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The Factors that Influence the Adoption of E-wallet as Payment Method Among Gen Z in Klang Valley, Malaysia

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Abstract
This study delves into the factors that influence Generation Z's adoption of e-wallet payment systems in Malaysia's Klang Valley region. The study's primary objective is to examine the impact of perceived ease of use, perceived usefulness, perceived security, and perceived trust on the adoption of e-wallets by Generation Z. The study used a quantitative research methodology to gather empirical data from a sample of 185 people. Statistical Package for the Social Sciences (SPSS) was used for data analysis to understand the links between the recognized aspects and the use of e-wallets. For those who want to go further into the patterns of e-wallet acceptance and the specific triggers that appeal to Generation Z in Malaysian metropolitan areas like Klang Valley, these points of view are crucial.

Keywords: *Perceived Ease of Use, Perceived Usefulness, Perceived Security, and Perceived Trust, Adoption*

1.0 Introduction

Financial services and products are constantly developing because of technological advancements. The proliferation of services like e-commerce, made possible by constantly developing technologies, has increased the need for faster and more simple payment methods (Patil et al., 2017). Cash transactions, letters of credit, demand draughts, and checks are still widely used, but their limits have become more apparent in light of the growing demand for alternative payment methods (Shyam, 2022). Due to consumer demand, new forms of digital payment have emerged in recent years. Payments made through electronic systems include those made with credit/debit cards, internet banking, and mobile wallets (Khando et al., 2023).

Online shopping and e-commerce have substantially increased the need for these electronic payment methods, and consumers' desires are increasingly shaping the e-wallet system (Hammond, 2018). Although cash is still widely accepted, it is being used less frequently because of advancements in digital technology, payment virtualization, and system infrastructure. Online shopping and mobile applications have revolutionised daily lives but have also rendered many older forms of payment obsolete. When it comes to online payment systems, e-wallets currently reign supreme (Ali & Kamal, 2018).

Digital wallets, often known as E-wallets, are a type of payment card specifically designed for use in online purchases. According to Ali and Kamal (2018), they stated that electronic payment systems like e-wallets are a direct result of technological development and a major factor in the meteoric rise of online buying and selling. These electronic wallets combine hardware, software, and payment information to make in-store transactions fast and simple via near-field communications technology (Alam et al., 2021). Furthermore, the use of electronic wallets has increased dramatically in recent years, especially in Malaysia. About 48% of Malaysia's 32.6 million people utilise electronic wallets, making up about 15.7 million people. BNM has issued legal authorization to about 42 e-wallet providers in Malaysia. Moreover, Touch 'n Go e-wallet, WeChat Pay, GrabPay, Boost, and MAE are the five most widely utilised e-wallets now (Jaludin & Dino, 2022).

It has been estimated by the Department of Statistics Malaysia (2023) that a large percentage of Malaysia's 32.6 million people are under the age of 30. In Malaysia, Generation Y (26%) and Generation Z (25% of the population) outnumber the Baby Boomers (13%) and (18%) of their parents combined (Ibrahim et al., 2020). Most members of the generation born between 1997 and 2012 are Malay, followed by those of Chinese and Indian ancestry. Since they came of age during the information age, members of Generation Z are widely regarded as among the most technologically knowledgeable people in history (Tjiptono et al., 2020). Therefore, e-wallet service providers must take Generation Z seriously as a key client demographic (May et al., 2021).

1.1 Problem Statement

According to Cheng et al. (2018) declared that the advent of e-wallets as a revolutionary payment system has the potential to boost the development of e-commerce by replacing conventional wallets. Despite the growing significance of electronic wallets, utilization rates in Malaysia are much lower than in China, India, and Singapore (Nizam et al., 2019). Infrequent use of e-wallets and consequent poor trust in embracing such technologies are the result of several reasons (Saxena et al., 2019), including a general lack of online literacy among Malaysians. Some people still prefer using physical forms of payment including cash, debit or credit cards, and checks despite the convenience of digital wallets. Additionally, many customers avoided e-wallets because they did not think the services were worthwhile or adequate (Andrew & Tan, 2019). Many people likewise did not feel the benefits of using an electronic wallet to be worth the time and effort required for initial setup and verification. The limited acceptance of e-wallets by retailers at this early period also contributed to this misconception. Despite the convenience of e-wallets, 27% of consumers still prefer to utilise traditional payment methods (Osman & Yi, 2021)

