippine regions were surveyed to identify the factors affecting the e-wallet

payment adoption of their firms or businesses. 67% of the enterprises had utilized e-wallet payments, and 45% of them had utilized it even before the pandemic. The pre-pandemic adopters had reported better business performance, yet they were on the same level of profit performance as non-adopters. During the pandemic, the adopters have observed an advantage in performance ratings over the non-adapters, despite the decline in business performance for both groups. This was because of cash flow, growth, higher profit, and lower debt due to digital payment adoption. Results from the analysis further stated that the flexibility and adaptability of younger firms and employees could affect their tendency to adopt digital payments (Acopiado et al. 2022).

2.3 Disadvantages of Cash and e-wallet use

While e-wallets are becoming more popular in today's time, cash transactions are still relevant. However, both of these payment transactions also have some disadvantages. The main issue of carrying cash is the security and privacy risk for the users. There is no accountability for stolen or lost cash since there are minimal identifying factors, unlike e-wallets. 981 theft cases were reported in the Philippines in April 2022 - comprising about 37% of the total number of cases of all focus crimes (Canete 2022). E-wallets need internet or data connectivity because they cannot be used offline. This makes it very inefficient in areas with low or no internet connectivity which is an ongoing issue in the country as stated that 32% of the population remained offline at the start of 2022 (Kemp 2022). Another problem is security issues; although the BSP ensures that data stored through these digital wallets remain private and safe, there will always be instances where a user might experience security issues. Users usually store sensitive payment data and information, which can be compromised if the device is stolen or accessed without the owner's permission (SMEBook 2020).

2.4 Factors affecting Behavioral Intention

Kar (2021) suggested that there are key constructs considered as influencing factors in user satisfaction with mobile payments in India. Trust, information risk, security, information privacy, and confidentiality are the related factors to the integrity of the account information of both users and merchants, while social influence enables users to create a perceived support system for trying new technologies and assess their confidence in using them. All of these factors reflect the customer's attitude, which is another factor to consider in determining their behavioral intention and usage satisfaction with e-wallets. Two other key constructs, transparency, and perceived enjoyment, are also integrated for further insights into the study. Even though cash transactions are ubiquitously accepted and explicitly executed, transparency remains crucial in financial and evasion crimes, especially when dealing with large-scale purchases (Sands et. al. 2017). Additionally, transparency can reflect on concerns regarding extra transaction fees that could distress the payment system if opaque fees are continuously charged in some cases (Reserve Bank of Australia 2021). Higher transaction, communication, or subscription costs often affect the utilization of digital services in both personal and organizational settings (Chatterjee and Kar 2020). On the other hand, perceived enjoyment is considered as the pleasure or fulfillment experienced by the user on a specific activity (Winarno et al. 2021). The challenge in budgeting cash is more apparent than in e-wallets since an individual can only store a limited amount of bills in their wallet, thus increasing the fulfillment of purchases, especially for large-amount ones.

2.5 Summary

Cash and e-wallets are both payment methods currently used in the Philippines but unlike cash, e-wallets have drawbacks that discourage more people from using them. These can include internet connectivity and accessibility issues, lack of awareness and trust, security and privacy risks, age, and experience with technology. To relate the objectives in the Philippine setting, the key constructs to be considered in the study are narrowed down to the applicable factors when using cash and e-wallet, which are: usefulness, trust, ease of use, security, performance, responsiveness, transparency, and perceived enjoyment.

3. Methods

A quantitative approach was used for the study. Non-parametric tests were done since the gathered data are results from the online self-administered Likert-scale survey. This method is preferably applied to ordinal data, such as Likert scale data (Mircioiu and Atkinson 2017). The sampling unit used in the study is an individual aged 18-75 years old. GPower Software was used to determine the sample size needed for the non-parametric tests to be conducted. Wilcoxon Signed-Rank test requires 57 samples, while the Mann-Whitney test requires 220 samples. Therefore, the study needs 220 respondents before conducting the statistical tests. To come up with a well-represented population, the percentage populations of each region or province in Greater Manila and Pampanga were obtained. The population

figures presented in Table 1 were obtained from forecasting the official 2000 to 2010 census data by the Philippine Statistics Authority.

