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Understanding the Factors That Influence Consumer Continuous Intention to Use E-Wallet in Malaysia

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Abstract: Digital economy has changed the way people doing business. Cashless transaction via electronic media is the global trend achieving a cashless society. The government rolling out the E-Tunai Rakyat and e-Penjana initiatives for the E-wallet users have boosted up the usage of E-wallet. Besides, the emerging of coronavirus also has raised the awareness of contactless payment in many countries including Malaysia. The objectives of the research are to determine the reasons that Malaysian consumers sign up for E-wallet and the factors that influence the users' continuous intention to use E-wallet after claiming the government E-wallet initiatives. The TAM model has been used. A total of 351 sets of data were collected from Ipoh, Perak through an online survey. SPSS Data analysis software has been used to analyze the collected data. The findings show that the majority of E-wallet users strongly agree that they sign up for E-wallet because they want to claim the E-wallet initiatives which shows that the government strategies were effective. Spearman's rho correlation was applied to analyze the factors that influence the continuous intention to use E-wallet. The results reveal PU, PEOU, PS, and PE are positively correlated with the users' continuous intention. PEOU also positively correlated with the PU. The findings show that these factors significantly influence users' continuous intention. Future study is suggested to research different states since this research only focused on Ipoh.

Keywords: E-wallet, TAM model, E-wallet initiatives, Continuous intention to use

1. Introduction

The rapid growth of the digital economy has changed the ways people doing businesses transaction. The world has seen that the business transaction payment method evolved from barter trade to cash then into cards (Yap *et al*., 2019). With the high penetration of the Internet, the traditional payment method is transforming into e-payment systems globally. The annual Internet

Users Survey (IUS) results also documented that there was a significant increase in the percentage of Internet users at the national level, which is from 76.9% in 2016 to 87.4% in 2018 (MCMC, 2018).

In recent years, mobile phones have become the greatest influencer in human lives comparing to other technologies (Jack *et al.*, 2011). According to Deloitte (2016), the digital economy consists of businesses using smart devices, like e-commerce websites, mobile payments, mobile apps, etc. Mobile wallet usage is also gaining popularity in many countries. Generally, a mobile wall*et al*so called an E-wallet which is an electronic payment system and can replace the physical wallet. An E-wallet is an application that downloads from the app store or play store on the mobile phone. It can be used to make transactions, receive and transfer funds, and top-up money via the E-wallet mobile app (Kotecha, 2018).

The world is moving into a cashless society. The fast-developing of mobile payment is the countries including China and India. These countries have high adoption level of mobile wallets in their market. Malaysia is still behind these countries. The United Nations Statistics Division reported that most of the consumers aged between 15-64 years old which at 65.4% are still using physical cash in Malaysia. This shows that the current payment methods commonly still using are cash, cards, internet banking, and cheques in Malaysia (Andrew *et al.*, 2019).

In 2015, the global attitude survey directed by the PEW research center also reported there was 65% of young adults owning a mobile phone in Malaysia. This shows that Malaysia has a high amount of mobile phone users comparing to the average of mobile phone users in Asia-pacific countries which is documented as 37% in general (Poushter *et al.*, 2016). This shows that there is a great potential for consumers in the digital wallet market in Malaysia. Also, our Malaysian government has implemented many strategies for E-wallet adoption to move towards a cashless society.

1.1 Research Background

The E-wallet revolution has greatly affected the mode of business, financial markets, and payment system in Malaysia. In contrast to cash or card payment, digital payment is fast and secured for consumers as contactless connectivity can be more efficient (Kasavana, 2008). The adoption of an E-wallet among Malaysia's small medium-sized enterprises (SME) could boost contribution to the nation's income, improve competitiveness locally and globally and help the growth of the digital economy in Malaysia (Bernama, 2020; Chern *et al.*, 2018). In 2020, the Bank Negara Malaysia (BNM) allocated RM 450 million from the 2020 Budget to launch the e-Tunai Rakyat initiatives for E-wallet users to boost E-wallet usage. Public reaction was overwhelming to the E-Tunai Rakyat with a total of 2.9 million applications approved just 5 days after it was launched (Abas, 2020; Augustin, 2020).

Unfortunately, a global pandemic as known as COVID-19 started to appear in Malaysia in the same year and the local cases increased drastically day-by-day. To contain the pandemic, in March 2020, the Malaysian government-enforced Movement under Control Order (MCO) where people are advised to practice social distancing and avoid contact between individuals (Bavel *et al.*, 2020; Birruntha, 2020; Tesini, 2020; The Star, 2020b). The fear of coronavirus has forced a dramatic change in how people work and interact. The business models are moving from physical to online spaces and promoting contactless transactions to prevent infection. Hence, the awareness of digital payment and E-wallet usage have significant growth during the pandemic (Bavel *et al.*, 2020; The Star, 2020b).

