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E-WALLET ADOPTION: A CASE IN MALAYSIA

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ABSTRACT

In line with the rapid growth in internet access, Fintech, online shopping and cross border trading in recent years, mobile payment transactions are expected to be the most prevalent means to complete sales transactions. A RM30 incentive of the use of E-wallet was announced for the Malaysia Budget 2020 to spur the use of E-wallet in Malaysia, while the central bank of Malaysia (BNM) has launched the Financial Sector Blueprint 2011-2020 aiming to eliminate the issuance of cheques and to increase e-payments, which accelerate the speed of transformation into a cashless society and stimulate the shift towards the electronic payment era. This paper contributes by examining the E-wallet adoption behavior of Malaysian smartphone users. The UTAUT model has been used. Data from 210 respondents were collected through an online survey. The findings show that three quarter of Malaysians have tried or started to use E-wallet, despite that it is still not a very common payment option. Half are spending less than RM100 per month using E-wallet with the average amount per transaction of not more than RM50. Partial-least-squares-structural-equation-modelling (PLS-SEM) is applied. The results reveal performance expectation, effort expectation and social influence have positive impact on the use behavior of E-wallet, whilst the perceived risk and perceived costs have no significant influence. Being at the infant stage of E-wallet in Malaysia, the regulators and retailers should focus their efforts on promoting the benefits brought by E-wallet, while enlarging the support network to facilitate the ease of use E-wallet in the society.

KEYWORDS: E-wallet, electronic payment, consumer intention, adoption

1. RESEARCH BACKGROUND

The payment methods used by consumers will have great impacts on the future of the financial system and the business model of a country. Mobile payment system is getting popular in the financial sector and it has high potential to replace cash and become the most popular means to complete transaction in the near future (OECD, 2012; Cocosila & Trabelsi, 2016). Fintech developments have changed payment systems in Malaysia. For current stage, the most commonly used cashless payment methods are credit cards/debit cards, internet banking and cheques. E-wallet appears to be a new trend of mobile payment in recent years. China is a role model of cashless society. According to a survey conducted by Korella and Wen (2018), WeChat Pay (16.6 %) and Ali Pay (39.5 %) are the two largest cashless payment options in China. E-wallet has become the primary financial instrument to complete payments for China citizens nowadays. Indeed, Malaysia government has also taken initiative to encourage Malaysian to move towards cashless society through some policies. For example, Bank

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Negara Malaysia (BNM) introduced Financial Sector Blueprint (2011-2020) which aims to develop and manage the future of Malaysia's financial markets and payment systems (Ooi Widjaja, 2016). In order to stimulate E-wallet usage in Malaysia, an incentive of RM30 is given to the E-wallet consumers which was part of the Malaysia Budget 2020. E-wallet eventually appears in Malaysia market in recent years. The prominent E-wallets trending in Malaysia include WeChat Pay, Maybank QR Pay, Samsung Pay, Boost, Touch 'n Go, Grab Pay, Favepay, etc. (Oh, 2019).

2. PURPOSE OF THE STUDY

E-wallet prospect is of broad and current interest in Malaysia since it will greatly affect the mode of business, financial markets and payment system in Malaysia. In order to proceed to cashless society like China, it is important to understand what hinder people to adopt new payment method like E-wallet. Hence, the objectives of this paper are: (i) to investigate the intention of adopting a future E-Wallet service from the Malaysians' viewpoint towards mobile phones based on the Unified Theory of Acceptance and Use of Technology (UTAUT) and (ii) to investigate the average usage and transaction size on E-wallet of Malaysian in the existing stage. This research goes in line with our government recent announcement of E-wallet incentive which a one-off payment worth RM 30 will be distributed to all Malaysia citizens who are 18 years old and above and people with annual income lower than RM100,000 under the Malaysia Budget 2020. This policy disseminates government intention to promote a cashless society in the near future. This policy aims to speed up the adoption of E-wallet in Malaysia and motivate the public, small businesses and retail stores to accept the use of digital payment in Malaysia. Hence, a research to identify the usage and the variables that affect the inclination to use E-wallet would greatly help Bank Negara Malaysia and government to provide an insight and have knowledge on E-wallet acceptance from the consumer point of view. The implementation of E-wallet determines whether Malaysia is able to successfully transform to high efficient cashless society in the coming future.

3. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

This section of the paper provides the theoretical background of the study. It is followed by the literature review on factors that influence the adoption of mobile payment service and finally the hypotheses development.

3.1 Theoretical background

In recent years, there are extensive research studies on factors that influence the mobile payment/ E-wallet usage in various countries which include China, India, Japan and Korea. Among them, the two most popular models used are: (i) Technology Acceptance Model (TAM) and (ii) Unified Theory of Acceptance and Use of Technology (UTAUT). Domingos & Ergun (2018) claimed TAM and UTAUT have been commonly used as the theoretical framework for studies conducted in mobile payment system area between the period of 2013 until 2017. They found that TAM has been used 29 times and

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UTAUT has been used for 10 times.

Davis (1989) introduced the Technology Acceptance Model (TAM). TAM is a concept to help researchers to better understand the users' intention in adopting a new information system in their daily life. It is also a theoretical framework specially designed to help to analyse and forecast the tendency of users to accept a new information technology. User's perceived usefulness and perceived ease of use are the two core constructs in TAM (Daştan & Gürler, 2016). However, it also suffers from its limitations as it often ignores the social aspect which involved in the adoption of a new technology such as social influence. Venkatesh et al. (2003) improved the TAM model and named the new model as UTAUT. This improved model integrates the critical elements with regards to new information technology acceptance. A total of eight technology adoption theories were evaluated, reviewed and compared in detail. This new model acts as an essential managerial tool to evaluate and formulate plans for introduction of new technologies. It has 70% accuracy in forecasting the adoption of a new information technology. Under UTAUT, it generally uses three points and facilitating situations for investigating and determining the intention to use a new information technology. The three key constructs are: (i) expected performance, (ii) expected effort and (iii) social influence. Past studies hypothesized that these three factors do have motivating effects on behavioural intention and use behaviour in technology adoption. Besides, behavioural intention and use behaviour are moderated by vary combinations of gender, age and experience. (Venkatesh et al.,2003; de Sena Abrahão, Moriguchi, & Andrade, 2016; Slade, Dwivedi, Piercy & Williams, 2015).

3.2 Literature Review on Factors that Affect Behavioural Intention to Adopt Mobile Payment Service

3.2.1 Performance Expectation

According to Venkatesh et al. (2003), performance expectation in UTAUT generally used to measure the degree that consumers believe in a system such as a new mobile technology will bring benefits to their daily lives. They found that performance expectancy is the strongest variable in forecasting the intention to use in the original model. The impact of performance expectancy on behavioral intention is also proven within the mobile payment context (Thakur, 2013; Wang & Yi, 2012). It is similar with the construct of perceived usefulness in TAM. Mobile payment system offers consumers the convenience to make payment without the limitation of location and time. It is an alternative method for convenient transaction as all payments can be done through a smartphone without other restrictions. Hence, it becomes prevalent in recent years. Since it provides users a lot of benefits, thus it has higher potential to be an essential factor for adoption (Slade, Dwivedi, Piercy & Williams, 2015). In addition, the study conducted by Morosan and DeFranco (2016) revealed that there is a significant association between performance expectancy and behavioral intention to use online banking.

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3.2.2 Effort Expectation

Venkatesh et al. (2003) asserted that effort expectation refers to the degree of ease associated with an individual's use of the technology. This concept is originated and adopted from three current models which are: (i) perceived ease of use in TAM, (ii) complexity in MPCU and (iii) ease of use in IDT (de Sena Abrahão, Moriguchi, & Andrade, 2016). Effort expectation represents the extent that a user perceived that technology such as online banking system is easy to learn and use, and they are more likely to continue to use internet banking in long term. Many previous studies (e.g. Martins et al., 2014; Rahi, Ghani and Ngah, 2018) revealed that effort expectation has a significant relationship with behavioral intention to adopt a new information technology like online banking. According to Wang and Yi (2012), effort expectancy is one of the essential variables in predicting the intention to use a new technology while Hongxia et al. (2011) found that it does not have significant influence on behavioural intention to use.