Moreover, e-wallets are not more popular because they are easy to use. While the number of people in Malaysia who have access to smartphones is large, the number who can use them effectively is low, especially among the elderly (Statista Research Department, 2023). This means that tasks like making a payment or adding money to an electronic wallet may seem daunting at first to inexperienced users. Besides, people are wary of utilising e-wallets due to security concerns and have been reluctant to switch to using e-wallets (Osman & Yi, 2021). These concerns include the possibility of having their personal information hacked or tracked, as well as the risk of having their transactions and purchases read by third parties. Misinformation and a general lack of familiarity with e-wallets are major contributors to these

concerns (Cardtrend, 2022). Furthermore, after thoroughly evaluating their attributes, clients will then have faith in their online sellers. According to Alkhalifah (2022), trust which encompasses honesty, reliability, integrity, and dependability, is also vital to the acceptability of online sellers. Given that mobile payment methods are still in their infancy, users' faith in their trustworthiness, security, and privacy is crucial. This distrust is common in online transactions because customers do not get to meet the seller or the buyer in person, therefore worry that their personal information may be misused or misrepresented due to the lack of physical interaction and trust (Sleiman et al., 2021).

Since local adoption of e-wallets has not yet reached its full potential, understanding these four factors *(perceived ease of use, perceived usefulness, perceived security, and perceived trust)* provides vital insights into Gen Z's inclination towards e-wallets. Also, how Gen Z feels and thinks about using e-wallets is crucial because they will likely be the ones to drive the use of such systems in the coming years.

2.0 Literature Review

2.1 The Adoption of E-wallet as Payment Method

The term "adoption" is used here to refer to the factors that affect the use of electronic wallets among members of Generation Z. According to Al-Sharafi et al. (2023), Generation Z born between the years 1997 and 2012 has witnessed unprecedented rates of technological development first hand. A digital wallet, or e-wallet, is a piece of software that maintains a user's banking information and makes it possible for them to make payments from their mobile device. As a result of this technological advancement, paper wallets are now outdated since e-wallets allow customers to store their banking information and make purchases from anywhere with a smartphone (Kagan, 2023).

Technology adoption is stable under certain circumstances in the current digital era, which is characterised by the worldwide shift from cash to digital and e-wallet payments (Abdullah et al., 2020). E-wallets, or electronic cash wallets, are digital alternatives to traditional payment methods like debit and credit cards. It is easy to use, multipurpose, and safe, and it works with consumer banking platforms (Karim et al., 2020). In most cases, shoppers use their smartphones to scan a QR code displayed in-store to verify their purchase and complete the transaction. When compared to using a physical wallet or retaining credit card information for online purchases, e-wallets offer speed, convenience, and security to their customers (Lu, 2018). Besides, Ismail (2021) declares that 40% of Malaysian consumers have increased their use of mobile or digital wallets, which demonstrates the widespread use of e-wallets in the country. Malaysia is the regional leader in the utilisation of e-wallets, as evidenced by the fact that it has 42 e-Wallets operating under licenses issued by Bank Negara Malaysia (Wong, 2022).

2.2 Perceived Ease of Use

According to Salimon et al. (2021), this study's major independent variable, perceived ease of use, is defined as the amount to which an individual perceives the use of technology or systems to be effortlessly achieved. The key idea behind this structure is the ease with which the system or design can be implemented. Besides, Mustafa et al. (2022) further emphasise this point by explaining that the ease of use is exemplified by the rapid, easy application of a device and the simple electronic execution of all connected operations and procedures. The perceived simplicity, intuitiveness, and ease of use of an e-wallet are dependent on its time efficiency (To

& Trinh, 2021). Consumers are more likely to adopt a product or technology if they believe it is simple to use (Alyoussef, 2021). Several studies confirm the importance of usability when it comes to whether people will accept electronic wallets (Kumar et al., 2018).

In the study of Mun et al. (2017), they found a positive association between perceived ease of use and the intention to utilise mobile payment-based services, lending credence to this view. The importance of usability is further highlighted by other scholarly contributions. For example, Chen (2018) showed that the likelihood of adopting an electronic wallet is correlated with how user-friendly they find it. Mustafa et al. (2022) provided further evidence for this position by showing how the perceived simplicity of using e-wallet services becomes a key, deciding element in whether or not people are prepared to utilise them. Collectively, these in-depth investigations highlight and stress the importance of perceived ease of use as a key independent variable in this analysis.