Then, the government launched the second initiative which is e-Penjana during the MCO period. The initiative aimed to foster the economy by encouraging consumer spending in Malaysia. The implementation of the initiatives again boosting up E-wallet usage in Malaysia (Birruntha, May 2020). This is a big step towards a cashless society. However, the continuous intention among E-

wallet users is important in the digital wallet market as the government aimed a long-term E-wallet usage in Malaysia.

(a) E-Tunai Rakyat Initiative

From January 15 to March 14, 2020, the Malaysian government implemented the RM 450 million e-Tunai Rakyat initiative to stimulate E-wallet usage in Malaysia. Malaysians aged 18 years old above and earned less than RM 100, 000 per year are eligible to claim free RM 30 via e-Tunai Rakyat. There are three E-wallet players, Touch 'n Go, Boost, and Grab-Pay, from the total of 42 non-bank e-money issuers who participated in this program to roll out the RM 450 million issued by Bank Negara Malaysia (BNM). Malaysians who are eligible can claim their RM 30 e-Tunai from one of the three E-wallet players through register as E-wallet users (Tariq, 2020; The Star, 2020a).

As a result, all three e-wallet providers reported a surge in new users as many signed up to claim the hand-out, as well as other bonuses linked with the initiative. TnG recorded 10 times increase in users (7.3 million subscribers in total). Boost also recorded 25 times increase in average daily user registration rate on the first day of the initiative as well as Grab-Pay documented its E-wallet had a six-fold increase in users, claiming some who used cash previously had switched to E-wallet (Tariq, 2020).

On the first day of the E-Tunai initiative, it is reported that over RM 10 million were spent by 32,000 approved e-Tunai Rakyat applicants where the majority of spending was on groceries, telecommunication, transportation, and foods (Tariq, 2020; The Star, 2020b).

(b) E-Penjana Initiative

According to the Ministry of Finance Malaysia, the E-Penjana is an initiative under the Short-Term Economic Recovery Plan (PENJANA) in Malaysia. The initiative purposed to encourage consumer spending and instill safety practices through contactless payment and assist the public health authorities to facilitate contact tracing for Covid-19 through the MySejahtera application. Starting from 31 July to 24 September 2020, the Government provides RM 50 e Penjana credits for Malaysia consumers who with an income of less than RM 100, 000 annually are eligible to claim the credits. The participated E-wallet players to roll out the E-Penjana credits include Boost, Touch 'n Go, and GrabPay (PENJANA, 2020).

1.2 Problem Statements

The E-wallet payment gateway is cost-saving and convenient as the transformation of E-Payables from paper cheques into electronic payment reduced the usage of many aspects of account payable (Bank of America, 2014). The developing of E-wallet aims to provide security and convenience system (Singh *et al.*, 2017). However, the previous studies documented the cases of information violation cases were rising due to a lack of knowledge regarding information protection among users (Karim *et al*. 2020). Young generations are also concerned about fraud, data theft, and stealing that will occur while using the E-wallet system (Yap *et al.*, 2019).

Nevertheless, E-wallet usage was growing rapidly during the implementation of BNM initiatives in 2020. The influences of the COVID-19 pandemic also the reasons for leading the world to a cashless society with no exception. As people are resisting using physical cash and card due to social distance. At this time, contactless payment is critical during this pandemic that happened in Malaysia (The Star, April 2020b).

The rolled-out incentives and the COVID-19 pandemic caused Malaysian consumers to start using E-wallet to conduct payment. However, there is a concern of digital wallet which is internet

access. Digital wallet is fast and reliable when there is strong internet access (Akhila, 2018). In contrast, poor internet penetration and lack of knowledge to use e-Payment services are the challenges toward the growth of digital wallet payment systems (Singh, 2017a). Thus, the limitation of the internet network will become hinder the E-wallet payment system.

The effectiveness of E-wallet initiatives could be affected by the limitation of internet access and also a lack of knowledge on new technologies in rural communities. This is because people living in rural areas with weak internet coverage it difficult to access the E-wallet system and ended up left behind from the E-wallet system. As Malaysia aimed to go cashless, the government needs to construct more strategies to boost the usage of E-wallet in rural areas also.

In a nutshell, the research concerned about the digital payment industry might be a short period trend in Malaysia (Bagla *et al*., 2018). This is because the past studies found that the majority of consumers in Malaysia are still using cash (Nizam *et al*., 2018). Therefore, the research purposes to find out what are the reasons that Malaysian consumer sign up for E-wallet and also what are the factors that influence the users' continuous intention to use E-wallet after claiming the E-wallet initiatives.

