

# Cashless Civilization, e-Wallets, and Acceptance: Evidence from Low-Income Group in West Malaysia

Rohaiza Kamis<sup>1\*</sup>, Shafinar Ismail<sup>2</sup>, Nur Hayati Abd Rahman<sup>3</sup>

<sup>1,2,3</sup> Faculty of Business and Management, Universiti Teknologi MARA Cawangan Melaka, 110 off Jalan Hang  
Tuah, 75300, Melaka, Malaysia

\*corresponding author: rohai451@uitm.edu.my

## ABSTRACT

### ARTICLE HISTORY

Received:

12 August 2024

Accepted:

30 September 2024

Published:

11 October 2024

### KEYWORDS

Cashless

Fintech

e-Wallet

Low-income

Technology Acceptance  
Model

The emergence of e-wallets is expected to align with the worldwide shift towards cashless payment solutions in a post-pandemic era characterized by flourishing digital payments and e-commerce transactions. Cashless payments made with e-wallets have additional benefits over traditional payment methods, which encourage consumers to use the technology more frequently. However, despite their rapid development, e-wallets are still not widely accepted by consumers in Malaysia, and their poor (global) diffusion rates run counter to the claimed benefits provided by technology. The objective of this study is to examine the determinants that affect the level of acceptance of electronic wallets among low-income populations in West Malaysia, who play a vital role in facilitating the transition to a society that relies less on cash transactions. The study utilized a theoretical framework that incorporated an expanded version of the Technology Acceptance Model Theory (TAM). This framework included two extra factors, trust and social influence, to investigate their influence on the acceptability of electronic wallets. Data were gathered via an online self-administered survey from 265 low-income earners in West Malaysia. Eligible respondents reported prior experience with e-wallets and a monthly household income of less than RM4,850. Data analysis was conducted using Partial Least Squares Equation Structural Modelling (PLS-SEM). The findings indicate that the concepts of perceived ease of use and trust have a significant impact on the acceptability of e-wallets. However, it is noteworthy that the social influence factor does not seem to have a substantial impact. This implies that e-wallet users may have reservations about the ease of use and effectiveness of e-wallets and may be not ready to accept until they provide a smooth user experience. The study provides significant data that can motivate both e-wallet providers and regulators to enhance the quality of e-wallet services. This study acknowledges its limitations and recommends that future research efforts consider the recommendations made to deepen our understanding of this field.

e-ISSN 2600-7274

© 2024 Universiti Teknologi MARA Cawangan Pulau Pinang

This open access article is distributed under a Creative Commons Attribution-Non-commercial 4.0 International (CC BY-NC 4.0) license.

<https://creativecommons.org/licenses/by-nc/4.0/>



## 1. INTRODUCTION

Technology is always improving and developing. As the revolution occurred, technological innovation revolutionized business. Financial technology, or fintech as it has been known, is attracting a lot of attention because to its unprecedented ability to transform communities and economies. Fintech will make it easier for ordinary citizens to access financial goods while also promoting country economic development. The rise of fintech in Malaysia, such as online banking and electronic payments, has contributed to an increase in Malaysia's technology productivity. For the year 2022, there are 294 Fintech companies in Malaysia including e-wallets, payments, marketplace, proptech, insurtech, Islamic fintech, KYC/regtech, blockchain/cryptocurrency, artificial intelligence data, wealthtech, lending, crowdfunding, and remittance (Fintech News Malaysia, 2022). According to Fintech News Malaysia (Fintech News Malaysia, 2022), the country would have 43 electronic wallets, with the industry accounting for 19% of the country's fintech sector.

In Malaysia, mobile wallets and digital payment are the most popular Fintech apps (Bakri et al., 2023). The e-wallet was chosen since it was one of the most popular fintech payment methods in the country (Alwi et al., 2019). Aside from the resemblance to an actual wallet, an electronic wallet has additional features and benefits such as location awareness, nearly infinite storage, and easy searching of contents. This feature enhances its significance as a viable alternative to the traditional physical wallet. The elimination of business cards and paper receipts, as well as the ability to streamline or eliminate trips, all have environmental benefit. The concept of an e-wallet has aroused the curiosity of many Malaysians due to the substantial impact on the payment system, country's business model, and financial markets (Abdull Rahman et al., 2022). E-wallets are popular among other digital alternatives because of their capacity to accept payments from everywhere (Tikku & Singh, 2023). Furthermore, a cashless civilisation is one in which real cash is no longer the primary or preferred platform of exchange for products and services. The growing use of digital payment systems has drawn significant attention to the transformation to a cashless society. It is projected that Malaysia, including the lower-income group, will have a cashless society by 2050 (Kadar et al., 2019). The widespread use of e-wallets is a critical component of a cashless society.

Malaysia, like most other nations, aims to become a cashless society by 2050 and a regional leader in the digital economy by 2025; however, public acceptance is low, making the goal difficult to achieve. In Malaysia, the use of e-wallets among low-income earners remains low. According to Trotman (2021), only 55 per cent of lower-income families (B40) are the least likely to use e-wallets, followed by the high-earning families (T20) with 67 per cent, and households with a typical average monthly income of RM7,001 to RM10,000 are the most likely to use e-wallets with a 73 per cent adoption rate. Malaysians are divided into three income groups based on their household income: bottom (B40-low income), medium (M40-average income), and top (T20-high income) (Department of Statistics Malaysia, 2021). One reason is that high-income users (T20 and M40) can afford high-quality products purchased online using an e-wallet, and this unequal access to technology leads to varying degrees of anxiety among users, with low-income users experiencing the highest levels of anxiety (Kasirye & Masum, 2021). The lack of acceptance of digital technology is not due to a lack of interest on the part of these low-income groups, but rather to the fact that the revenue earned is just sufficient for survival owing to poverty (J. N. Lee et al., 2021). As a result, more research is needed to identify areas where the country lags, particularly in the e-wallet field, to grasp the significance of a cashless society in the country. Understanding the causes and challenges to adoption will assist all providers in the e-wallet ecosystem in improving service and developing long-term strategy

(Kamis et al., 2023). In this review, the researchers attempt to answer the research question as follow:

RQ: What are the relationships between Perceived Ease-of-Use, Social Influence, Trust and e-Wallet Acceptance among West Malaysian low-income (B40) group?