2.3 Perceived Usefulness

To and Trinh (2021) and Lim et al. (2021) define perceived usefulness, an essential concept in technology acceptance, as a user's belief that the use of a certain application will boost their productivity and efficiency. This is according to the study that was published in both journals. This concept is elaborated upon by Li et al. (2020), who define it as the desire of an individual to improve their performance on a certain activity by employing a particular piece of software or hardware. This definition extends to the original concept presented here. Particularly, the value that people place on emerging technologies can affect the trajectory of their implementation, particularly if those individuals regard the technologies to be exceptionally valuable. This theory has several applications that are useful in the realm of electronic money transfer. According to Hanafi and Toolib (2020), the degree to which individuals believe a digital payment system will be beneficial plays a significant role in determining whether they will accept it. Customers are lured to programmes that offer to speed up their goals because of the simplicity of mobile payments, which feature quick transactions and appealing incentives such as rewards and digital receipts.

E-wallets' rapid rise in popularity among boomers is explicable by Generation Z's appreciation for their usefulness and the ease with which they may be used thanks to the widespread availability of smartphones (Karim et al., 2020). Moreover, Bakar et al. (2022) discovered that the likelihood of using an electronic wallet app increases in direct proportion to the user's perception of the app's value. However, there is a caveat in the form of an argument suggesting that perceived usefulness alone might not be enough to continue the use of electronic wallets unless it is supported by customer delight (Olivia & Marchyta, 2022).

2.4 Perceived Security

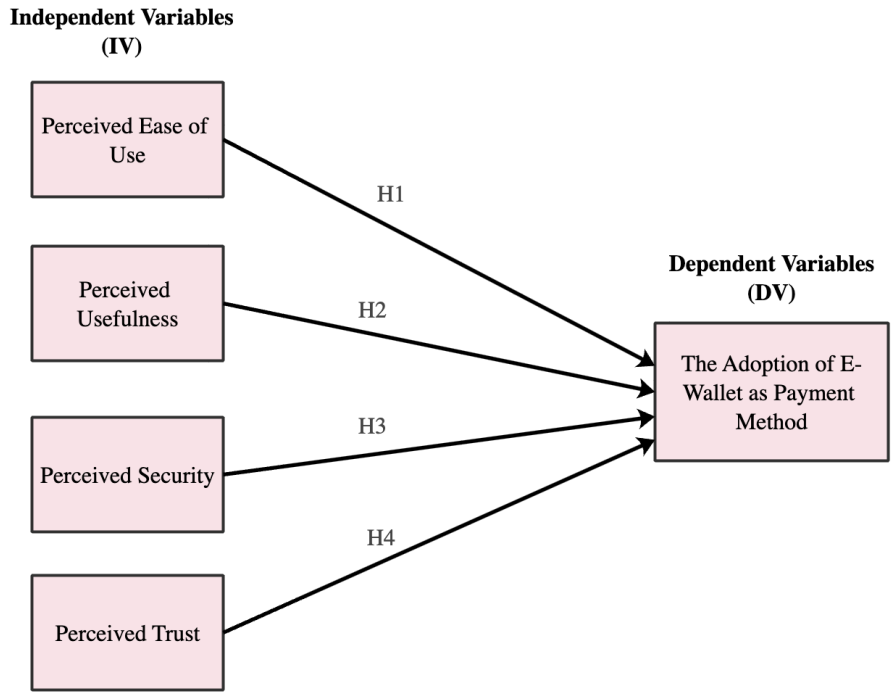
A crucial term in the use of digital technology is that of perceived security, which is defined as a user's conviction that protection mechanisms are effective against potential threats (Razif et al., 2020). For data transmission as well, the term "perceived security" refers to the user's assurance that their private data will be transmitted via the network without being intercepted or altered (Aprilia & Amalia, 2022). As noted by Osman and Yi (2021), perceived security describes a user's confidence that their safety will not be jeopardised by their use of mobile payment systems. The user's confidence that their money and personal data remain safe throughout transactions is encapsulated by this concept of perceived security in the context of digital wallets. Given the ever-increasing sophistication of cybercriminals, users of electronic

wallets must take extra precautions to protect their privacy. According to Khaitan and Joshi (2023), security concerns can prevent people from using online payment systems. Concerns like these, which typically centre on the security of private information, can prevent customers from completing purchases. However, if proper precautions are not taken, e-wallet transactions may be susceptible to cybercrime, which could lead to the compromise of sensitive personal information (Karim et al., 2020).