1.3 Research Questions

   (i)   What are the reasons that Malaysian consumers sign up for E-wallet?
   (ii) What are the factors that influence users' continuous intention to use E-wallet after claiming the government E-wallet initiatives?

1.4 Research Objectives

   (i)   To determine the reasons that Malaysian consumers sign up for E-wallet.
   (ii) To determine the factors that influence users' continuous intention to use E-wallet after claiming the government E-wallet initiatives.

1.5 Scope of the Study

The research area focused on Ipoh which is the capital city of the state of Perak in Malaysia. The current population in Ipoh is 814, 000 in 2020 (Macrotrends, 2020). At present, there are fewer studies that have researched Ipoh, Perak. It is important to understand the current situation of the E-wallet market in different states in Malaysia after BNM had launched the initiatives. Ipoh is one of the developing cities and there has great potential among those consumers towards the growth of the digital wallet industry.

The research using a quantitative approach to conduct the study. There are several independent variables based on TAM that become the factors influencing the dependent variable, the continuous intention to use E-wallet among users. The hypotheses formed based on the relationships between both variables in the research. The research instrument is a survey questionnaire for both research objectives. This research mainly focused on consumers who have been used or continued to use the E-wallet system after claiming e-Tunai Rakyat in Malaysia. This group of respondents could help to determine the research objectives to provide extended information for the government and other parties for moving towards a cashless society.

1.6 Significance of the Study

The main objective of this research is to examine the factors influencing continuous intention to use E-wallet among users in Ipoh, Malaysia. There are many developing countries gradually transforming from traditional payment to virtual payment. The business model and consumer behavior also changing as the digital economy is growing rapidly (Bagnall *et al*., 2014). Malaysia also one of the developing countries which aimed to move forward to a cashless society. Hence, this research

benefits the relevant parties involved in the digital wallet industry which includes E-wallet developers and the Malaysian government. The findings from this research can provide extant information related to consumer behavior intention for these E-wallet developers, such as Touch 'n Go, Boost, and Grab-Pay. It is useful for those new E-wallet developers to gain competitive advantages in the market.

2. Literature Review

2.1 Reason Malaysian Consumer Sign Up for E-wallet

(a) Convenience

The payment process via mobile wallet with simply tapping in the mobile device can be streamline, especially for high-volume businesses. Consumers also no longer need to carry too much cash and physical cards with them while making payment transactions. By using a mobile wallet, consumers no need to worry about cash requirements as a mobile wallet can replace cash payment (Birruntha, 2020; Hossain *et al*., 2014; Kotecha, 2018). For example, payment can be completed by scanning QR code provided by in-store merchants listed with mobile wallet service providers like Grab-pay (Chern *et al*., 2018; Haroon, 2020; Jin *et al*., 2020; Karim *et al*., 2020; Pikri, 2018; The Star, 2020b).

(b) Cashback / Rewards

Many merchants and businesses are offering rewards to attract more consumers to use mobile wallet payment instead of traditional payment to increase the number of users. Consumers can receive rewards such as a gift or free purchasing pay with the mobile wallet. This is a benefit for mobile wallet users as there are massive rewards in the form of discounts and cashback given from mobile wallets. This can build up customer loyalty by sending incentives and sales directly to phones (Akhila, 2018; Bernama, 2020; Chern *et al*., 2018; Gupta, 2017; Kotecha, 2018; Kumari & Khanna, 2017; Yap & Ng, 2019).

(c) Safety and Security

A mobile wallet is safer and more convenient than a physical wallet because it can replace physical cash and cards to avoid loss of money. Its contactless features are a safer alternative to the physical transaction which facilitates the suppressed the Covid-19 infection (The Star, 2020b; Tiwari *et al*., 2019). Furthermore, mobile wallet applications are secured because the 6-digit PIN is needed before making a transaction. Besides, the Credit / Debit card information is encrypted for storage. In case of the loss of mobile phones, users can disable the information of the cards online to ensure maximum security (Kagan, 2020; Rajan, 2012).

(d) Comfortable with Contactless Payment

Due to the global pandemic, people started looking for contactless payment. The virus spreads by person-to-person when in contact with infected secretions, especially through close contact with large respiratory droplets generated when an infected person coughs or sneezes (Tesini, 2020). Therefore, social distancing is emphasizing to prevent transmission of coronavirus. The pandemic also has changed people's business model from physical to virtual where online businesses and delivery services began to prosper. The need to maintain social distance has made contactless payment a safe payment option for the consumer. The obvious choice is an E-wallet that offers contactless payment because people are afraid to handle cash and even using the credit card terminal to pay. Not only consumers, but merchants are also encouraged to use E-wallet payment to avoid physical touch (Tesini, 2020; The Star, 2020b).