## **2. LITERATURE REVIEW**

### ***2.1 e-Wallet and Acceptance***

Prior to the acceptance, e-wallets enable the safe storage of bank card details on a mobile device. This stored information can be used for a range of activities, including money transfers, bill payments, and shopping. Electronic wallets have been one of the most prevalent and innovative services introduced since 2017 (AlKubaisi & Naser, 2020). The e-wallet is anticipated to replace conventional cash spending in the current era of IR 4.0, making it the primary mode of payment in this digital century (Wamba et al., 2021). The popularity of e-wallets has been steadily increasing, garnering significant public attention due to their security, practicality, and ease in facilitating payments (AlKubaisi & Naser, 2020) particularly during the pandemic to mitigate viral transmission (Ismail et al., 2022). E-wallets are expected to be most significant medium of payment, and they are suited for a wide range of businesses. They offer a diverse range of payment options to help users access related services regardless of time and from any place (Alshurideh et al., 2021). Governments, researchers, international agencies, and banks are progressively prioritizing the financial services requirements of low-income individuals in developing nations (Ky et al., 2021).

Users' acceptance cannot be established only based on their assertion that the technology is being utilised for an unforeseen purpose by customers. Instead, consumers' approval must be substantiated through the tangible utilisation of the technology (Alwi et al., 2019). Since the mid-nineteenth century, acceptance has been a major academic topic. Acceptance research has been valuable in examining the efficacy or lack thereof of novel products and services. Individual expectations and attitudes have been proven to affect consumer acceptance of technology (Alwi et al., 2019)(Alwi et al., 2019). With respect to this study, acceptance is an essential factor in the new technologies development and determination of financial instruments for making payments (Ariffin et al., 2020). The number of service recipients is increasing daily as they accept and embrace electronic wallets as an alternative way to pay electronically at a location of their choosing, at a time of their choosing, without having to visit the point of sale physically (Dennehy & Sammon, 2015). Interestingly, the level of acceptance of the people is very crucial as it is one of the challenges in applying all advances in digital technology (Soodan & Rana, 2020). Checking the reactions of customers' acceptance and e-wallets usage is a key topic for researchers due to the importance of e-wallets usage globally (AlKubaisi & Naser, 2020; Li et al., 2019; Soomro, 2019; Tran Le Na & Hien, 2021). In addition to the numerous benefits that attract users to e-wallets, it is crucial to prioritize the level of technological reliability to develop trust in the services provided. This factor significantly impacts consumer confidence in the product's usability. The degree of trustworthiness and reliability of a product will undoubtedly impact the frequency with which individuals utilize the service (Alshurideh et al., 2021; Hariguna et al., 2020; Lisana, 2021).

## 2.2 Technology Acceptance Model (TAM) Theory

The TAM is the very influential technology acceptance model that has been extensively validated in demonstrating the intention to use the new technology for individual (Davis, 1989). TAM has become so well-known that it has been mentioned in most of the research on user acceptance of technology (Y. Lee et al., 2003; Nugroho et al., 2023). The TAM was developed by Fred Davis in 1989 (Davis et al., 1989) as part of his doctoral proposal, as depicted in Fig. 1. The researchers employed the TAM as the foundational theory for this study to establish the theoretical framework. TAM theory, inclusive and validate several specific beliefs: PU, PEOU, ATT, and BI in the framework (Davis, 1989). However another researchers provide the insignificant relationship of perceived usefulness with technology acceptance (Aditia et al., 2018; Qi et al., 2021; Setiawan et al., 2018). A study by Singh et al. (2020) has excluded PU in the study of mobile wallet in India. Similarly to this, Elvi (2021) has used only PEOU, while Priyatna & Novalia (2023) has excluded PU and adopted PEOU in the study of digital learning adoption. Thus, based on earlier research, this adaption of the TAM dissected the perceived usefulness by adding perceived ease of use, trust, and social influence. All these variables will be covered in the next section.

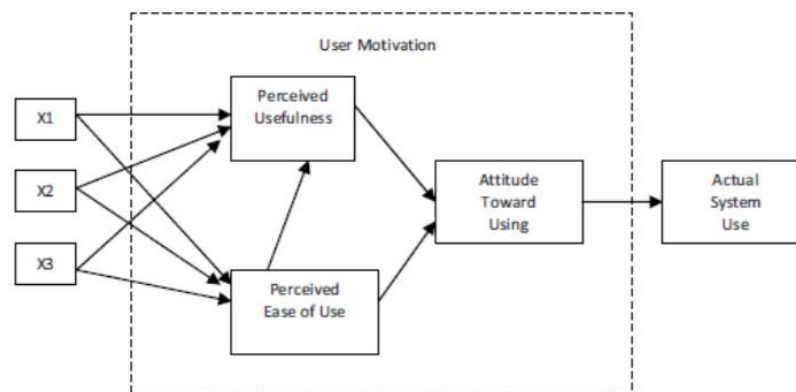


Figure 1: Original TAM [(Davis et al., 1989)]

## 2.3 Perceived Ease of Use (PEOU) and e-Wallet Acceptance

Perceived ease of use refers to an individual's belief on the level of difficulty in using a particular system would require minimal effort (Davis, 1989). PEOU is a subject of continuing study in technology adoption research. When discussing third-party mobile payment, the concept of ease of use refers to the way customers engage with third-party mobile payment systems, which includes convenient payment stages, clear functionalities, and a user-friendly interface (Pal et al., 2020). Research studies by Lisana (2021) and Yang et al. (2021) that employ the TAM have found that the perception of ease of use has a significant positive impact on the adoption of mobile wallets in Indonesia, as well as the intention to use e-wallets in Malaysia (Mew & Millan, 2021). Comparable findings applying the TAM were observed in Bahrain (AlKubaisi & Naser, 2020), China (Li et al., 2019; Pal et al., 2020), Jordan (Al-Dmour et al., 2021), and Cameroon (Wamba et al., 2021). Therefore, according to the above shreds of evidence, the below hypothesis is constructed:

*H1: Perceived Ease of Use has a positive relationship with e-Wallet Acceptance.*

## 2.4 Trust (TR) and e-Wallet Acceptance

Trust can be specified as the consumer's positive anticipation of the service provider which concluded that trust is comprised of three beliefs: ability, integrity, and benevolence (Al-Dmour et al., 2021). In the realm of electronic finance, consumers face heightened risks due to the unpredictable nature of the environment and a feeling of diminished control. Therefore, it is particularly crucial to prioritize safety measures (Patil et al., 2020). Some of these researches discovered trust to be the positive significant factor of behavioural intention, outperforming previously known dominating technological adoption criteria like perceived usefulness (Mew & Millan, 2021; Ooi & Tan, 2016). A study by Hariguna et al. (2020) proven the two-fundamental types of trust which are economic and service trust have a positive significant effect on the customer intention towards the application of mobile money. Yang et al. (2021) indicated that both intents to use and adoption of e-wallets were positively impacted. Additionally, Pal et al. (2020) showed that TR had a significant influence on mobile payment usage. Thus, the hypotheses as follows:

*H2: Trust has a positive relationship with e-Wallet Acceptance.*

## 2.5 Social Influence (SI) and e-Wallet Acceptance

Social influence pertains to the transformation of an individual's behaviour in response to the reactions of others towards that behaviour (S. Singh & Srivastava, 2020). In studies on the adoption of financial mobile applications, SI has been found to have a positive correlation with the intention to use e-wallets (Abdullah et al., 2020; Soodan & Rana, 2020; Yang et al., 2021). S. Singh & Srivastava (2020) have demonstrated that SI is a key predictor of the behavioural intention to use mobile banking applications and mobile money (Koomson et al., 2021; Odoom & Kosiba, 2020), m-payment system (Al-Saedi et al., 2020; Ariffin et al., 2020), and electronic money payment (Widayat et al., 2020). Although it can generate emotional and logical viewpoints among customers in developing nations, social influence becomes critical in boosting customers' intentions to use e-wallets (Yang et al., 2021). Therefore, the study postulate:

*H3: Social Influence has a positive relationship with e-Wallet Acceptance.*

Consequently, considering the above explanation, multiple variables have been gathered. The study utilises perceived ease of use (PEOU), trust (TR), and social influence (SI) as independent variables, while e-wallet acceptance (eWA) serves as the dependent variable. Fig. 2 depicts the research framework that is being proposed for this investigation.

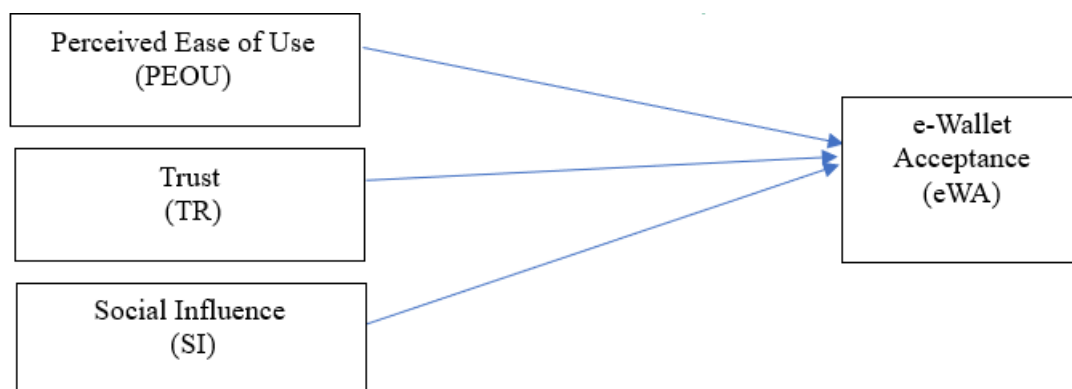


Figure 2: Research Framework

### 3. METHODOLOGY

The researchers have emphasized that this study investigates the e-wallet acceptance among Malaysian low-income groups (B40). The researchers employed non-probability sampling as there was no available list of potential respondents for this study. Stratified random sampling was selected due to the disproportionate demographic features being studied, which necessitated dividing the population into distinct groups. Rowley (2014) states that social science research commonly relies on non-probability samples due to the lack of a clear understanding of the population and ambiguous limits for inclusion or exclusion. The current evidence strongly suggests that the study group consists of low-income earners from West Malaysia who have previous experience using e-wallets. With the mentioned criteria, therefore the targeted respondent will be West Malaysian who earned monthly household income below RM4,850 and have experience in using the e-wallet. The set of questionnaires has been distributed based on region and divided into four regions in West Malaysia: Northern, Central, Southern, and East Coast Region. For the first level, at least one state represents each region. Secondly, the samples have been divided into a gender which is male and female. The survey was available from November to December and was closed on 20 December 2022 when the target of respondents was reached. A total of 342 replies were received, however, only 265 (77.5% response rate) valid responses remained after 77 respondents were eliminated from the list for failing to meet the criteria set to qualify as respondents. The constructions section of the questionnaire utilized a 5-point Likert-scale to examine respondents' level of agreement with the topics presented. A total of 265 surveys were evaluated using the Statistical Package of Social Science (SPSS) version 28 and Smart Partial Least Squares 4.0 (SmartPLS).

### 4. RESULT AND DISCUSSION

The data of the study were analysed using SPSS 28 and SmartPLS 4. The data was inputted into SPSS and a descriptive analysis of the respondents' backgrounds was performed. The data was analysed using SmartPLS 4. Table 1 displays the demographic characteristics of the study respondents.