2.5 Perceived Trust

In the context of digital payment systems, customers' perceptions of trust focus on the safety of their personal and financial information (Kagan, 2023). According to Mustafa et al. (2022), they provide more elaboration, defining trust as "the inclination to expose oneself to the activities of another entity based on confidence and faith." The idea of trust includes the conviction that a potential spouse will not take advantage of one's frailties (Mascarenhas, 2019). It summarises the supplier's accountability and the extent to which the provider can deliver on the customer's expectations. Trust is a critical factor in the spread and use of technology in numerous studies. As noted by Mondego (2018), trust plays a crucial role in how people interact with and make use of various forms of technology. This idea is supported by studies showing how much of an effect people's degree of trust has on their propensity to use new technologies like electronic wallets (Mustafa et al., 2022). Also, trust is the driving force that gets people to try out and use cutting-edge tech. Users will ignore an electronic wallet if they have any doubts about its reliability (Chao, 2019).

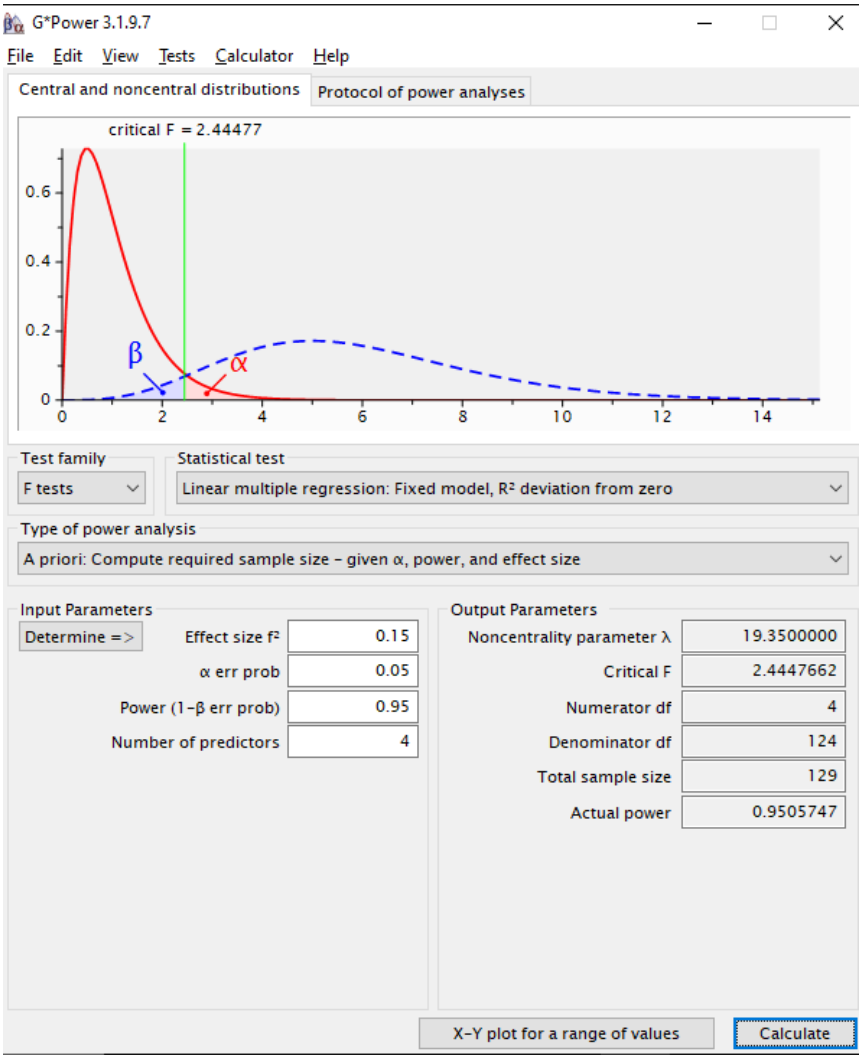
Figure 1: Research Framework



3.0 Methodology

According to Li et al. (2020), the study's research design was informed by a methodological framework that helped them answer their research question by strategically combining several aspects of their investigation. There are two main types of research methods which are qualitative and quantitative. A quantitative methodology was chosen for this research because it allows for a more precise examination of the interplay between the various elements impacting the widespread acceptance of e-wallets among Gen Z. Data collection, measurement, and analysis are all guided by the research design, which ensures that the study's various components are consistent with one another and follows a logical progression. Analysing shapes, characteristics, similarities, linkages, modifications, and variations may all be part of the research's design process. A questionnaire survey will be used to collect the bulk of the data for this study due to its accessibility, breadth of coverage, and adaptability these data will then be analysed and interpreted rigorously. For more detail, a quantitative approach will link mathematical findings to practical understandings, while correlational research will identify significant correlations between factors. A cross-sectional study will analyse data from a specific period, without altering any factors. A descriptive design will be used to understand the situation and issues influencing the adoption of e-wallets as a payment method among Gen Z in Malaysia. This research strategy ensures accurate and valid findings, allowing for the exploration of multiple factors and enhancing business decisions.

Figure 2: G* Power Sample Size Calculator