3.2.3 Social Influence

Definition of social influence in Venkatesh et al. (2003) refers to the extent of influence that one's opinion will have an impact on the adoption of a new technology. It is also known as one of the important predictors in affecting the adoption of a new technology. In general, people in the modern world rely heavily on online social communication due to the popularity of mobile phones. People can easily observe behaviour of others and asking feedback from them. Thus, it is more likely that users may be influenced by their friends or people who are close to them in adopting a new technology like mobile payment service (Nysveen, Pedersen, Thorbjørnsen, & Berthon, 2005). Fang (1998) includes social influence in its research model and try to figure out its role of social influence in e-commerce sector. The result shows that social influence does directly affect the usage. Besides, there are many previous studies (e.g. Lee, Murphy, & Swilley, 2009; Kim, Chan, & Gupta, 2007; Hsu & Lu, 2007; Gu, Lee, & Suh, 2009; Hong & Tam, 2006; Lu, Liu, Yu, & Wang, 2008; Miao and Jayakar 2016) found similar results that social influence affects consumer behaviour in the adoption of mobile technologies or new information system. Yang et al. (2012) also investigate factors that affect potential users in adopting of mobile payment and their results revealed that social influence is one of the most significant factors. It proves that there is a positive relationship between social influence and consumers behavioural intention to adopt.

3.2.4 Perceived Risk

A lot of consumers are concerned about trust and security issues in mobile commence related services and this leads to the appearance of the term "perceived risk" (Zhou, 2011). In the process to adopt mobile payment services, consumers will consider what kind of uncertainty they may face such as privacy and security problems. Perceived risk acts as an extension factor that is commonly incorporated in UTAUT and it has a negative relationship with the intention to adopt which varies with the three constructs under UTAUT. (Williams et al., 2011). Perceived risk means uncertainty

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that combined with potential negative outcomes associated with the behaviour to adopt or purchase (Featherman and Pavlou, 2003; Thakur and Srivastava, 2014). While Zhang, Zhu and Liu (2012) defined "Perceived Risk" as the extent of a consumer who use mobile services do think that he or she may be under the exposure of some specific types of risk like financial, social, privacy, security, physical or time risks. Non-monetary expenses are generally measured by perceived risk in recent studies (Yang et al., 2012). Perceived risk will hinder consumers to adopt a new technology like mobile payment service.

Thakur and Srivastava (2014) use perceived risk as one of the measurements in their study. The perceived risk includes security risk and privacy risk. Their study revealed that perceived risk does negatively affect consumer's intention to adopt. Further, the negative impact of perceived risk on adoption of mobile payment and its role as a hurdle towards adoption of mobile payment are proven in many prior studies (e.g. Chen, 2008; Liébana-Cabanillas et.al., 2014; Lu et al., 2011; Shin, 2010; Yang et al., 2012; Liébana-Cabanillas et.al., 2015; Mallat, 2007; Thakur and Srivastava, 2013 and Slade, Dwivedi, Piercy and Williams, 2015). However, there are a few studies which rejected this statement through their findings as well (e.g. Kapoor, Dwivedi, & Williams, 2014; Tan et al., 2014; Wang & Yi, 2012). These studies did verify that perceived risk is a suitable construct for theoretical use in testing the adoption of mobile payment. Given drastically changing and complex environment in technology for payment system, it has a high tendency that behavioral intention to adopt mobile payment system or services will be negatively influenced by consumers' perceived risk (Gwarlann et.al., 2016; Kim, Chan, & Gupta, 2007; Slade, Williams, Dwivedi & Piercy,2015).

3.2.5 Perceived Cost

Shafinah et al. (2013) explained the term "Perceived Cost" as the costs that will potentially incur by consumers in the future during the process to adopt a new technology such as the costs for initial, subscription and communication stage. Such cost also includes the financial burden of consumers to purchase a mobile device in order to utilize the mobile payment service. Indeed, the costs can be either be monetary or non-monetary since it also takes time and effort into consideration for the process to analyse and compare before it transforms to adopt a new technology like mobile payment service and develop a good relationship with the new supplier of services (Gastal, 2005).