Table 1: Respondent Profile (n = 265)

<b>Demographic Profile</b>	<b>Frequency (n = 265)</b>	<b>Valid (%)</b>
<b>Gender</b>		
• Male	103	38.9
• Female	162	61.1
<b>Age</b>		
• Below 20 years old	2	0.8
• 20 – 29 years old	107	40.4
• 30 – 39 years old	92	34.7
• 40- 49 years old	51	19.2
• 50 – 59 years old	10	3.8
• 60 years and above	3	1.1
<b>Race</b>		
• Malay	238	89.8
• Chinese	15	5.7
• India	11	4.2
• Other	1	0.4
<b>Religion</b>		
• Islam	239	90.2

• Buddha	8	3.0
• Hindu	9	3.4
• Christian	8	3.0
• Other	1	0.4
<b>Education level</b>		
• High School	25	9.4
• Diploma	50	18.9
• Bachelor's degree	182	68.7
• Other	8	3.0
<b>Employment Sector</b>		
• Government	75	28.3
• Private	105	39.6
• Own-employed	25	9.4
• Business	9	3.4
• Students	48	18.1
• Other	3	1.1
<b>Residing State</b>		
• Northern (Perlis, Kedah, Pulau Pinang, Perak)	54	20.4
• Central (Wilayah Persekutuan Kuala Lumpur, Wilayah Persekutuan Putrajaya, Selangor)	74	27.9
• Southern (Negeri Sembilan, Melaka, Johor)	86	32.5
• East Coast (Pahang, Terengganu, Kelantan)	51	19.2
<b>Preferred e-wallet (most often used)</b>		
• Touch n Go	117	44.2
• Boost	6	2.3
• Big PAY	2	0.8
• MAE (Maybank)	70	26.4
• GrabPay	14	5.3
• Merchant Pay	4	1.5
• Fave Pay	4	1.5
• ShopeePay	46	17.4
• Other	2	0.8
<b>Frequency used per month</b>		
• Very often (more than 5 transactions per month)	100	37.7
• Often (1 to 4 transactions per month)	75	28.3
• Occasionally (at least one per month)	90	34.0
<b>Reload amount per month</b>		
• RM10 – RM30	67	25.3
• RM31 – RM100	118	44.5
• RM101 and above	80	30.2
<b>Transaction spent per month</b>		
• Toll payment	61	23.0
• Food & beverages	114	43.0
• Groceries	27	10.2
• Remittance	5	1.9
• e-bill payments	43	16.2
• Other	15	5.7

Source: Developed by the researchers for the current study

#### ***4.1 Reflective Measurement Model***

#### 4.1.1 Indicator Loadings, Composite Reliability (CR) and Average Variance Extracted (AVE)

To evaluate a reflective measurement model, Hair et al. (2019) proposed the utilisation of factor loading score, composite reliability (CR), and average variance extracted (AVEs). Based on the findings of Hair et al. (2019), it is suggested that the recommended loadings should be higher than 0.708 and the CR values should be at least 0.7. These values show that the construct explains more than 5 percent of the indicator's variance, which indicates adequate item reliability. Based on the results in Table 2, it can be observed that most of the loadings exceed 0.708. Although this number is considered acceptable, it indicates that the construct has acquired adequate convergent validity (Byrne, 2016). Further, all the CR are all greater than 0.7.

Further, the test for determining how closely many items is measured using the convergent validity. The average variance explained is the final convergent validity metric (AVE). A construct's ability to capture variance from observable variables or indications are directly proportional to the amount produced by measurement error is referred to as the absolute variance exponent, or AVE (Roldán & Sánchez-Franco, 2012). It shows how much of the deviations may be accounted for by the construct's items. The AVE for each item employed in a given build must be more than 0.5 (Hair et al., 2019). The AVEs are all greater than 0.5 as shown in Table 2. The researchers can therefore draw the conclusion that all measurement model constructs were trustworthy and valid.

Table 2: Results for Loadings, Composite Reliability (CR) and Average Variance Extracted (AVE)

Construct	Items	Loadings	CR	AVE
Perceived Ease of Use	PEOU1	0.876	0.936	0.794
	PEOU2	0.885		
	PEOU4	0.887		
	PEOU5	0.891		
	PEOU6	0.971		
	Trust	TR1		
TR2	0.898			
TR3	0.726			
TR4	0.931			
TR5	0.868			
TR6	0.926			
TR7	0.890			
TR8	0.886			
Social Influence	SI1	0.780	0.918	0.706
	SI2	0.812		
	SI3	0.868		
	SI4	0.896		
	SI6	0.804		
	SI7	0.873		
e-Wallet Acceptance	eWA1	0.805	0.917	0.668
	eWA2	0.813		
	eWA3	0.669		
	eWA4	0.862		
	eWA5	0.878		
	eWA6	0.858		

Source: Developed by the researchers for the current study



### 4.1.2 Discriminant Validity

The HTMT criterion, initially introduced by Henseler et al. (2015) and subsequently refined by Franke & Sarstedt (2019), was employed to assess the discriminant validity. The most lenient standard requires that the HTMT values should be at least 0.90, whereas the more stringent standard requires a minimum value of 0.85. The researchers can deduce that the respondents acknowledged the distinctiveness of the 9 notions as all the HTMT values in Table 3 were below the more stringent threshold of 0.85. These two validity assessments have confirmed the reliability as well as the validity of the measurement items.