A questionnaire survey is a highly effective method for obtaining information on a particular topic from a large group of people. In this quantitative study, survey questions were chosen due to their cost-effectiveness and high efficiency, thereby reducing the potential for bias (Saunders et al., 2019). Given its global comprehensibility, the survey was administered in English, with the questions designed to extract single-word responses. A high response rate can be attained through meticulous questionnaire design and distribution (Saunders et al., 2019). Surveys filled out by participants themselves provided the raw material for this investigation. Participants in this study are estimated to have a sample size of around 185. The questionnaire was provided via Google Forms.

One recommended approach to doing research involves using primary data and employing a cross-sectional period. The poll was carried out in Klang Valley, Malaysia, targeting individuals (aged 11-26) of both genders. The data collected was subjected to analysis using the Statistical Package for the Social Sciences (SPSS).

4.0 Data Analysis

4.1 Reliability

The reliability analysis conducted for this study, as shown in Figure 8, indicates strong internal consistency across all variables. The Cronbach's Alpha value for the overall construct, which

includes the adoption of an E-wallet as a payment method, Perceived Ease of Use, Perceived Usefulness, Perceived Security, and Perceived Trust, is a significant 0.887. This number is based on a total of 25 elements. This figure greatly exceeds the criterion of 0.6, which is widely recognised as the minimal need for satisfactory reliability. The high alpha value confirms the dependability of the instruments employed in this research, indicating that the constructs are consistent, and the data collected is appropriate for further analysis and exploration within the scope of this study.

Table 1: Cronbach's Alpha

Reliability Statistics

Cronbach's Alpha	N of Items
.887	25

4.2 Normality Test

The descriptive statistics of The Adoption of E-wallet as Payment Method (adoption), Perceived Ease of Use (PE), Perceived Usefulness (PU), Perceived Security (PS), and Perceived Trust (PT), and where the SPSS tests the minimum and maximum values, mean value and standard deviation. The test of descriptive statistics shows that adoption has a mean value of 4.3081 and standard deviation of 0.62379, PE has a mean value of 4.2789 and standard deviation of 0.55407, PU has a mean value of 4.2919 and standard deviation of 0.57141, PS has a mean value of 4.1373 and standard deviation of 0.68299, and lastly PT has a mean value of 4.0843 and standard deviation of 0.75139. Based on Rahman & Muktadir (2021), have stated that the normality test must be conducted on all the variables in the research, before conducting correlation and multiple regression tests. However, the histogram with a normal curve and a quantile-quantile plot, which is also known as QQ-plot, were used to test the normality of the error term assumptions in the research.