Table 1. Sample Size Distribution in the locations used for the study

Region	Population	Percentage Population	No. of Respondents
National Capital Region (NCR)	2,621,866	0.50	110
Bulacan	565,379	0.11	42
Pampanga	297,199	0.06	12
Cavite	646,891	0.12	47
Laguna	551,856	0.11	23
Rizal	563,849	0.11	24
Total	5,247,040	1	220

The self-administered survey was disseminated online on social media platforms. People were invited to answer it through Google Forms, and their responses should be according to their current knowledge and experience. Upon the completion of data gathering, descriptive statistics were done to summarize the socio-demographic data of the respondents. Afterward, four non-parametric tests were performed. The Wilcoxon-Signed Rank Test was used to know the significance between the behavioral intentions when using cash and e-wallet during in-store transactions. The Kruskal-Wallis Test was used to compare the means of the socio-demographic variables and to determine which has the most influence on their behavioral intention. The Mann-Whitney U Test was used to assess the significance of the key constructs between cash and e-wallet and to conclude if their perceptions of the two payment methods are the same or not. Lastly, the Kendall-Theil Regression Test was used to analyze the relationship between the behavioral intention and the key constructs for both cash and e-wallet.

4. Data Collection

Data is collected through a self-administered survey, a structured set of questions wherein respondents complete it as honestly as possible. The first section includes socio-demographic questions: age, gender, residence, employment, socioeconomic status, source of internet connectivity, and time spent online and in-store shopping. The following section contains questions regarding the key constructs. Table 2 shows each key construct's definition, and the questions columns are the items in the questionnaire. Each construct has three items to ensure the respondent's answer consistency. A Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used for it. The definitions and questions are from related literature excluding transparency questions that were from the researchers.

Table 2. Questions related to the key constructs in the survey

Key Construct	Definition	Questions
Performance	Refers to which the users believe that using cash or e-wallets during in-store transactions could achieve high performance in payment methods. The expected performance would be based on transaction productivity, speed and convenience (Venkatesh et al 2003).	Using cash/e-wallet payments would enable me to accomplish in-store transactions more quickly. (Giyane et al. 2013)
		Using cash/e-wallet provides results that meet your needs. (Al-Okaily et al. 2020)
		Cash/e-wallet payments during in-store transactions will benefit you in the long run. (Al-Okaily et al. 2020)
Usefulness	Perceived usefulness refers to how an individual believes using a particular information system will improve productivity (Davis 1989). The extent to which a person believes that mobile payment would enhance their performance in daily activities is characterized as perceived usefulness.	Using cash/e-wallet payments enhances the efficiency of my in-store transactions. (Gu, Lee, and Suh 2009)
		Using cash/e-wallet improves my ability in managing personal payments during COVID-19. (Lai et al. 2022)
		Overall, I found the cash/e-wallet payments to be useful in in-store transactions. (Lai et al. 2022)