Cost does affect the behaviour intention of consumer in adopting mobile payment since people will always think wisely in every decision in their lives. Lin et al. (2018) conducts a research based on cost benefit theory to investigate the consumer's intention to continually adopt mobile payment. It defined cost benefit as an individual preference to achieve the maximum benefits with the least cost incur for their decision. When he/she is a making decision, consumer always take the unavoidable costs into consideration and compare the value or benefits one will receive before the actual adoption of a new technology. If people find adopting mobile payment able to save time, money and convenient, they

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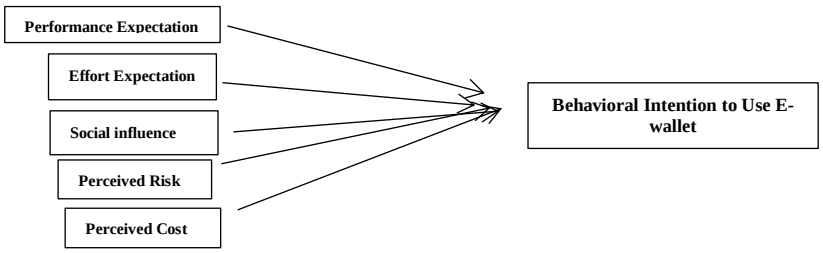
will voluntarily continue adopting it. In contrast, if they think it needs lots of effort and costly, then they will not adopt it. The conclusion did mention that perceived fees does affect the perceived value of consumers in continued intention to use mobile payment. Previous studies like Van der Heijden (2002), Mallat (2007), Chong (2013) and Oye et al. (2014) also incorporated perceived cost in their research models and the results revealed similar conclusion that perceived cost has significant and negative relationship in affecting adoption/acceptance of a new technology. They also concluded that it is one of the major factors that hindering the adoption or development of mobile payment in past years while de Sena Abrahão, Moriguchi, & Andrade (2016) found that it has no significant relationship with the adoption of mobile payment.

3.2.5 Research Hypotheses

In line with de Sena Abrahão, Moriguchi, and Andrade (2016) as well as the literature review above, the following five factors i.e. (i) performance expectation, (ii) effort expectation, (iii) social influence, (iv) perceived risk and (v) perceived cost are used to predict the intention to use E-wallet in Malaysia. The research framework is shown in Figure 1:

Figure 1



The hypotheses of the present study are as follows:

H1: Performance expectation is positively related to the intention of adopting E-wallet.
H2: Effort expectation is positively related to the intention of adopting E-wallet.
H3: Social influence is positively related to the intention of adopting E-wallet.
H4: Perceived risk is negatively related to the intention of adopting E-wallet.
H5: Perceived cost is negatively related to the intention of adopting E-wallet.

4. METHODOLOGY

This study uses quantitative research where primary data is collected through a questionnaire survey. The research instrument of the study is adapted from de Sena Abrahão, Moriguchi, and Andrade (2016). The survey in this research focuses on two issues which are: (i) Demographic and investigation on E-wallet usage of respondents and (ii) Factors influencing the behavioural intention to adopt E-

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wallet. The survey questionnaires are distributed via Internet using Google Form. The period of data collection is from 25 August 2019 until 18 October 2019. The target population is Malaysia citizens with different age groups which consist of GenZ (65%), GenY (24%), GenX (9%) and baby boomers (1%) and mainly focus on people living or working in cities of Malaysia mainly Klang valley (55%), Penang (9.5%) and Johor Bahru (21.5%). A total of 210 respondents are received within this period. The respondents include 56% male and 44% female. 67% of the respondents are degree holder, 22% are non-graduate, 11% are post graduate and professional.

5. RESEARCH FINDINGS

5.1 Usage and Transaction Size on E-wallet in Malaysia

The results reveal that there are usages of E-wallet in making payment in Malaysia yet it is not a common payment option at this stage. Approximately 80% of respondents have tried to start using E-wallet and only 18.1% of the respondents on an average have never used it. Hence, this is a good sign of E-wallet future development in Malaysia. However, the amount of usage remains low. Only 9% of respondents spend more than RM100 per transaction using E-wallet. Over 90% spend RM100 and below in each transaction. More than half of the respondents (58%) spend below RM100 a month using E-wallet. Only 16% of monthly transactions exceed RM500. This result shows that the use of E-wallet in Malaysia is still at the infant stage.