(e) E-wallet Initiatives

The rolled out of E-wallet initiatives have attracted a huge amount of E-wallet users to claim those initiatives. As a result, it reported there are over RM 10 million was spent by 32, 000 approved e-Tunai Rakyat applicants when the E-Tunai Rakyat was undergoing on the first day (The Star, April 2020b). This shows good results for the government initiative. Besides, the government also launched a second initiative during the pandemic period which was e-Penjana. The implementation of e-Penjana again boosting up the usage of E-wallet in Malaysia (Birruntha, May 2020).

2.2 Conceptual Framework

Technology Acceptance Model (TAM) was first introduced by Davis (1989), which was revised from the Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen (1975) and the Theory of Planned Behaviour (TPB) by Ajzen (1991). The conceptual framework of the TAM model is used to predict the consumer's behavioral intention towards acceptance and usage of information technology. There are two critical factors involved in the TAM model which are perceived usefulness (PU) and perceived ease of use (PEOU). The model also proposed that PEOU is an antecedent of PU (Davis et al., 1986).

Previous studies not only used the prior variables, but the researchers have also modified TAM by adding new and valid constructs to enhance the comprehensiveness of the model (Jaradat, 2013). Perceived trust (PT) is the extended variable that is put in the TAM (Venkatesh et al, 1996). Also, privacy and security (PS) also one of the additional variables that have significant influences on behavioral intention to use new technology (Barry et al., 2018; Karim et al., 2020). Other than that, perceived enjoyment (PE) is one of the factors found from other studies added into TAM to predict intention to use particular technology and have a direct relationship between users' intention to use (Liao et al., 2008; Cheema et al., 2013).

This study is using the extended TAM model to examine the intention to continue to use mobile wallets after claiming the E-wallet initiatives in Malaysia. The extended variables of the TAM model consisted of PU, PEOU, PS, and PE are the independent variables of the study that will influence the intention of users to continue to use E-wallet after claiming the E-Tunai Rakyat.
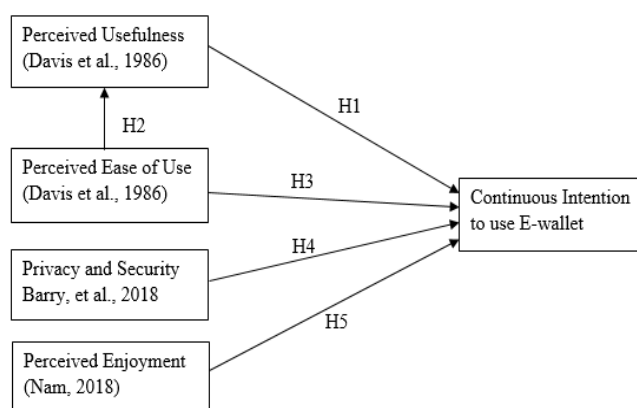

Figure 1: Conceptual Framework of the research

(a) Continuous Intention to Use E-wallet (CI)

According to Bhattacherjee et al. (2000), CI is defined as a person's intention to continue to use the information system. CI also can be defined as the possibility that the client company will retain its existing provider (Burnham et al., 2003; Oliver, 1997). It is critical to know consumers' CI to

maintain the sustainability of E-wallet usage. It is also a behavioral intention of consumers toward new and innovative technologies (Davis, 1989).

There is literature that studied the relationship between the independent variables and dependent variables which is the behavioral intention of individuals towards services and technologies. For example, the findings found that the intention to use particular technologies have positively influenced by the extended TAM variables. (Ahmed, 2017; Venkatesh *et al*., 2000; Barry *et al*., 2018). Therefore, the CI is the dependent variable in the research to determine whether the independent variables are influencing the dependent variable.

(b) Perceived Usefulness (PU)

From the perspective of the TAM model, the definition of PU is the extent of a personal belief on the use of a specific application will enhance his performance experience (Redzuan *et al*., 2016). In other words, customers would use it again and prefer it rather than other payment methods when an application has a high extent of PU among customers (Aristovnik *et al*., 2016). PU is also defined as the increase in job performance is affecting by the prospective user's subjective probability that using a specific application system within an organization context (Davis *et al*., 1989).

Many previous studies have used the TAM model to predict the intention of the consumer to use an Information System (IS) technology. Those researchers also found that there is a significant relationship between PU and behavioral intention towards adopting particular technologies such as self-service technologies, mobile wallets, and mobile money transfer (Chen *et al*., 2009; Jin *et al*., 2020; Ahmed, 2017). Hence, this research will develop the relationship between PU and CI to know the insight of users toward the E-wallet system. The hypothesis is formed as follow:

H1: Perceived Usefulness is a significant influence on continuous intention to use E-wallet.