Table 2: Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
adoption	185	1.80	5.00	4.3081	.62379	-1.116	.179	1.089	.355
PE	185	2.20	5.00	4.2789	.55407	-1.222	.179	1.816	.355
PU	185	1.80	5.00	4.2919	.57141	-1.214	.179	2.077	.355
PS	185	1.40	5.00	4.1373	.68299	-1.074	.179	1.181	.355
PT	185	1.20	5.00	4.0843	.75139	-1.286	.179	1.810	.355
Valid N (listwise)	185								

Variables	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Adoption	185	-1.116	.179	1.089	.355
Perceived Ease of Use	185	-1.222	.179	1.816	.355

Perceived Usefulness	185	-1.214	.179	2.077	.355
Perceived Security	185	-1.074	.179	1.181	.355
Perceived Trust	185	-1.286	.179	1.810	.355
Valid N (listwise)	185				

4.3 Pearson Correlation

Pearson Correlation analysis is a statistical method used to evaluate the intensity and direction of the connection between independent and dependent variables, especially when they are numerical and continuous (Obilor & Amadi, 2018). Table 3 shows the outcomes of the correlation between the dependent variable and independent variables such as the adoption of e-wallet as a payment method (adoption), which is the dependent variable, and the independent variable as Perceived Ease of Use (PE), Perceived Usefulness (PU), Perceived Security (PS) and Perceived Trust (PT), which are being used to examine the hypothesis in this research. The study conducted correlation analysis to examine the Person correlation, significance, and N values for each variable. The primary aim of the study was to assess the importance of each variable in relation to their correlation. A lower number indicates greater accuracy of the variables. All variables exhibited outcomes with a significance level of $p < 0.000$, indicating a correlation with the variables. Particularly, the dependent variable displayed a strong association with all independent factors. Based on the correlation analysis (adoption), PE, PU, PS, and PT, have obtained a coefficient value of 1, 0.502, 0.587, 0.498, and 0.467 respectively. Hence, according to the reported findings, it can be inferred that all the independent variables in this study exhibit a positive and robust correlation with the dependent variables.

Table 3: Pearson Correlation

Correlations

		adoption	PE	PU	PS	PT
adoption	Pearson Correlation	1	.502**	.597**	.498**	.467**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001
	N	185	185	185	185	185
PE	Pearson Correlation	.502**	1	.587**	.570**	.431**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001
	N	185	185	185	185	185
PU	Pearson Correlation	.597**	.587**	1	.535**	.470**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001
	N	185	185	185	185	185
PS	Pearson Correlation	.498**	.570**	.535**	1	.641**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001
	N	185	185	185	185	185
PT	Pearson Correlation	.467**	.431**	.470**	.641**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	
	N	185	185	185	185	185

**. Correlation is significant at the 0.01 level (2-tailed).

4.5 Multiple Regression

The model summary of the analysis includes the values of R, R squared, Adjusted R squared, and the standard error of the estimate for the model. The key factors examined in this study are R and R squared. The analysis conducted using SPSS reveals that R has a value of 0.654 and R squared has a value of 0.428. R squared indicates the extent of the relationship between the dependent and independent variables, with approximately 20% of the variation in the dependent variable (adoption of e-wallet as a payment method) being explained by the independent variables: Perceived Ease of Use (PE), Perceived Usefulness (PU), Perceived Security (PS), and Perceived Trust (PT). However, it is important to note that none of the independent variables strongly determine the dependent variable. Therefore, further analysis using ANOVA and multiple regression methods is necessary to identify which independent variables are not strongly associated with the dependent variable. The ANOVA test is employed to determine the statistical significance of the outcome, as well as to ascertain whether to reject or accept the hypothesis and identify the disparity between variables. Table 5 displays the regression and residual values for the sum of squares, degrees of freedom, mean square, F-statistic, and significance level. The analysis in this study considers the regression model, which yields the following values: 30.659 for the sum of squares, 7.665 for the mean square, F=33.700, and a significance level below 0.000. This analysis of ANOVA demonstrates a significant interaction between the dependent and independent variables, as indicated by the p-value of 0.000, which is below the threshold of 0.05.

Table 4: Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.654[a]	.428	.416	.47690	2.087

a. Predictors: (Constant), PT, PE, PU, PS

b. Dependent Variable: adoption

Table 5: ANOVA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.659	4	7.665	33.700	<.001[b]
	Residual	40.939	180	.227		
	Total	71.598	184			

a. Dependent Variable: adoption

b. Predictors: (Constant), PT, PE, PU, PS

5.0 Discussion

In this study, hypotheses H1, H2, H3, and H4 were examined to understand the factors influencing the adoption of e-wallets as a payment method among Generation Z in Klang Valley, Malaysia.