1 A) Average Frequency in a month	**Frequency**	**%**
Never	38	18.10%
1 to 3 times	76	36.19%
4 to 7 times	39	18.57%
8 to 10 times	8	3.81%
More than 10 times	49	23.33%
1 B)Average Amount of Per Transaction	**Frequency**	**%**
RM 0 (NONE)	37	17.62%
Below RM 50	119	56.67%
RM 51 - 99	35	16.67%
RM 100 - 499	13	6.19%
RM 500 - 999	2	0.95%
MORE THAN RM 1000	4	1.90%
1C) Monthly Transaction Amount	**Frequency**	**%**
RM 0 (NONE)	43	20.48%

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Below RM 100	79	37.62%
RM 100 - 499	55	26.19%
RM 500 – 999	11	5.24%
RM 1000 – 2000	9	4.29%
MORE THAN RM 2000	13	6.19%

Table 1: The Usage of E-wallet

To analyze the research model, data analysis is carried out using SmartPLS 3.0 software where the measurement test of validity and reliability of the measures was carried out (Ringle et.al, 2015). Next, the hypothesis relationship is tested using structural equation modeling (Hair et.al.,2014; Ramayah, 2011, 2013). The bootstrapping of 5,000 resampling was used to examine the significance of loadings and path coefficients (Hair et.al.,2014).

5.2 Measurement model results

Convergent validity that measure the extent to which multiple items used to measure the same construct are in fact related (Bajpai & Bajpai, 2014). According to Hair et al. (2014) the loadings should best be >0.70, AVE > 0.5 and CR > 0.7. As shown in Table 1, the loadings of all 5 constructs are larger than 0.7; AVE values larger than 0.5 and CR values larger than 0.7. Our constructs fulfilled the criteria stated above. Hence, the convergent validity is established for this research.

Discriminant validity indicates the extent to which measures of constructs that are not supposed to be related are in fact unrelated. It is tested with the Fornell-Lacker criterion (Fornell & Larcker,1981) and can be evaluated by comparing the square root of the AVE for any two constructs with the correlation between the two constructs and the square root of AVE for the two constructs must be greater than correlations (Hair et al.,2017). The concept is that a construct should be able to explain its own variance way better compare to the variance of other constructs (Ramayah et al., 2018). As shown in Table 2, the square roots of the AVE (in bold, the highest in any column or row) are greater than the correlations (off-diagonal), the discriminant validity for this research is established (Hair et al., 2017). In addition, we also assess the discriminant validity using Heterotrait-monotrait ratio of correlation (HTMT) which was first introduced by Henseler et al. (2015). HTMT is a stricter method for evaluating the correlation between constructs. If the HTMT value is close to 1, it means there is lack of discriminant validity (Ramayah et al., 2018). Previous studies suggested that HTMT should be lower than the threshold of 0.85 (Kline, 2011) and 0.90 (Gold et al. 2001). If HTMT value exceed the threshold, it can be concluded that there is a problem of discriminant validity. All Heterotrait–Monotrait (HTMT) correlation values for this study are lower than 0.85 as shown in Table 3, which shows every construct are empirically distinct from each other. Thus, discriminant validity is established. Our measurement model is valid and reliable.

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Table 1: Results of Convergent validity

	Items	Loadings[a]	AVE[b]	CR[c]	Rho_A[d]
PE	PE1	0.831	0.662	0.887	0.846
	PE2	0.803			
	PE3	0.747			
	PE4	0.869			
Effort Expectation	EE1	0.846	0.705	0.905	0.87
	EE2	0.79			
	EE3	0.892			
	EE4	0.828			
Social Influence	SI1	0.874	0.658	0.884	0.819
	SI2	0.848			
	SI3	0.845			
	SI4	0.659			
Perceived Risk	PR1	0.607	0.678	0.891	1.057
	PR2	0.932			
	PR3	0.959			
	PR4	0.744			
Perceived Cost	PC1	0.911	0.676	0.861	0.983
	PC2	0.772			
	PC3	0.775			
Behavioural Intention to adopt E-wallet	BI1	0.905	0.839	0.94	0.906
	BI2	0.929			
	BI3	0.915			