(c) Perceived Ease of Use (PEOU)

Davis *et al*. (1992) also stated PEOU is defined as the degree to which the prospective user expects the target system to be free of effort. The model also proposed that PEOU is an antecedent of PU. The prior studies found that there is a significant and positive relationship between PEOU and PU (Amin, 2009; Davis *et al*., 1989; Barry *et al*., 2018; Trivedi, 2016, Karim *et al*., 2020).

Furthermore, previous studies also examined there had a significant and positive relationship between PEOU and behavioral intention to use new technologies such as Information system (IS), self-service technologies, mobile wallet (Jackson *et al*., 2007; Diatmika *et al*., 2016; Chen *et al*., 2009; Jia *et al*., 2020). Based on these previous studies, it is shown that have strong evidence proves that PEOU is one of the influential factors in explaining the intention of E-wallet usage among users. Hence, this research will develop the relationship between PEOU and PU, and also PEOU and CI. The hypothesis formed as follows:

H2: Perceived Ease of Use is a significant influence on Perceived Usefulness.

H3: Perceived Ease of Use is a significant influence on continuous intention to use E-wallet.

(d) Privacy and Security (PS)

Privacy refers to the ability of a person to personally control information about one's self (Cliquet *et al*., 2015). According to Westin (1967), Information privacy is defined as "the claim of individuals, groups, or institutions to determine for themselves what, when and how the extent information about them is communicated to others. Besides, security is defined as the degree to which an individual perceived security on using a particular system (Pantano *et al*., 2012). According to Ahmad *et al*. (2010), the growth of technology on advancement smartphone affected users' unwillingness to

disclose their financial information like credit card details over the internet because they have no experience with new technology. This causes PS concern in a business transaction among new users.

Many researchers found that the PS has positively influenced the behavioral intention to use or accept new technologies. Dinev *et al*. (2008) documented PS is the component of a perceived risk that brings a great impact on consumers' intention. Previous studies reviewed above found that PS has a positive impact on the E-wallet systems (Humbani, 2018; Karim *et al*., 2020; Nizam *et al*., 2018). Nevertheless, several studies found that PS does not have a significant relationship with the behavioral intention toward E-wallet systems (Jin *et al*., 2020; Chern *et al*., 2018). This research has to determine whether PS could influence the consumers' continuance intention towards E-wallet after claiming the initiative. Hence, the hypothesis of the research is as follow:

H4: Privacy and security are significant influences on continuous intention to use E-wallet.

(e) Perceived Enjoyment (PE)

Davis *et al*. (1992) defined PE as the extent to which a person believes that using a particular system such as a mobile wallet would be pleasant on its own. PE was one of the important antecedents to take into account the "intrinsic joy" of using particular technology while shopping (Turel *et al*., 2011). Prior studies have examined the enjoyment was significantly impact customer attitude and behavior on particular technologies such as online shopping, e-payment system, online game (Chiu *et al*., 2009; Al-Maghrabi *et al*., 2011; Chin *et al*., 2015a; Hamari, 2015).

This shown that PE has a significant influence on consumers' behavioral intention to use a particular technology. However, there were limited studies relevant to E-wallet carry out a study to examine the relationship between PE and behavioral intention to use E-wallet system. Hence, this research is going to determine the relationship between PE and CI. The hypothesis formed as follows:

H5: Perceived Enjoyment is a significant influence on continuous intention to use E-wallet.

3. Research Methodology

3.1 Research Design

The quantitative approach was used to test the theory to generate results in the research. The research instrument is a survey questionnaire. The survey in the research focuses on the two research objectives in the research. The questionnaire is a self-explanatory questionnaire and closed-ended questions. The measurement scale is a 5-point Likert scale ranging from strongly disagree to strongly agree to express the agreement statement. Target respondents of the research were the consumers aged 18 and above and have been used or continued to use E-wallet after claimed E-wallet initiatives. The research area mainly focused on Ipoh, Perak with a sample size of 384 respondents (Krejcie *et al*., 1970). Judgment sampling is also known as purposive sampling used for this research because the sample was taken from a group of individuals who easy to reach in certain areas. The survey questionnaires were distributed by using Google Form to several social media such as Facebook, Whatsapp, and Instagram, etc.

3.2 Data Collection

Before distribution for the full sample, the pilot test has been carried out to test 30 respondents from sampling size to test the reliability of the questionnaire. The reliability test of the study was analyzed using Cronbach's Alpha. There are a total of 28 items in the research was tested. The overall results indicated the alpha value of the items is over 0.7 which means the data is reliable. As the result shown that the data was reliable, the questionnaires could be distributed for the full sample online by using Google Form. There are a total of 380 sets of questionnaires have been collected from the target

respondents. Then, the data checking was proceeded to filter out the incomplete data or unqualified respondents from the collected data. Those data were eliminated in the research and the remained data are the actual data used for the research.