Table 3; Discriminant Validity

	PEOU	TR	SI	eWA
PEOU				
TR	0.600			
SI	0.569	0.475		
eWA	0.692	0.649	0.562	

Source: Developed by the researchers for the current study

### 4.2 Structural Model

Before evaluating structural relationships, it is essential to examine collinearity to prevent any potential distortion of the regression outcomes. As such, based on the result, this study do not has any collinearity issue as the VIF values (see in Table 6) are close to 3 and below (Hair et al., 2019). Since collinearity is not an issue, the next step is to assess the R<sup>2</sup> value of the endogenous construct(s). The value of R<sup>2</sup> ranges from 0 to 1, where higher values indicate greater explanatory power. Henseler et al. (2015) and Hair et al. (2019) have said that R<sup>2</sup> values of 0.75, 0.50, and 0.25 are categorised as substantial, moderate, and weak, respectively. As such, to access the model's explanatory power, the researchers looked at how the three predictors affected eWA, the R<sup>2</sup> value was 0.566 (Q<sup>2</sup> = 0.507), indicating that all three predictors together accounted for 56.6% of the variance in eWA. The R<sup>2</sup> of 0.566 for eWA indicates that the exogenous construct namely, PEOU, TR, and SI explain 56.6% of the variance in eWA. The findings were compiled in Table 4 which gives the results for R<sup>2</sup> and the explanatory power for this relationship, which is moderate.

Table 4: Results for R<sup>2</sup> and Explanatory Power

	R-square	R-square adjusted	Explanatory Power (Hair et al. 2019)
eWA	0.576	0.566	Moderate

Source: Developed by the researchers for the current study

In step 3, the researcher evaluated the model's ability to make accurate predictions using PLSpredict, as recommended by Shmueli et al. (2019). The authors Shmueli et al. (2019) introduced a methodology called PLS predict, which uses a holdout sample and generates predictions at the case level on an item or construct level. This strategy utilizes the PLS-Predict method and a 10-fold procedure to test the predictive relevance. According to **Table 5**, the PLS model's errors were consistently lower than those of the LM model. This indicates that the model possesses a high degree of predictive capability.

Table 5: Results for PLS Predict

Construct	Q <sup>2</sup> predict					
eWA	0.507					
Item	PLS-SEM	RMSE	LM	RMSE	PLS-LM	Result
eWA1	0.885		0.969		-0.084	Majority
eWA2	0.989		1.034		-0.045	
eWA3	1.147		1.188		-0.041	
eWA4	0.775		0.858		-0.083	
eWA5	0.830		0.960		-0.13	
eWA6	0.683		0.736		-0.053	

Source: Developed by the researchers for the current study

Table 6 presents the path coefficient ( $\beta$ ), t-values, p-values, and  $f^2$  for each hypothesis that was constructed. The study found that there was a positive relationship between perceived ease-of-use ( $\beta = 0.172$ ,  $p < 0.01$ ), trust ( $\beta = 0.250$ ,  $p < 0.01$ ), and social influence ( $\beta = 0.077$ ,  $p > 0.01$ ). Therefore, H1 and H2 were supported. The coefficient ( $\beta = 0.172$ ,  $t = 3.025$ ) for H1 suggests that there is a positive relationship between the perceived ease-of-use and e-wallet acceptance. The regression coefficient ( $\beta$ ) for H2 is 0.250, with a t-value of 2.293. This signifies that there is a positive relationship between trust and e-wallet acceptance. While H3 was not supported. The researchers only reported the effect size ( $f^2$ ) for the supported hypothesis, where all the two hypotheses (PEOU=0.027, TR=0.045) have a small effect size respectively. While Table 7 provides a concise overview of the assessment of hypotheses.

Table 6: Hypothesis Testing Result

Hypothesis	Relationship	Std Beta ( $\beta$ )	Std Error	t-values	p-values	BCI LL	BCI UL	$f^2$	VIF
H1	PEOU $\rightarrow$ eWA	0.172	0.057	3.025	0.001	0.079	0.265	0.027	2.554
H2	TR $\rightarrow$ eWA	0.250	0.109	2.293	0.011	0.077	0.434	0.045	3.262
H3	SI $\rightarrow$ eWA	0.077	0.062	1.246	0.106	-0.036	0.168	-	1.695

Table 7: Summary of Hypothesis Testing Result

Hypothesis	Description	Result
H1	Perceived Ease-of-Use has a positive relationship with e-Wallet Acceptance.	Supported
H2	Trust has a positive relationship with e-Wallet Acceptance.	Supported
H3	Social Influence has a positive relationship with e-Wallet Acceptance.	Not Supported

Source: Developed by the researchers for the current study

## 5. IMPLICATIONS AND LIMITATIONS OF STUDY

Three hypotheses were presented and subsequently tested with 2 of them being supported and one not supported (see Table 7).

For the first proposed hypothesis (H1) is supported between Perceived Ease of Use and e-Wallet Acceptance suggesting that perceived-ease-of-use has a positive relationship with e-wallet acceptance. This finding demonstrates that a low-income user with high perceived-ease-of-use possesses positive influences on e-wallet acceptance. This corroborates other TAM studies in Malaysia pertaining to the inclination to utilise e-wallets [31]. Similar observations have been made used TAM theory in Indonesia (Lisana, 2021; Nugroho et al., 2023; Yang et al., 2021), Bahrain (AlKubaisi & Naser, 2020), China (Li et al., 2019; Pal et al., 2020), Jordan (Al-Dmour et al., 2021), and Cameroon (Wamba et al., 2021); all of the studies discovered a significant

and positive relationship between perceived ease-of-use and e-wallet acceptance. Next, for the hypothesis (H2) is significant for the relationship between Trust and e-Wallet Acceptance, providing evidence that trust significantly contributes in embracing customers' interest for accepting electronic wallet services. The finding exhibits that a low-income user with high trust possesses positive influences on e-wallet acceptance. This result is in line with Al-Dmour et al. (2021), Alshurideh et al. (2021), Pal et al. (2020) and Yang et al. (2021), who all found a significant and positive relationship between trust and electronic payment usage. However, for the proposed hypothesis (H3) is not significant between Social Influence and e-Wallet Acceptance. Even this finding not consistent with other studies (Abdullah et al., 2020; Al-Saedi et al., 2020; Ariffin et al., 2020) but it substantiate with Soomro (2019). Further, the millennials prefer smartphones to do all transactions and social activities without being influenced by social factors (Tikku & Singh, 2023).