BI = Behavioral Intention to Adopt E-wallet; PE= Performance Expectation; EE = Effort Expectation; SI = Social Influence; PR = Perceived Risk; PC = Perceived Cost

Table 2: Results of Discriminant validity

	BI	EE	PC	PR	PE	SI
BI	**0.916**					
EE	0.699	**0.84**				
PC	-0.181	-0.134	**0.822**			
PR	-0.235	-0.198	0.605	**0.823**		
PE	0.642	0.74	-0.076	-0.149	**0.814**	
SI	0.523	0.508	0.053	-0.038	0.572	**0.811**

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*The diagonals are the square root of the AVE of the latent variables and the off-diagonals are correlations. BI = Behavioral Intention to Adopt E-wallet; PE= Performance Expectation; EE = Effort Expectation; SI = Social Influence; PR = Perceived Risk; PC = Perceived Cost

Table 3: Results of HTMT

	BI	EE	PC	PR	PE	SI
BI						
EE	0.785					
PC	0.190	0.169				
PR	0.205	0.184	0.707			
PE	0.723	0.869	0.156	0.155		
SI	0.603	0.603	0.102	0.112	0.700	

5.3 Structural model results

Partial least squares (PLS) regression is a technique that reduces the independent variable to a smaller group of uncorrelated elements and perform a least squares regression on these reduced variables, instead of testing the original data. According to Hair (2014), the value of $R^{2,}$ standard beta, t-values, the predictive relevance (Q^2) and the effect sizes (f^2) are observed through a bootstrapping procedure with a 5,000 resample to determine the model fit.

The results in Table 4 show that E-wallet adoption behavior has significant relationship with effort expectation/ease of use (β = 0.426; p =0.000), and social influence (β=0.191; p= 0.002) and performance expectation (β=0.203; p= 0.025). Thus, H1, H2 and H3 postulated in this study are supported. However, no relationship can be established between E-wallet adoption behavior and perceived risk (β = -0.075; p >0.05) and perceived cost (β = -0.079; p >0.05) respectively. H4 and H5 are rejected at the 5% level of significance. The R^2 of this model is 0.559, which is a more than moderate result. It means the independent variables able to explain up to 55.9% variance of the dependent variable in this model.

Effort expectation construct has a medium effect size (f^2 =0.1837) on E-wallet adoption behavior; while performance expectation (f^2 =0. 0363) and social influence (f^2 =0.0544) have a small effect size. Both the perceived risk and perceived cost constructs have f^2 value of 0.0068 and 0.0091 (f^2 <0.02) indicate that both constructs have no significant effect on the dependent variables.

Besides, the Q^2 is computed. The Q^2 value of this study equal to 0.442 (> zero) indicates that this model has adequate predictive relevance for the dependent variable. Hence, the test shows that the relationship of the five independent variables with the dependent variable in this model is predictable (Hair et al., 2017). q^2 value of the constructs reveal effort expectation construct has a moderate effect size on E-wallet adoption behavior; while performance expectation (q^2 =0.0125) and social influence (f^2 =0.0358) have a weak effect size in our model.

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Table 4: Results of Structural Model

Hypothesis	Relationship	Std Beta	Std Error	[t-value]^	P Values	Decision	f^2	q^2	95% C.I. LL	95% C.I. UL
H1	PE -> BI	0.203	0.100	1.962	0.025*	Supported	0.0363	0.0125	0.041	0.371
H2	EE -> BI	0.426	0.086	5.009	0.000**	Supported	0.1837	0.1075	0.279	0.562
H3	SI -> BI	0.191	0.069	2.824	0.002**	Supported	0.0544	0.0358	0.078	0.305
H4	PR -> BI	-0.075	0.061	1.066	0.143	Rejected	0.0068	0.0036	-0.173	0.023
H5	PC -> BI	-0.079	0.068	1.172	0.121	Rejected	0.0091	0.0036	-0.192	0.035