3.3 Data Analysis

IBM SPSS Statistics software has been used to analyze data collected to obtain clear and comprehensive results. A normality test was conducted and the result shown that the Sig. values are <0.05 indicate that the data are NOT normal. Thus, the research used non-parametric tests. In this research, there are several tests conducted to analyze the collected data which included Descriptive analysis, and also Spearman's rho correlation analysis. The descriptive analysis was used to analyze the data of the first research objective. Last, Spearman's rho correlation was used to analyze the second objective of the research. The details of the data analysis result have explained in the next section.

4. Results and Discussion

4.1 Data Analysis Results

(a) Response Rate

To ensure all participant respondents are living in Ipoh, Perak, the researcher only distributed questionnaires to the Ipoh area online. For example, the Google form link sent to the active residents' group chats in Ipoh and also staff group chats in Ipoh through Whatsapp and WeChat.

In this research, there is a total of 380 sets of questionnaires were collected from Ipoh, Perak. The last question is aims to know whether respondents have claimed the government initiatives before. If the respondent does not claim any of the incentives, he/she may not require to proceed to the next section of the questionnaire. The result shown that there are 29 respondents did not claim any of the incentives. Those data have been eliminated from the research since they are not qualified for the research. This is because this research purposed to understand the continuous intention to use E-wallet after claimed the government E-wallet incentives. Therefore, 351 sets of data have been chosen for this research. The respondent rate is 92.4%.

Table 1: Data on the number of e-wallet initiatives have claimed

Have you claimed the government E-wallet initiatives before? (e.g: e-Tunai, e-Penjana)	Frequency	Percentage (%)
Yes, I have claimed both incentives.	221	58.2
Yes, I have claimed e-Tunai only.	40	10.5
Yes, I have claimed e-Penjana only.	90	23.7
No, I did not claim any of the incentives.	29	7.6
Total	380	100.0

(b) Demographic Analysis

The demographic results of the respondents are summarized in Table 2. There are 99 male respondents and 252 female respondents who have participated in this research. The majority of respondents are in the age range between 18 and 24, with 73.5%. There are no respondents are above 65 years old. Besides, there are many Chinese who participated in this research with the highest percentage of 73.2%. The following sequences are Malay (20.8%), India (5.4%), and other races (0.6%). Most of the respondents are with an income less than RM1000 which consists of 212 respondents (60.4%). Only a smaller number of respondents are with high income as there are only 9

respondents (2.6%) who earn RM 5001 and above per month. Last, the result found that the majority of respondents have heard about E-wallet payment gateway and only 2 out of 351 respondents never heard about it. This shown that many people are aware of the E-wallet.

(c) Descriptive Analysis

In the questionnaire, these five items were presented in a 5-point Likert scale which evaluates in between Strongly Disagree (1) and Strongly Agree (5). The weighted mean interval scales was calculated and divided into five mean range from 1 to 5 based on the 5-point Likert scale.

Table 2: Demographic results

Profile	Description	Frequency	Percentage (%)
Gender	Male	99	28.2
	Female	252	71.8
Age	18-24 years	258	73.5
	25-34 years	48	13.7
	35-44 years	15	4.3
	45-54 years	26	7.4
	55-64 years	4	1.1
Race	Malay	73	20.8
	Chinese	257	73.2
	India	19	5.4
	Other	2	0.6
Monthly Income (RM)	< 1000	212	60.4
	1001-3000	99	28.2
	3001-5000	31	8.8
	5001 and above	9	2.6
Do you know about the E-wallet payment gateway? (e.g. Touch' n Go, Boost, etc.)	Yes, I have heard about it, and I have been using it (or used it before)	342	97.4
	Yes, I have heard about it but never used it.	7	2.0
	I never heard about it.	2	0.6

Based on Table 3 reported the mean and standard deviation of the reasons that consumers sign up for an E-wallet account. Meanwhile, the majority of the respondents strongly agree with R5. The result shown that many consumers sign up for an E-wallet account to claim E-wallet initiatives as the mean score of R5 is the highest (mean = 4.3419). The second highest mean is the convenience of the E-wallet payment gateway services (mean = 4.1880). The mean score indicates that the respondents agree with R1. The third and fourth highest mean are the reasons of comfortable with the contactless payment and taking advantage of cashback/ reward points (mean = 4.1396 and 4.0570 respectively). Both mean scores indicate that the respondents agree with R4 and R2. Lastly, the lowest mean score is the security of the E-wallet payment gateways which is 3.7379. The result of the mean score shown that the respondents agree with R3. Besides the mean score of R5 is above 4.21, the mean score for those reasons is ranging in between 3.41 and 4.20 which indicated "agree" in the level of agreement.