This hypothesis postulated a positive relationship between Perceived Ease of Use (PE) and the adoption of e-wallets. The regression analysis results indicated a β value of .151 and a p-value of .046. Since the p-value is greater than 0.05, this denotes a lack of a significant relationship between Perceived Ease of Use and e-wallet adoption. Hence, H1 is rejected. This is inconsistent with previous findings which suggested ease of use as a significant factor in the adoption of technological innovations. It appears that for Generation Z in Klang Valley, ease of use is not a determining factor for adopting e-wallets.

The second hypothesis explored the relationship between Perceived Usefulness (PU) and e-wallet adoption. The regression showed a β value of .376 and a p-value of <.001. With the p-value being less than 0.05, there is a significant positive relationship, leading to the acceptance of H2. This aligns with past research indicating that the usefulness of technology is a strong predictor of its adoption, suggesting that the practical benefits of e-wallets are highly valued by Generation Z in this region.

Addressing the influence of Perceived Security (PS) on e-wallet adoption, the analysis yielded a β value of .113 and a p-value of .172. The p-value exceeding 0.05 indicates no significant relationship, resulting in the rejection of H3. This finding diverges from studies highlighting security as a critical concern for technology users, suggesting that the perceived security may

not be as pivotal for the Generation Z demographic in Klang Valley when it comes to e-wallet adoption.

The final hypothesis examined the association between Perceived Trust (PT) and the adoption of e-wallets. The results indicated a β value of .153 and a p-value of .043. Although the p-value is less than 0.05, suggesting a significant relationship, it is important to note an inconsistency in the reported β value of .207 in the narrative. If we consider the β value of .153, this will contradict the acceptance of H4, but the p-value supports its acceptance. This discrepancy suggests a potential error in the reporting of results which requires clarification.

5.1 Implication of the Study

This study provides practical and theoretical insights into the factors influencing e-wallet adoption among Generation Z in Klang Valley, Malaysia, with significant implications for academia, industry professionals, and policymakers. On a practical level, e-wallet companies and developers can leverage findings about Generation Z's emphasis on perceived usefulness, enhancing user experience by streamlining navigation, speeding up transactions, and ensuring extensive merchant adoption. In parallel, the minimal impact of perceived security and trust suggests that while these should be adequately addressed, they do not primarily drive adoption among this demographic. Theoretically, the research reinforces the Technology Acceptance Model (TAM), emphasizing the need for contemporary adaptation to include Gen Z's innate digital fluency and distinct consumer behaviours, while also questioning traditional assumptions about security and trust in technology adoption. These insights underscore the need for future research to blend psychological and sociological perspectives with technology acceptance frameworks, thereby enriching the understanding of young consumers' interactions with emerging financial technologies.

5.2 Conclusion and Recommendation

The study suggests some recommendations for future scholars to explore the topic in detail. Firstly, studying how members of Generation Z use electronic wallets is an important part of keeping up with the rapidly evolving field of financial technology. There is a wealth of untapped potential in studying Generation Z's use of electronic wallets in Malaysia's Klang Valley region. We could learn a lot more about this phenomenon if we used a comprehensive strategy that mixed qualitative and quantitative methods. Qualitative research approaches, such as interviews, can shed light on the complex perspectives of e-wallet users and, perhaps, reveal new aspects that influence e-wallet adoption, in addition to quantitative data, which provides statistical support.

Secondly, to get a more representative cross-section of Malaysian society, it would be wise to expand the study's geographic scope beyond the Klang Valley. A more complete picture of e-wallet acceptance across life phases might be achieved by expanding the age range to incorporate Baby Boomers, Generation Y, and X. In addition to producing a larger dataset, such an all-encompassing methodology would reveal e-wallet-related desires and concerns in relation to different age groups.

Lastly, one important area for further investigation is the incorporation of viewpoints from both consumers and merchants. Given the significant influence of merchants in the acceptance of e-wallet systems, comprehending their incentives and obstacles could offer invaluable insights into the broader digital payment landscape. Moreover, expanding the scope of the study across

different regions and periods would facilitate a thorough examination of regional and temporal patterns in the adoption of e-wallets.

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