Key Construct	Definition	Questions
Trust	It is a factor in maintaining the transactional relationship between merchants and customers. The risk of any financial transactions is associated with trust (Slade et al. 2015).	I trust cash/e-wallet payments to be reliable. (Slade et al. 2015)
		I trust cash/e-wallet payments to be secure. (Slade et al. 2015)
		Overall, I am confident that there is minimal risk while doing in-store transactions, with cash/e-wallet payments including the integrity of the merchant. (Slade et al. 2015)
Ease of Use	The term ease of use signifies "the extent to which using a particular system will be free from effort" (Davis 1989). The extent to which people believe that utilizing a particular system would be free of physical and mental effort is characterized by perceived ease of use.	It would be easy for me to understand the in-store transaction mechanism of cash/e-wallet payments. (Dalimunte et. al 2019)
		I find cash/e-wallet payments for in-store transactions are convenient for me. (Dalimunte et. al .2019)
		I have confidence in using cash/e-wallet payments for in-store transactions. (Gu, Lee, and Suh 2009)
Security	Security concerns in mobile payment systems influence consumer attitudes. There is a risk of unauthorized use of financial information and transactions (Akturan and Tezcan 2012). In the context of the COVID-19 pandemic, the National Academies of Sciences, Engineering, and Medicine (2021) claims the surface viability of the COVID-19 virus can survive on paper money for up to four days.	I think the cash/e-wallet payments system has the mechanisms to ensure the safe transmission of its users' information. (Al-Okaily et al. 2020)
		I am worried about getting infected by coronavirus when using cash/e-wallet payments. (Lai et al. 2022)
		I am uncomfortable using cash/e-wallet payments transactions because of weak or suspicious security. (Lai et al. 2022)
Responsiveness	Measures the speed of a specific transaction. It can influence customer satisfaction based on how fast a transaction is. It is said that the higher the system's responsiveness, the lesser the time and effort the user would be utilized to achieve (Lin 2013).	Cash/e-wallet payments systems are stable to use. (Gu, Lee, and Suh 2009)
		The speed of cash/e-wallet payments systems is quick and fast to use. (Gu, Lee, and Suh 2009)
		The service for cash/e-wallet payments responds quickly when there is a system error or discrepancy. (Gu, Lee, and Suh 2009)
Transparency	Refers to knowing what the outcome is. This includes the total amount that they spent for a specific transaction. It can also include clarity and information for customers about the fees for their transactions (Chen 2021).	I can easily determine the amount of money used per cash/e-wallet transaction.
		The flow of transactions for cash/e-wallet payments is easy to follow.
		It is clear when a cash/e-wallet transaction is successful.
Perceived Enjoyment	It is defined as "the fun, pleasure, entertainment, or playfulness received from utilizing a technology". (Venkatesh et al. 2012). In this study, it is how a user enjoys using cash or e-wallets.	Using cash/e-wallet payments for in-store transaction is enjoyable. (Dalimunte et. al 2019)
		Using cash/e-wallet payments for in-store transaction is very entertaining. Dalimunte et. al 2019
		Making transactions with cash/e-wallet payment is pleasant. (Chen et al. 2021)

Key Construct	Definition	Questions
Behavioral Intention	A person's readiness to engage in specific behaviors and their desire to do so are both factors in behavioral intention.In this study, behavioral intention refers to a person's propensity to make use of specific technology to further their goals.	I intend to continue using cash/e-wallet payments transactions for in-store transaction in the future. (Dalimunte et. al 2019)
		I will always try to use cash/e-wallet payments for in-store transaction in my daily life. (Chen et al. 2021)
		I plan to continue to use cash/e-wallet payments transactions for in-store transaction frequently. (Chen et al. 2021)

5. Results and Discussion

5.1 Statistical Analysis

The Wilcoxon-Signed Rank Test was used to determine if there is a statistically significant difference between behavioral intention to use cash payments and e-wallet when doing in-store transactions. Based on the result in Table 3, the p-value is 0.008, less than the used alpha value of 0.05. This leads to the rejection of the null hypothesis, which states that the median difference between the behavioral intention of cash (cash_BI) and e-wallet (ewallet_BI) is 0. In other words, the behavioral intention to use cash differs, either higher or lower, from e-wallet.

Table 3. Wilcoxon Signed Rank test SPSS output

Null Hypothesis	Test	Sig.^{a,b} (p-value)	Decision
The median of difference between cash_BI and ewallet_BI equals 0	Related-Samples Wilcoxon Signed Rank Test	0.008	Reject the null hypotheses

    a.   The Significance level is 0.050
    b.   Asymptotic significance is displayed

Due to a significant difference, Table 4 was used to determine which payment method had a higher score for behavioral intention. Referring to the median score, cash is 4.33, and e-wallet is 4.17, meaning Filipino consumers are more likely to use cash for in-store purchases than e-wallets. This result supports the study of Polloso (2019), which stated that cash has still been the most preferred payment method of the Filipino majority, adding that only 28% of the population in 2019 had e-wallet accounts.