Table 3: Mean value and standard deviation of the reasons sign up for e-wallet

Items	Mean	Std. Deviation	Level
R1: I sign up for the E-wallet account due to the convenience of the E-wallet payment gateway services.	4.1880	.89057	Agree
R2: I sign up for the E-wallet account because I want to take advantage of cashback/ reward points & discounts.	4.0570	.98105	Agree

R3: I sign up for the E-wallet account due to the security of the E-wallet payment gateways	3.7379	1.05002	Agree
R4: I sign up for the E-wallet account because I am comfortable with the contactless payment (e.g. E-wallet) during Movement Under Control order (MCO).	4.1396	.95940	Agree
R5: I sign up for the E-wallet account because I want to claim the E-wallet initiatives (e.g. RM 30 e-Tunai Rakyat; RM50 e-Penjana)	4.3419	.86681	Strongly Agree

Notes: R1: Reason 1; R2: Reason 2; R3: Reason 3; R4: Reason 4; R5: Reason 5

(d) Spearman's Rho Correlation

In this part, the second research question has been explained based on the correlation results. Based on Table 4 indicates the correlation coefficient of the relationship between the variables. There are five (5) hypotheses employed in this research to determine the independent variables (PEOU, PU, PS, and PE) affecting the dependent variable (CI) towards E-wallet in Malaysia. The strength of the correlation of the results is based on Appendix B. In SPSS, this research used a 2-tailed test in Spearman's rho correlation because the hypotheses testing is non-directional and the result wants to determine whether the relationships between IVs and DV are positive or negative tails. The research test for the possibility of positive or negative differences.

For H1 (PU is significantly influences on CI to use E-wallet) and H2 (PEOU is significantly influences on PU), the coefficient are $Rs = 0.711$; $p < 0.001$ and $Rs = 0.651$; $p < 0.001$ respectively. The results indicate that there is a strong correlation between PU and CI. And, a strong correlation between PEOU and PU. Thus, the hypotheses, H1 and H2 are supported.

For H3 (PEOU is significantly influences on CI) and H4 (PS is significant influences on CI), the coefficient are $Rs = 0.595$; $p < 0.001$ and $Rs = 0.568$; $p < 0001$ respectively. Both hypothesis results show that the relationship between two variables which are PEOU and CI and also PS and CI are moderately correlated as the range of both results is between 0.40 and 0.59. Therefore, H3 and H4 are supported. Lastly, H5 (PE is significantly influenced CI) is also supported as the coefficient, $Rs = 0.670$ and $p < 0.001$. The result indicates that there is a strong relationship between PE and CI.

Table 4: Spearman's rho correlation results

Hypothesis	The correlation coefficient, Rs	Strength of Correlation	Significant, p-value	Hypothesis Result
H1: PU > CI	0.711	Strong	0.000	Supported
H2: PEOU > PU	0.651	Strong	0.000	Supported
H3: PEOU > CI	0.595	Moderate	0.000	Supported
H4: PS > CI	0.568	Moderate	0.000	Supported
H5: PE > CI	0.670	Strong	0.000	Supported

** Correlation is significant at the 0.01 level (2-tailed).
a. Independent variables: Perceived Usefulness (PU); Perceived Ease of Use (PEOU); Privacy and Security (PS); Perceived Enjoyment (PE)
b. Dependent variables: Continuous Intention to use E-wallet (CI)

4.2 Discussions

(a) Objective 1

Based on the results from Table 5, the research found that the main reason that consumers in Malaysia sign up for E-wallet accounts because they want to claim the E-wallet initiatives. This showed that the government strategies were effective as the major respondents were interested to

claim the initiatives. The results are also congruent with the previous news reported by The Star Online (January 2020) and New Straits Times (August 2020).

The Star Online reported there was a total of 32, 000 approved e-Tunai Rakyat applications when the E-Tunai Rakyat initiative was undergoing on the first day. The number of E-wallet registrations was increased rapidly during that period. Besides, Dewan Rakyat stated that almost half a billion ringgit has been disbursed to 9.9 million Malaysians through the E-Penjana initiative (New Straits Times, August 2020). This also shown that the E-Penjana initiative was successful to boost consumer spending in Malaysia by using E-wallet payment.

