Determinants of E-Wallet Acceptance Among Consumer in Malaysia

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***Abstract*—A electronic wallet (e-wallet) is a part of financial technology products. This research is about the determinants of e-wallet acceptance among consumers in Malaysia. The research objective of this study is to identify the factors that will affect consumer acceptance in an e-wallet, to analyze the relationship between factor e-wallet and consumer acceptance in an e-wallet, and to examine the most important factors of e-wallet usage that will affect consumer acceptance in e-wallet. The method is Quantitative using of 384 respondents from Johor, Melaka, Negeri Sembilan, Selangor, Kedah, Kelantan, Sabah, Sarawak, Wilayah Persekutuan Labuan and Kuala Lumpur and data can be analyses using Statistical Package for the Social Science (SPSS). The result of this research is usefulness, perception and expectation, technology, and readiness of e-wallet acceptance among consumers.**

Keywords*—*e-wallet; technology; consumer; UTAUT; capital

I. INTRODUCTION

FINANCIAL technology (FinTech) is an innovative technology that targets to compete with traditional financial services in the transmission of financial services [1]. According to [2], FinTech is a rather simple and obvious combination of an application domain "financial" and "technology". Financial companies are often referred to as service providers since they support firms in a primary market to conduct their business and have over time shaped a secondary market in which financial service providers (e.g., mortgage brokers, commercial banks, and investment bankers) interact with each other. Fintech is fast becoming a global phenomenon, led by innovators and followed closely by academics, and now drawing the attention of regulators.

Fintech is increasingly embedded in everyday economic transactions. The fintech adoption index showed that nearly one-third of the consumers in the 20 markets surveyed use at least two Fintech services, and 84 percent of those surveyed were aware of Fintech services. [3]

An E-wallet is known as a digital wallet. It is a structure that saves users' passwords and payment information securely for various websites and it also as a payment mechanism. According to [4] electronic wallets (e-wallets) just like a physical wallet, are used to store information such as credit card numbers, e-cash, the identity of the owner, contact information, shipping or billing information including customer address and other information that is used at the time of checkout on e-commerce sites. In Malaysia situation, the e-wallet acceptance rate of 2018 was at 22%. Example of mobile wallets in Malaysia is Alipay, WeChat Pay, Maybank QRPay, Boost, BigPay, Razer Pay, CIMB Pay, Samsung Pay, GrabPay, Touch 'n Go eWallet, BigPay, FavePay and so on. However, only 9 percent of the mobile wallet users used the wallet more than six times per week. According to [5] there are still many people did not know about FinTech.

The objective of this study is to identify the factor that affect e-wallet that will influence the consumer. Then, this study examines the most important factor of e-wallet usage that will be affecting consumer acceptance in Malaysia.

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Lastly, this study analyses the relationship between e-wallet service and consumer acceptance in Malaysia.

Based on moving into a cashless society: factor affecting adoption of e-wallet, this research about the factors affecting the adoption of E-wallet in Malaysian context and to examines how the independent variables (Convenience, Speed, Security and Social Influence) will the dependent variable (E-wallet adoption). The problem faced by this research is the age range of the respondents. Most of the respondents in the past research were aged between 21-25 years old. therefore, in this study, the researcher will expand the age range of target respondents by covering not only generations Y and generation Z but also different generations such as generation X, and infants boomer. Different generations of people and users are growing differently technology exposure especially financial technology related to E-wallet service.

According to [6], consumers' behaviour intention to accept the mobile wallet in Malaysia the motivating and preventing factors that affect the behavioural intention to accept the mobile wallet in Malaysia soon. The study can provide a better understanding of the Malaysian consumers' behavioural intention to accept the mobile wallet. The research findings would help the mobile wallet companies to formulate the appropriate marketing decision by introducing a more personalized mobile wallet to the consumers in Malaysia. The issue of this research is lack of trust, privacy, and security because Perceived Security, Price Value, and Social Media did not significantly influence the Behavioural. From this research, consumers assume that e-wallet does not have security features. Therefore, in this study, the researcher will study about usefulness of e-wallet acceptance among consumers.

II. LITERATURE REVIEW

An E-wallet is known as a digital wallet. It is a structure that saves users' passwords and payment information securely for various websites and it also as a payment mechanism. According to [7] electronic wallets (e-wallets) just like a physical wallet, are used to store information such as credit card numbers, e-cash, the identity of the owner, contact information, shipping or billing information including customer address and other information that is used at the time of checkout on e-commerce sites. In Malaysia situation, the e-wallet acceptance rate of 2018 was at 22%. Example of mobile wallets in Malaysia is Alipay, WeChat Pay, Maybank QRPay, Boost, BigPay, Razer Pay, CIMB Pay, Samsung Pay, GrabPay, Touch 'n Go eWallet, BigPay, FavePay and so on. However, only 9 percent of the mobile wallet users used the wallet more than six times per week.

III. THEORETICAL FRAMEWORK OF THE STUDY

The belief of the person towards a system may be influenced by other factors referred to as external variables in TAM. [8] demonstrated that TAM can be useful in predicting the behaviour of experienced as well as inexperienced consumers, with dissimilar emphasis on the determinants of purchase intention. Therefore, the TAM model is adopted and used to construct the basis of this theoretical framework to research the factors that influence consumer purchasing decisions on online food delivery. Among the existing theory use to explain the adoption of information technology, TAM Model has been supported to be the most suitable theoretical foundation for e-Commerce adoptions in several studies in the past few years [9].