This study's conclusions have significant implications for practice. First, the study highlights consequences for e-wallet service providers and marketers to influence the e-wallet acceptance amongst low-income groups as the results show that PEOU, and TR influence eWA. The findings will help service providers and marketers identify the factors that lead to e-wallets acceptance. Hence, e-wallet marketers and providers should prioritise the development of a user-friendly interface, effort free system, trustworthy, and reliable e-wallets. Second, this study contributes to the policy and management perspective by examining determinants that influence the e-wallet acceptance, thus the goal of becoming a cashless nation can be achieved. The extensive implementation of digital payment methods has created several prospects for the underprivileged and financially excluded individuals in Malaysia to engage in economic activities. The application of appropriate mechanisms at the right time, the government can overcome the shortcomings of the market and facilitate the use of technology to fulfil its public good responsibilities efficiently and effectively.

## **6. CONCLUSION**

This study provides valuable insights that can motivate both e-wallet regulators and providers to improve the quality of e-wallet services, create a memorable user experience, and strengthen consumer brand reputation and loyalty. Additionally, by placing a significant emphasis on acceptance (with e-wallet experience), the objective of this research is to redirect the attention of academic researchers and practitioners from studying the intention to use e-wallets (without prior experience) to studying the acceptance of e-wallets based on experience. The goal is to identify the key variables that influence the adoption of e-wallets.

While the outcomes of this study are advantageous, it is crucial to acknowledge and navigate the limitations that indicate areas for development in future investigations. The study's scope is restricted to the study specifically for e-wallet acceptance within West Malaysia's low-income group. Thus, it can be inferred that the findings can only be comprehended through the perspective of the low-income demographic. It is still to be ascertained whether the findings can be applied to other types of digital payment systems and cannot be extrapolated to the low-income people in Malaysia, as the data does not include the population in East Malaysia (Sabah, Sarawak, Labuan). Nevertheless, it is presumed that these constraints do not lessen the importance of the study's findings, but instead guide future research by emphasizing and endorsing further enhancements in this field. It is imperative to acknowledge that the low-income group in other countries may differ from the population studied. Thus, the results of this study may only apply to the specific context of Malaysia and may not accurately represent the low-income group in other countries. Consequently, replicating and expanding this study to

different circumstances is necessary.

## ACKNOWLEDGEMENT

This research was funded by the Ministry of Higher Education Malaysia through Fundamental Research Grant Scheme (FRGS), grant number FRGS/1/2022/SS01/UITM/02/16.

## AUTHORS' CONTRIBUTION

RK conducted the introductory and literature review components. RK, SI, and NHAR gathered and processed the data. RK conducted the data analysis utilizing Partial Least Squares Structural Equation Modelling (PLS-SEM). RK contributed to the data methodology section, as well as the discussion and deductive reasoning sections. The final manuscript was reviewed and approved by all the authors.

## CONFLICT OF INTEREST

None declared.

## REFERENCES

- Abdull Rahman, N. L., Abd Mutalib, H., Md Sabri, S., Annuar, N., Abdul Mutalib, S. K. M. S., & Abdull Rahman, Z. S. (2022). Factors Influencing E-Wallet Adoption among Adults During Covid-19 Pandemic in Malaysia: Extending The Tam Model. *International Journal of Academic Research in Business and Social Sciences*, 12(7), 983–994. <https://doi.org/10.6007/ijarbss/v12-i7/14327>
- Abdullah, N., Redzuan, F., & Daud, N. A. (2020). E-wallet: Factors influencing user acceptance towards cashless society in Malaysia among public universities. *Indonesian Journal of Electrical Engineering and Computer Science*, 20(1), 67–74. <https://doi.org/10.11591/ijeecs.v20.i1.pp67-74>
- Aditia, E., Tela, I. N., Saleh, N., Itona, D., & Zaitul. (2018). Understanding the Behavioral Intention to Use a University Web-Portal. *MATEC Web of Conferences*, 248, 0–4. <https://doi.org/10.1051/mateconf/201824805004>
- Al-Dmour, A., Al-Dmour, H. H., Rewan, B., & Al-Dmour, H. (2021). Factors Influencing Consumer Intentions to Adopt E-Payment Systems: Empirical Study. *International Journal of Customer Relationship Marketing and Management (IJCRMM)*, 12(2), 80–99. <https://doi.org/10.4018/IJCRMM.2021040105>
- Al-Saedi, K., Al-Emran, M., Ramayah, T., & Abusham, E. (2020). Developing a general extended UTAUT model for M-payment adoption. *Technology in Society*, 62(September 2019), 101293. <https://doi.org/10.1016/j.techsoc.2020.101293>
- AlKubaisi, M. M., & Naser, N. (2020). A quantitative approach to identifying factors that affect the use of E-wallets in Bahrain. *Journal of Siberian Federal University - Humanities and Social Sciences*, 13(11), 1819–1839. <https://doi.org/10.17516/1997-1370-0687>
- Alshurideh, M. T., Al Kurdi, B., Masa'deh, R., & Salloum, S. A. (2021). The moderation effect of gender on accepting electronic payment technology: a study on United Arab Emirates consumers. *Review of International Business and Strategy*. <https://doi.org/10.1108/RIBS-08-2020-0102>
- Alwi, S., Alpandi, R. M., Mohd Salleh, M. N., Basir, I. N., & Ariff, F. F. M. (2019). An empirical study on the customers' satisfaction on fintech mobile payment services in malaysia. *International Journal of Advanced Science and Technology*, 28(16), 390–400.
- Ariffin, N. H. M., Ahmad, F., & Haneef, U. M. (2020). Acceptance of mobile payments by