Table 4. Descriptive statistics of Wilcoxon-Signed Rank test

Dependent Variable	N	Std. Deviation	Median (Percentile)
cash_BI	254	0.85406	4.3300
ewallet_BI	254	0.75007	4.1650

The Mann-Whitney U Test was used to assess whether there is a difference between the key constructs of cash and e-wallet, for instance, if the consumers' perception of the performance of cash and e-wallet for in-store transactions are the same. It also contributed to determining the effect of the key constructs, possibly leading to the results of the Wilcoxon-Signed Rank test. The null hypothesis (H0) states that the distribution of the key construct is the same across payment method categories. In contrast, the alternative hypothesis (H1) states that the distribution of the key construct is not the same across payment method categories. Table 5 only includes the p-values from the SPSS Mann-Whitney test per key construct with its respective conclusions. Results show that only "Performance" and "Transparency" have similar distributions for cash and e-wallet.

Table 5. Mann-Whitney test results per key constructs

Key Constructs	p-value (Sig.)	Conclusion
Performance	0.540	Fail to Reject H_0
Usefulness	<0.001	**Reject H_0**

Key Constructs	p-value (Sig.)	Conclusion
Trust	<0.001	**Reject H_0**
Ease of Use	<0.001	**Reject H_0**
Security	<0.001	**Reject H_0**
Responsiveness	<0.001	**Reject H_0**
Transparency	0.231	Fail to Reject H_0
Perceived Enjoyment	0.002	**Reject H_0**

The rest of the key constructs have unequal distributions, meaning either cash or e-wallet was better. Therefore, a summary of the mean rank for cash and e-wallet per key construct and their interpretation, found in Table 6, is used to analyze the differences further. A higher mean rank indicates that the payment method is preferred. In summary, Filipino consumers think cash is trustworthy, easy to use, and responsive, while e-wallets are useful, secure, and enjoyable for in-store transactions. Also, both cash and e-wallets have good performance and transparency in their use for in-store transactions. Cash being more trustworthy still validates what BSP stated in their 2019 report that 39% of Filipinos lacked trust in digital or e-wallet payments.

Table 6. Mean ranks per constructs on Mann-Whitney test

Key Constructs	Cash	e-wallet	Interpretation
Usefulness	233.06	275.94	E-wallet is more useful than cash
Trust	312.89	196.11	Cash is more trustworthy than e-wallet
Ease of Use	299.80	209.20	Cash is easier to use than e-wallet
Security	212.23	296.77	E-wallet is more secure than cash
Responsiveness	311.13	197.87	Cash is more responsive than e-wallet
Perceived Enjoyment	234.19	274.81	E-wallet is more enjoyable to use than cash

The Kruskal-Wallis Test determined if there is a statistically significant difference in behavioral intention between the groups of the socio-demographic variables. The H0 states that the mean rank of the behavioral intention is equal across the independent variable categories, and the H1 states that at least one of the mean ranks is different across the independent variable categories. It is also used to know which of the variables influenced the result of the Wilcoxon Signed Rank test.

Table 7 summarizes the SPSS results of the test per variable, showing only generation and gender had different mean ranks across their own categories. The significant effect can be caused by the skewed distribution wherein respondents are 80% Generation Z and 72% females. However, other variables also have one group that dominates it. Based on the descriptive statistics where respondents are mostly students, have under Php40,000 monthly income, use GCash e-wallet, use mobile data for transactions, and spend 0-19 hours monthly for online and in-store shopping and did not have significant effects. Future studies could compare the analysis results to determine whether the skewed data or the variable itself in this study has caused a significant effect.