** p < 0.01, * p < 0.05 (in one-tailed test), BI = Behavioral Intention to Adopt E-wallet; PE= Performance Expectation; EE = Effort Expectation; SI = Social Influence; PR = Perceived Risk; PC = Perceived Cost; Effect size impact indicators, f^2 value: 0.35 (large), 0.15 (medium) and 0.02 (small); Q^2 (Behavioral Intention to Adopt E-wallet = 0.442); Predictive Relevance (q^2) of Predictor Exogenous Latent Variables, q^2 values: 0.35 (large), 0.15 (moderate) and 0.02 (weak) by Hair (2017)

6. DISCUSSIONS

The study found that consumers in Malaysia do not adopt E-wallet payment as their main choice of payment, nor they make large amount transaction using E-wallet in their daily lives. Most people have experience in using E-wallet but not consistently adopting E-wallet. This can be reflected in the relatively low average frequency and transactions amount using E-wallet per month. This may be due to inconvenience of using it as not many retailers participated in E-wallet payment method. Besides, consumers may be concerned of the risk involved in E-wallet storage and transactions.

Performance expectation, effort expectation, social influence, perceived risk and perceived cost have been tested using UTAUT model in this study to examine the impacts of the factors on the behavioral intention on E-wallet adoption. Three hypotheses of performance expectation, effort expectation and social influence (H1, H2 & H3), are supported and have a significant correlation with the E-wallet adoption behavior intention; while hypotheses of perceived risk and perceived cost (H4 & H5) are rejected as reported in Table 5. The result proved that performance expectation, effort expectation and social influence are the three determinants in affecting the behavioural intention of E-wallet adoption by respondents participated in this research while perceived risk and perceived cost have no significant

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effect. Indeed, the results are slightly different from the previous study (i.e de Sena Abrahão, Moriguchi, & Andrade, 2016). We find that perceived risk has negative but insignificant relationship with E-wallet adoption behavior, likewise for perceived cost. de Sena Abrahão, Moriguchi, and Andrade (2016) drop perceived cost from their original model as a result of its insignificance effect at 5% of significance level.

This research supports the positive relationship between performance expectation and E-wallet adoption behavior which is in line with Morosan and DeFranco (2016), Martins et al. (2014) and Oliveira et al. (2016). Our results revealed that people are concern if E-wallet can help in improving the performance on making payment and the results proved that they have certain confidence in E-wallet performance which are able to increase the efficiency of purchasing goods. Consumers are more willing to adopt E-wallet if they truly witness and believe that the E-wallet provides more convenience and high efficiency in making transactions in their daily lives (Khalil et al., 2010).

One of the most striking results from this study is that effort expectation is the strongest variable (with the highest path coefficient) to predict and explain the behavioural intention to use E-wallet in this study. This result has similar conclusion with Martins et al. (2014), Rahi, Ghani and Ngah (2018) and Riffai et al. (2012); Wang and Yi's (2012). However, this result contradicts the finding of Hongxia et al. (2011) which found that there is an insignificant impact of effort expectancy on behavioural intention to use a new technology. Our results reveal that respondents do perceive E-wallet is a new form of technology that is easy to learn and this factor contributes to their intention of E-wallet adoption. Hence, E-wallet is difficult to use and it is also effortless to adopt E-wallet for payment.

Social Influence is considered to have a positive effect that can influence E-wallet adoption behavior. People around us will affect our attitude to use a new technology like E-wallet. Previous findings of de Sena Abrahão, Moriguchi, and Andrade, (2016); Nysveen, Pedersen, Thorbjørnsen, and Berthon (2005), Lu, Liu, Yu and Wang (2008) and Miao and Jayakar (2016) are in line with our findings. According to Yang et al. (2012) and Lu et al. (2011), both also found that social influence does affect people's intention to use which also supported the findings of this research. Thus, social influence such as suggestions or feedbacks of people or peer are able to affect Malaysian consumers' intention to become more willing to use E-wallet.