- retailers using UTAUT model. *Indonesian Journal of Electrical Engineering and Computer Science*, 19(1), 149–155. <https://doi.org/10.11591/IJEECS.V19.I1.PP149-155>
- Bakri, M. H., Almansoori, K. K. S. M., & Azlan, N. S. M. (2023). Determinants intention usage of Islamic E-Wallet Among Millennials. *Global Business and Finance Review*, 28(1), 11–32. <https://doi.org/10.17549/gbfr.2023.28.1.11>
- Byrne, B. M. (2016). Structural Equation Modeling With AMOS. In *Structural Equation Modeling With AMOS*. <https://doi.org/10.4324/9781315757421>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*, 13(3), 319–339. <https://doi.org/10.2307/249008>
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, 35(8), 982–1003. <https://doi.org/10.1287/mnsc.35.8.982>
- Dennehy, D., & Sammon, D. (2015). Trends in mobile payments research: A literature review. *Journal of Innovation Management*, 3(1), 49–61. [https://doi.org/10.24840/2183-0606\\_003.001\\_0006](https://doi.org/10.24840/2183-0606_003.001_0006)
- Elvi, fitria. (2021). Jurnal ekonomi integra. *Jurnal Ekonomi Integra*, 11, 91–98.
- Fintech News Malaysia. (2022). *Fintech Report Malaysia 2022*. 23.
- Franke, G., & Sarstedt, M. (2019). Heuristics versus statistics in discriminant validity testing: a comparison of four procedures. *Internet Research*, 29(3), 430–447. <https://doi.org/10.1108/IntR-12-2017-0515>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hariguna, T., Adiandari, A. M., & Ruangkanjanases, A. (2020). Assessing customer intention use of mobile money application and the antecedent of perceived value, economic trust and service trust. *International Journal of Web Information Systems*, 16(3), 331–345. <https://doi.org/10.1108/IJWIS-12-2019-0055>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Ismail, N., Amran, A., & Yusof, W. Y. R. W. (2022). Spending Patterns of Malaysian Youth during the COVID-19 Pandemic. *ESTEEM Journal of Social Sciences and Humanities*, 6(2), 117–132. <https://ejssh.uitm.edu.my>
- Kadar, H. H., Sameon, S. S., Md. Din, M., & Abdul Rafee, P. A. (2019). Malaysia Towards Cashless Society. *Proceedings of the 3rd International Symposium of Information and Internet Technology (SYMINTTECH 2018)*. [https://doi.org/10.1007/978-3-030-20717-5\\_5](https://doi.org/10.1007/978-3-030-20717-5_5)
- Kamis, R., Ismail, S. &, & Abd Rahman, N. H. (2023). A Study of Literature and Practical Gaps in e-Wallet Acceptance: The Case of Malaysia. *Information Management and Business Review*, 15(4 (SI)), 181–190. [https://doi.org/https://doi.org/10.22610/imbr.v15i4\(SI\)I.3591](https://doi.org/https://doi.org/10.22610/imbr.v15i4(SI)I.3591)
- Kasirye, F., Mahmudul, S. M., & Masum, H. (2021). The Effects of e-Wallet among Various Types of Users in Malaysia: A Comparative Study. *Asian Journal of Research in Business and Management*, 3(2), 26–41. <http://myjms.mohe.gov.my/index.php/ajrbm>
- Kasirye, F., & Masum, S. M. H. (2021). The Effects of e-Wallet among Various Types of Users in Malaysia: A Comparative Study. *Asian Journal of Research in Business and Management*, 3(2), 26–41. <http://myjms.mohe.gov.my/index.php/ajrbm>
- Koomson, I., Bukari, C., & Villano, R. A. (2021). Mobile money adoption and response to idiosyncratic shocks: Empirics from five selected countries in sub-Saharan Africa. *Technological Forecasting and Social Change*, 167(July 2020), 120728.

- <https://doi.org/10.1016/j.techfore.2021.120728>
- Ky, S. S., Rugemintwari, C., & Sauviat, A. (2021). Friends or Foes? Mobile money interaction with formal and informal finance. *Telecommunications Policy*, 45(1). <https://doi.org/10.1016/j.telpol.2020.102057>
- Lee, J. N., Morduch, J., Ravindran, S., Shonchoy, A., & Zaman, H. (2021). Poverty and Migration in the Digital Age: Experimental Evidence on Mobile Banking in Bangladesh. *American Economic Journal: Applied Economics*, 13(1), 38–71. <https://doi.org/10.1257/app.20190067>
- Lee, Y., Kozar, K. A., & Larsen, K. R. T. (2003). The Technology Acceptance Model: Past, Present, and Future. *Communications of the Association for Information Systems*, 12(March). <https://doi.org/10.17705/1cais.01250>
- Li, J., Wang, J., Wang, S., & Zhou, Y. (2019). Mobile Payment with Alipay: An Application of Extended Technology Acceptance Model. *IEEE Access*, 7, 50380–50387. <https://doi.org/10.1109/ACCESS.2019.2902905>
- Lisana, L. (2021). Factors influencing the adoption of mobile payment systems in Indonesia. *International Journal of Web Information Systems*. <https://doi.org/10.1108/IJWIS-01-2021-0004>
- Mew, J., & Millan, E. (2021). Mobile wallets: key drivers and deterrents of consumers' intention to adopt. *International Review of Retail, Distribution and Consumer Research*, 31(2), 182–210. <https://doi.org/10.1080/09593969.2021.1879208>
- Nugroho, A., Siagian, H., Oktavio, A., & Tarigan, Z. J. H. (2023). The effect of e-WOM on customer satisfaction through ease of use, perceived usefulness and e-wallet payment. *International Journal of Data and Network Science*, 7(1), 153–162. <https://doi.org/10.5267/j.ijdns.2022.11.007>
- Odoom, R., & Kosiba, J. P. (2020). Mobile money usage and continuance intention among micro enterprises in an emerging market – the mediating role of agent credibility. *Journal of Systems and Information Technology*, 22(4), 97–117. <https://doi.org/10.1108/JSIT-03-2019-0062>
- Ooi, K. B., & Tan, G. W. H. (2016). Mobile technology acceptance model: An investigation using mobile users to explore smartphone credit card. *Expert Systems with Applications*, 59, 33–46. <https://doi.org/10.1016/j.eswa.2016.04.015>
- Pal, A., Herath, T., De', R., & Rao, H. R. (2020). Contextual facilitators and barriers influencing the continued use of mobile payment services in a developing country: insights from adopters in India. *Information Technology for Development*, 26(2), 394–420. <https://doi.org/10.1080/02681102.2019.1701969>
- Patil, P., Tamilmani, K., Rana, N. P., & Raghavan, V. (2020). Understanding consumer adoption of mobile payment in India: Extending Meta-UTAUT model with personal innovativeness, anxiety, trust, and grievance redressal. *International Journal of Information Management*, 54(February), 102144. <https://doi.org/10.1016/j.ijinfomgt.2020.102144>
- Priyatna, B., & Novalia, E. (2023). PENERAPAN TECHNOLOGY ACCEPTANCE MODEL ( TAM ) PADA PEMBUATAN APLIKASI DIGITAL LEARNING ORYZA SATIVA ( D-LEAROS ). 11(1), 96–101.
- Qi, M., Cui, J., Li, X., & Han, Y. (2021). Perceived factors influencing the public intention to use E-Consultation: Analysis of web-based survey data. *Journal of Medical Internet Research*, 23(1), 1–20. <https://doi.org/10.2196/21834>
- Roldán, J. L., & Sánchez-Franco, M. J. (2012). Variance-based structural equation modeling: Guidelines for using partial least squares in information systems research. In *Research Methodologies, Innovations and Philosophies in Software Systems Engineering and Information Systems* (Issue January 2012). <https://doi.org/10.4018/978-1-4666-0179->