Table 7. Kruskal Wallis output per socio-demographic variable and payment method

Socio-demographic variables	Cash		e-wallet	
	p-value (Sig.)	Conclusion	p-value (Sig.)	Conclusion
Generation	0.683	Fail to reject H_0	**0.035**	**Reject H_0**
Gender	0.198	Fail to reject H_0	**0.036**	**Reject H_0**

Socio-demographic variables	Cash		e-wallet	
	p-value (Sig.)	Conclusion	p-value (Sig.)	Conclusion
Residence	0.561	Fail to reject H_0	0.183	Fail to reject H_0
Employment	0.440	Fail to reject H_0	0.657	Fail to reject H_0
Income	0.958	Fail to reject H_0	0.495	Fail to reject H_0
E-wallet used	0.355	Fail to reject H_0	0.281	Fail to reject H_0
Internet source	0.895	Fail to reject H_0	0.730	Fail to reject H_0
Hours spent online shopping	0.886	Fail to reject H_0	0.379	Fail to reject H_0
Hours spent in-store	0.864	Fail to reject H_0	0.524	Fail to reject H_0

The pairwise comparisons under Table 8 are evaluated to analyze the generation variable further. The comparison of Generation X (3) to Generation Z (1) and Y (2) had p-values (Sig.) of 0.022 and 0.019, respectively, which means that Generation X is the group that was not equal to the others. However, the adjusted p-value (Adj. Sig.) shows that the comparisons above have values greater than 0.05, meaning no significant difference. Since, according to the results in Table 7 that the null hypothesis is to be rejected, it is still considered that the comparisons had a significant difference. Additionally, referring to the mean ranks for e-wallet behavioral intention (ewallet_BI) per category in the table below, Generation X (3) had a significantly lower behavioral intention than both Generation Z (1) and Y (2). This result also supports the study of Cacas et al. (2020), wherein Generation X has a lower behavioral intention than younger generations.

Table 8. Pairwise comparison (left) and mean ranks(right) of age groups on the behavioral intention to use e-wallets

Pairwise Comparisons of Age				
Sample 1-Sample 2	Test Statistic	Std. Test Statistic	Sig.	Adj. Sig[a]
4-1	108.079	1.493	0.135	1.000
5-1	108.079	1.493	0.135	1.000
4-2	117.234	1.599	0.110	1.000
5-2	117.234	1.599	0.110	1.000
4-3	67.417	0.909	0.364	1.000
5-3	67.417	0.909	0.364	1.000
4-5	0.000	0.000	1.000	1.000
3-1	40.663	2.289	**0.022**	**0.221**
3-2	49.818	2.341	**0.019**	**0.192**
1-2	-9.155	-0.666	0.505	1.000

Ranks			
Variable	Age	N	Mean Rank
cash_BI	1	202	128.08
	2	32	116.61
	3	18	136.36
	4	1	206.50
	5	1	119.50
	Total	254	
e-wallet_BI	1	202	130.08
	2	32	139.23
	3	18	89.42
	4	1	22.00
	5	1	22.00
	Total	254	

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is 0.50
   a.   Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table 9 shows the pairwise comparisons and mean ranks from the SPSS output for gender. There is a statistically significant difference between males (0) and those who answered "prefer not to say" or the non-binary (2) with a p-value of 0.016 and adjusted p-value of 0.049. Referring to their mean rank table below, males have a higher behavioral intention (142.45) to use e-wallets compared to non-binaries' behavioral intention (80.56).

Table 9. Pairwise comparison (left) and mean ranks (right) of gender groups on the behavioral intention to use e-wallets

Pairwise Comparisons of Age				
Sample 1-Sample 2	Test Statistic	Std. Test Statistic	Sig.	Adj. Sig[a]
2-1	44.281	1.796	0.072	0.217
2-0	61.903	2.401	**0.016**	**0.049**
1-0	17.622	1.652	0.099	0.296

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is 0.50
    a.   Significance values have been adjusted by the Bonferroni correction for multiple tests.