Our result is consistent with the previous studies such as Kapoor, Dwivedi, and Williams (2014), Tan et al. (2014) and Wang & Yi (2012) which revealed that there is no significant relationship between perceived risk and behavioral intention to use; although these studies also validated that perceived risk is one of the appropriate constructs to be incorporated in testing adoption of mobile payment system. On the other hand, de Sena Abrahão, Moriguchi, and Andrade, (2016); Liébana-Cabanillas et.al. (2014), Lu et al. (2011), Shin (2010) and Yang et al. (2012) reported an opposite result. Respondents

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of Malaysia may think that risk is not a significance factor that affect their intention to use E-wallet since approximate half of the respondents are Gen Z who tends to try new technology without any fear and worry. The younger generation in Malaysia seems to be unlikely to worry too much about risks associated in new technology and willing to use E-wallet in order to try an enjoy the benefits of E-wallet such as more convenient and efficient in purchasing goods.

Whilst our study is in line with de Sena Abrahão, Moriguchi, and Andrade (2016) who found that perceived cost does not have significant relationship with behavioral intention to use mobile payment. Some previous studies like Chong (2013), Oye et al. (2014), Van der Heijden (2002) and Mallat (2007) which included perceived cost in their model, show that perceived cost is a main factor to hinder the behavioral intention to adopt mobile payment with a negative relationship. Our result exhibits that Malaysian users probably do not think perceived cost has any significance impact on their intention to adopt E-wallet because nowadays everyone has smartphone and we can get access the use of E-wallet easily if we want to do so. In fact, the fees charged by the alternative payment method using bank credit card is higher if the outstanding amount is not settled within a month.

7. CONCLUSION

The results show that performance expectation, effort expectation and social influence have positive significant impact on behavioral intention to adopt E-wallet in Malaysia while perceived risk and perceived cost exhibit insignificant relationship. This study provides an insight to the government and the retail businesses in developing some plans or to promote E-wallet usage and to ensure its success in Malaysia. Government would have clearer picture on the factors that impact the consumers' intention to use E-wallet which in turn help in policy planning for future development of E-wallet. Besides, related companies can enhance the relevant features when designing E-wallet application to satisfy consumers requirements and preferences. Government or developers of E-wallet companies should attract consumers to E-wallet through various promotion. For example, companies should utilize the power of social influence by promoting E-wallet on social network.

Malaysian still in a beginning stage in using E-wallet and they have positive attitude and willing to give it a try provided that this method improves payment speed as well as easier to use. However, till date, E-wallet in Malaysia still lack of promotions and education. People tends to have lots of doubts with regards to E-wallet which hinder their use of E-wallet as the main payment option. Malaysian may be confused and have difficulty in understanding the different E-wallet applications as many appear at the same time. Hence, government, retailers and E-wallet service providers should work together to educate consumers and reduce their doubts about E-wallet. Technology evolves and changes rapidly. Government and the related organization need to give people some proper guidance to educate them so that they can better use of this new technology, especially related to the essential payment option to ensure success in the e-wallet application.

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7.1 Implications

The results add value to retailers and E-wallet service providers who are examining the factors to be addressed in order to increase E-wallet acceptance. In particular, retailers need to deal with performance expectation and effort expectation concerns. By providing training to consumers in connection with how to use the payment systems and assure users that their personal information will be protected while the risk of transferring money to the wrong wallet arises from human errors and technical errors are indeed limited. The general public should be introduced and educated them the various communication methods such as Grabpay, Boost, Touch n Go eWallet, MaybankQRpay or Favepay, etc. in order to equip them to move forward with the technology. Meanwhile, the regulator should encourage retailers to take part in e-wallet services. This can be done through educating the retailers about the benefits of offering e-wallet as a payment mode to buyers, specifically, the ease of use and cost effectiveness of the adoption. The government could also reward retailer a one-time award once retailer initiates the use of such system. Hence, we will see a tremendous increase in the use of e-wallet and more retailers will be participating in the e-wallet payment system.

In addition, our study shows social influence positively influence the use of E-Wallet. This implies that retailers may consider to offer incentives to promote social influence in order to facilitate E-wallet adoption. For example, points-based or dollar value reward plan could be used to encourage friend-to-friend references.

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