Table 5: Summarized of the result of research objective 1

Item	Reasons	Mean	Ranked
R5	E-wallet initiatives	4.3419	1
R1	Convenience	4.1880	2
R4	Contactless Payment	4.1396	3
R2	Cashback / Reward	4.0570	4
R3	Security	3.7379	5

Notes: R1=Reason 1, R2=Reason 2, R3=Reason 3, R4=Reason 4, R5=Reason 5

(b) Objective 2

Based on the hypothesis testing results, all the hypothesis statements were supported. The result of H1 shown that there is a strong and positive relationship between PU and CI to use E-wallet after claiming the E-wallet initiatives. Hypothesis 1 was supported by previous studies such as Karim *et al*. (2020), Jin *et al*. (2020), Trivedi (2016), Nguyen and Huynh (2018), Amin (2009), Chin and Ahmad (2015), and Barry and Jan (2018). PU is a significant influence on CI because the users find that using an E-wallet is time-saving and the E-payment system is convenient for them. Consumers have the intention to continue to use E-wallet when they found E-wallet is useful. But the previous study also found that there is no significant relationship between PU and CI. This also means that users who feel the usefulness of E-wallet, have no intention to use mobile wallets regularly in the future (Campbell & Singh, 2017).

Besides, the H2 result also shown that there is a strong and positive correlation between consumers' PEOU and PU on E-wallet. Hypothesis 2 was also supported by previous studies such as Karim *et al*. (2020); Campbell and Singh (2017); Trivedi (2016); Amin (2009); Chin and Ahmad (2015) and Barry and Jan. (2018). PEOU is a significant influence on PU. This also means that when consumers feel easier to use E-wallet, the E-wallet will be useful to them. The finding of the research is consistent with previous studies (Karim *et al*., 2020; Campbell & Singh, 2017; Amin, 2009; Chin & Ahmad, 2015 and Barry & Jan 2018) which found that PEOU is highly correlated with PU of the adoption of the mobile wallet or new technologies and services. However, Nguyen and Huynh (2018) stated that although the e-payment is easy to use, it is not correlated with the usefulness of e-payment as the research found that the relationship between PEOU and PU was not significant.

Furthermore, the result of H3 shown that there is a moderate and positive correlation between consumers' PEOU and their CI after claiming the E-wallet initiatives. Hypothesis 3 was supported by previous studies (Karim *et al*. (2020); Jin *et al*. (2020); Campbell & Singh (2017); Trivedi (2016); Nguyen & Huynh (2018); Amin (2009); Chin & Ahmad (2015) which found that PEOU is significant influences on CI. This explained that when consumers found that E-wallet is easy to use, they will have the intention to continue to use the E-wallet. However, the hypothesis result contradicts the

previous study by Barry and Jan (2018) which found that the relationship between PEOU and behavioral intention to use m-commerce is insignificant.

Based on the H4 result, the relationship between PS and the CI after claiming the E-wallet initiatives is moderate and positively correlated. The finding is in line with the previous researches such as Dinev *et al*. (2008), Karim *et al*. (2020), and Barry and Jan. (2018) which stated PS is a significant influence on the behavioral intention to use particular technologies or services. When users feel safe and trust the E-wallet payment system, they will continue to use E-wallet. Barry and Jan (2018) also stated consumers feel insecure to use the E-wallet application to make payments when they feel less private and secure. In short, the greater privacy and security, the greater the continuous intention to use E-wallet. However, there were several previous studies found that there is an insignificant relationship between PS and consumers' intention to use particular technologies and services (Jin *et al*., 2020; Trivedi, 2016; Chern *et al*., 2018).

Lastly, the result of H5 indicated that there is a strong and positive relationship between consumers' PE and their CI after claiming the E-wallet initiatives. The finding of the study was supported and aligned with the previous studies (Chin & Ahmad., 2015; Barry & Jan, 2018) which found that PE is a significant influence on the intention to use particular systems or services. Therefore, when users feel enjoyable and fun during using E-wallet application, they will be more intended to continue using the payment system.

5. Conclusion

In a nutshell, the purposes of this research are to determine the reasons that Malaysian consumers sign up for E-wallet and the CI after claiming the E-wallet initiatives among E-wallet users living in Ipoh, Perak. The results show that all the variables are significant influences on the continuous intention to use E-wallet. The research may provide some contributions to different parties in the society such as E-wallet services providers, the policymakers like Ministry of Finance and BNM. These parties can understand the users' perception of the E-wallet payment gateway. The data and information in the research can give a guideline and references to E-wallet services providers to make improvements and advancement on their existing E-wallet applications. Also, guiding the government sectors to devise stronger strategies to boost the growth of the digital wallet industry.

There are also some limitations in this research such as the limitation of the area of the study, difficulties in distributing the questionnaires, and also lack of moderating variables towards dependent variables such as gender, age, and other demographic characteristics. Therefore, some recommendations have been discussed since there are existing limitations in the research. In future research, researchers are suggested to conduct their research in different states and countries to enhance the reliability and validity of the results. Besides, moderating variables are recommended to add to the research to have an understanding of the impact and effect of the moderating variables towards dependent variables.

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