Ranks			
Variable	Gender	N	Mean Rank
cash_BI	0	61	125.86
	1	184	130.04
	2	9	86.61
	Total	254	
e-wallet_BI	0	61	142.46
	1	184	124.84
	2	9	80.56
	Total	254	

Kendall-Theil regression, also known as Theil-Sen regression, was used to determine the significance between the key constructs and the consumer's behavioral intention for cash and e-wallet, and to come up with a predictor model for the behavioral intention of an individual towards cash and e-wallet. The H0 states that the behavioral intention and the key construct do not have a statistically significant relationship with each other. Their correlation coefficient is equal to zero. H1 states that the behavioral intention and the key construct have a statistically significant relationship with each other. Their correlation coefficient is not equal to zero. Table 10 is the summarized output from SPSS for each key construct cash and e-wallet, including the p-value, conclusion, and correlation coefficient.

Table 10. Kendall-Theil Regression SPSS Summary Output for Cash

Key Construct	Cash			e-wallet		
	p-value (Sig)	Conclusion	Kendall's W (correlation coefficient)	p-value (Sig)	Conclusion	Kendall's W (correlation coefficient)
x_1 - Performance	0.001	Reject H0	0.057	0.766	**Fail to reject H0**	0.000
x_2 - Usefulness	0.001	Reject H0	0.120	0.117	**Fail to reject H0**	0.010
x_3 - Trust	0.773	**Fail to reject H0**	**0.000**	0.001	Reject H0	0.153
x_4 - Ease of Use	0.002	Reject H0	0.038	0.004	Reject H0	0.032
x_5 - Security	0.001	Reject H0	0.664	0.001	Reject H0	0.330
x_6 - Responsiveness	0.328	**Fail to reject H0**	0.004	0.001	Reject H0	0.220
x_7 - Transparency	0.331	**Fail to reject H0**	0.004	0.025	Reject H0	0.020
x_8 - Perceived Enjoyment	0.001	Reject H0	0.135	0.206	**Fail to reject H0**	0.006

The results found that Filipino consumers perceive their trust, responsiveness, and transparency of cash as likely the same as their behavioral intention towards cash. Also, the consumer's performance, usefulness, and perceived enjoyment on e-wallets are likely the same as their behavioral intention towards e-wallets. It implies that these factors do not significantly affect their behavioral intention on the respective payment methods and are excluded in the formulation of the predictive model.

Equation 1 and 2 is the predictive model for the behavioral intention of a Filipino consumer when using cash and e-wallet, respectively, for in-store transactions. Kendall's W (correlation coefficient) served as the coefficient per variable in the equations. With this, the predictor model's slope or regression coefficients are weaker than cash's.

$$Y = 0.057x_1 + 0.120x_2 + 0.038x_4 + 0.664x_5 + 0.004x_6 + 0.004x_7 + 0.135x_8$$

Equation 1. Predictive model of the behavioral intention of a Filipino consumer when using cash in daily in-store transactions

$$Y= 0.010x_2 + 0.153x_3 + 0.032x_4 + 0.330x_5 + 0.220x_6 + 0.020x_7 + 0.006x_8$$

Equation 2. Predictive model of the behavioral intention of a Filipino consumer when using e-wallet in daily in-store transactions

Referring to Equations 1 and 2, it was assumed that all scores for the key constructs are equal to five (5) for both predictive models. The maximum forecasted score obtained from the model of cash is 5.11 or rounded off as 5, and for e-wallet is 3.86 or rounded off as 4.

$$Y= 0.057(5) + 0.120(5) + 0.038(5) + 0.664(5) + 0.004(5) + 0.004(5) + 0.135(5)$$
$$\mathbf{Y = 5.11 \text{ (for cash)}}$$

Equation 3. Maximum score for the predictive model of behavioral intention of Cash

$$Y=0.010(5) + 0.153(5) + 0.032(5) + 0.330(5) + 0.220(5) + 0.020(5) + 0.006(5)$$
$$\mathbf{Y = 3.86 \text{ (for e-wallet)}}$$

Equation 4. Maximum score for the predictive model of behavioral intention of e-wallet

Since the predicted behavioral intention of an individual when using cash during in-store transactions is greater than an e-wallet. It is generally concluded that cash is still preferred over e-wallet during in-store transactions. These findings are consistent with the results of the Wilcoxon test, where cash is also preferred over e-wallet.