- Rowley, J. (2014). Designing and using research questionnaires. *Management Research Review*, 37(3), 308–330. <https://doi.org/10.1108/MRR-02-2013-0027>
- Setiawan, R. A., Setyohadi, D. B., & Pranowo. (2018). Understanding customers' intention to use social network sites as complaint channel: An analysis of young customers' perspectives. *E3S Web of Conferences*, 31. <https://doi.org/10.1051/e3sconf/20183111014>
- Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J. H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019). Predictive model assessment in PLS-SEM: guidelines for using PLSpredict. *European Journal of Marketing*, 53(11), 2322–2347. <https://doi.org/10.1108/EJM-02-2019-0189>
- Singh, N., Sinha, N., & Liébana-Cabanillas, F. J. (2020). Determining factors in the adoption and recommendation of mobile wallet services in India: Analysis of the effect of innovativeness, stress to use and social influence. *International Journal of Information Management*, 50(April 2019), 191–205. <https://doi.org/10.1016/j.ijinfomgt.2019.05.022>
- Singh, S., & Srivastava, R. K. (2020). Understanding the intention to use mobile banking by existing online banking customers: an empirical study. *Journal of Financial Services Marketing*, 25(3–4), 86–96. <https://doi.org/10.1057/s41264-020-00074-w>
- Soodan, V., & Rana, A. (2020). Modeling customers' intention to use e-wallet in a developing nation: Extending UTAUT2 with security, privacy and savings. *Journal of Electronic Commerce in Organizations*, 18(1), 89–114. <https://doi.org/10.4018/JECO.2020010105>
- Soomro, Y. A. (2019). Understanding the adoption of sadad e-payments: UTAUT combined with religiosity as moderator. *International Journal of E-Business Research*, 15(1), 55–74. <https://doi.org/10.4018/IJEER.2019010104>
- Tikku, S. R., & Singh, A. K. (2023). Financial Disruption and Microentrepreneurs: Empirical Study on Adoption of E-Wallet Among Micro-Entrepreneurs in India. *International Journal of E-Collaboration*, 19(1), 1–14. <https://doi.org/10.4018/IJEc.315780>
- Tran Le Na, N., & Hien, N. N. (2021). A study of user's m-wallet usage behavior: The role of long-term orientation and perceived value. *Cogent Business and Management*, 8(1). <https://doi.org/10.1080/23311975.2021.1899468>
- Trotman, J. (2021, February 5). *What Are The E-Wallet Trends In Malaysia?* <https://www.nimbleappgenie.com/blogs/what-are-the-e-wallet-trends-in-malaysia/>
- Wamba, S. F., Queiroz, M. M., Blome, C., & Sivarajah, U. (2021). Fostering Financial Inclusion in a Developing Country: Predicting User Acceptance of Mobile Wallets in Cameroon. *Journal of Global Information Management*, 29(4), 195–220. <https://doi.org/10.4018/JGIM.20210701.0a9>
- Widayat, W., Masudin, I., & Satiti, N. R. (2020). E-Money payment: Customers' adopting factors and the implication for open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(3). <https://doi.org/10.3390/JOITMC6030057>
- Yang, M., Al Mamun, A., Mohiuddin, M., Nawi, N. C., & Zainol, N. R. (2021). Cashless transactions: A study on intention and adoption of e-wallets. *Sustainability (Switzerland)*, 13(2), 1–18. <https://doi.org/10.3390/su13020831>

## AUTHOR BIOGRAPHIES

**Rohaiza Kamis** holds the position of Senior Lecturer in Finance and Economics at the Faculty of Business and Management, UiTM. She obtained a Doctor of Philosophy in Business Management from Universiti Teknologi MARA, Malaysia. She is primarily interested in Behavioural Finance, Financial Technology, and Personal Finance. She

possesses extensive teaching and learning expertise and prior experience as an Assistant Vice President in the banking industry.

**Shafinar Ismail** is a Professor at Universiti Teknologi MARA Melaka, Malaysia. She obtained her PhD from Brunel University, West London, United Kingdom. She specializes in personal finance and Islamic finance.

**Nur Hayati Abd Rahman** holds the position of Associate Professor at Universiti Teknologi MARA Melaka, Malaysia. She possesses a strong inclination towards the fields of public finance, monetary economics, and econometric analysis. She completed a Doctor of Philosophy in Business Management from Universiti Teknologi MARA, Malaysia.