5.2 Proposed Improvements

Based on the results of the study, it is evident that e-wallets need improvements in gaining the trust of users, being easy to use, and better responsiveness to encourage more consumers to use it. The following are recommendations for service providers and establishments that address the areas in which e-wallets are inferior to cash. Generation X are less likely to use e-wallets, simplified versions or user interfaces of the application should be provided especially for the less tech-savvy users and the older generations to not be overwhelmed with the various functions of the application. Basic features such as paying and loading the application should be introduced first then features can be added if the user prefers it. Cash is better in terms of trust and responsiveness than e-wallet. When referring to trust in this study, it means that it is reliable, secure in a way that it will not lead to receiving counterfeit money or hacked e-wallet systems and has minimal risk and ensures integrity of service providers, wherein reliability is the weakest point for e-wallets.

As for responsiveness, it means that the payment method is stable, quick and fast, and responds quickly with service or system errors, these areas all need to be improved by e-wallet providers. For store owners, it is recommended to address the trust issue to use authorized e-wallet applications and provide a safe space where the consumer can comfortably access their phone while transacting. For responsiveness, store owners should always provide alternative methods such as providing a secondary QR code that the user may use instead in case the first QR code was not working. They should also ensure that the cashiers are knowledgeable in all kinds of e-wallet applications so that they can provide assistance to those who may encounter problems when transacting with an e-wallet. Since e-wallet providers already have measures to counter hacking and system errors, it is only recommended to strengthen them and give assurance to the users that their system can provide their needs.

6. Conclusion

Electronic wallet, or e-wallet, has enabled individuals to efficiently complete facilitating transactions without carrying thick cash bundles and worrying about productivity loss and security risk. This study aimed to seek the readiness and willingness of all generations to become a 'cashless' society and to determine whether Filipino consumers prefer the use of cash or e-wallets in dealing with in-store transactions after the surge of the COVID-19 pandemic lockdowns in the Philippines through non-parametric tests such as the Wilcoxon-Signed Rank test, Kruskal-Wallis test, Mann-Whitney U test, and the Kendall-Theil Regression test. The readiness and willingness of all generations to become a 'cashless' society is still distant as of today due to the result of the Kruskal-Wallis test that Generation X are less likely to use e-wallets. As of the time the study was conducted, Filipino consumers have a higher tendency to use cash than e-wallets for in-store transactions as interpreted from the Wilcoxon-Signed Rank test results. This result was able to

meet the research primary objective. The key constructs used in this study were usefulness, trust, ease of use, security, performance, responsiveness, transparency, and perceived enjoyment. The Kendall-Theil regression specifically, developed a predictive model for an individual's behavioral intention when using cash or e-wallet in daily in-store transactions. The key constructs used in this study were usefulness, trust, ease of use, security, performance, responsiveness, transparency, and perceived enjoyment. With these critical constructs, the Kendall-Theil regression specifically, developed a predictive model for an individual's behavioral intention when using cash or e-wallet in daily in-store transactions. The results of the Kendall-Theil regression predicted that using cash during in-store transactions has a greater value than of the value when using e-wallet. Therefore, it is concluded that people still prefer to use cash rather than e-wallets during in-store transactions even in the near future. Also, the Mann-Whitney U test identified the factors in which cash is favored more than e-wallets which are believed to have caused the low usage of e-wallets. With the results of tests, most of the Filipino consumers still prefer having cash transactions in the current and future time and were not yet able to adapt to the usage of e-wallet, therefore it is apparent that e-wallets still need improvements to encourage consumers to use it for their payment transactions.

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