A. TAM Constructs

1) Perceived Usefulness

Perceived usefulness is considered a variable found in the Technology Acceptance Model (TAM) model. [10] have defined how well a person believes that using a particular system can improve job performance. In this context, users can use and understand e-wallet in their lives and enhance their knowledge. Thus, perceived usefulness can influence them to adopt and accept the e-wallet. The use of e-wallet acceptance is perceived to positively affect the user's intent to use certain systems. A high system of perceived usefulness is a

system in which users believe there is a positive use-performance relationship. Therefore, researchers can identify and research the relationship between these uses and intentions towards the adoption of e-wallet.

2) Perception and Expectation

Perception can be defined as people's recognition and interpretation of sensory information. Perception also includes how people respond to the information. Perception allows us to take the sensory information in and make it into something meaningful. It can be derived by acknowledging two psychological facts, which is merely expecting something to happen will not make it happen and human beings have a natural tendency to pin their hopes for happiness on fulfilled expectations.

3) Technology

Technology is a manner of organizing things, coordinating processes, and performing tasks more easily. This general definition recognizes analogue as well as digital technologies, which have both spread in the financial sector [11].

4) Readiness

Readiness is the preparedness of persons, systems, or organizations to meet a situation and carry out a planned sequence of actions. Readiness is based on the thoroughness of the planning, adequacy, and training of the personnel, and supply and reserve of support services or systems. Readiness is the quality or state of being ready, such as a state of preparation, prompt willingness, and facility.

5) Research Framework

In order to predict the willingness to use e-wallet platforms by consumers in Malaysia, this research has developed a framework from the constructs of the TAM model and the addition of perception, technology, and readiness. The four constructs of the TAM model are PU, PE, T, and Readiness was added in this research as illustrated in Fig. 1.

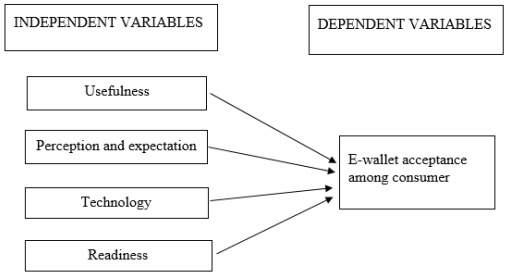

Fig. 1. Research model

B. Reliability Analysis Result

For detailed interpretation, Table I below shows that Cronbach's Alpha with 5 items of Perception and Expectation is the lowest of good correlation within items of independent variable which 0.808. Followed by the second-lowest of good correlation is Readiness with 5 items which 0.809. The next good correlation is Usefulness with 0.834 and Technology with 0.864, having a good correlation within 5 items of each variable.

However, there is an excellent correlate good correlation of each item within E-wallet Acceptance among Consumers with 5 items, which is the highest correlate within items and the result is 0.919. Thus, since reliability is valid, hence, it depicts that these independent and dependent variables can be used in the actual survey questionnaire.

C. Correlation Analysis

Table II indicates that the correlation of Usefulness, Perception, and Expectation, Technology, and Readiness were categorized as positive relation towards Acceptance e-wallet among consumers as the correlation values are 0.606, 0.630, 0.571, and 0.626. All the variables are significant (2-tailed) with (p=0.000) which were all lower than 0.05. However, this proves that Perception and Expectation have the strongest moderate positive relationship towards Acceptance e-wallet but Technology shows the lowest moderate positive relationship towards Acceptance e-wallet.

TABLE I CRONBACH'S ALPHA TEST OF RELIABILITY

Variable	Cronbach's Alpha	No Item	Result
Usefulness	0.834	5	Good
Perception and Expectation	0.808	5	Good
Technology	0.864	5	Good
Readiness	0.809	5	Good
E-wallet acceptance among consumer	0.919	5	Excellent

TABLE II. CORRELATION

Independent Variables	Pearson's Correlation	Strength
Usefulness	0.606	Moderate Positive
Perception and Expectation	0.630	Moderate Positive
Technology	0.571	Moderate Positive
Readiness	0.626	Moderate Positive

In conclusion, as Table II the strength of association for all independent variables is considered as the moderate positive linear relationship insignificant (2-tailed) with the Acceptance e-wallet among consumers in Malaysia. The technology belongs to a moderate positive relationship towards acceptance of e-wallet among consumers because it falls into categories of 0.35-0.59. However, the rest variables such as usefulness, readiness, and perception, and expectation which categorized as strongly moderate positive towards acceptance of e-wallet among consumers. This is because all these variables fall into a range of correlation coefficients of 0.60-0.80.

D. Multiple Regression Analysis

By referring to Table III above, R multiple represented by R=0.727 indicates that four independent variables are highly correlated to and affect on Acceptance of e-wallet among consumers in Malaysia. The coefficient of determination, R square of 0.529 represents that a total variation of 52.90% in Acceptance e-wallet among consumers can be explained by all four independent variables which bigger than 0.5 is considered s good value as there is less variance of error towards acceptance e-wallet as independent variables in regression model improve the fit. In other words, other significant factors affecting the acceptance of e-wallet are not included in this study.

TABLE III. MULTIPLE REGRESSION MODEL

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.727[a]	0.529	0.524	0.41785

a. Predictors: (Constant), Usefulness, Perception and Expectation, Technology and Readiness.

TABLE IV. ANOVA OF MULTIPLE REGRESSION

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	74.324	4	18.581	106.4	0.000[b]
Residual	66.172	379	0.175		
Total	140.496	383			

a. Dependent Variable: Acceptance e-wallet
b. Predictors: (Constant), Usefulness, Perception and Expectation, Technology and Readiness.

From Table IV, the p-value of 0.00 is less than the alpha value of 0.005. The F-value of 106.422 is significant as the higher the F value indicates alternative hypotheses are well fit and be accepted in the model. Thus, the alternative is accepted at alpha=0.05. This indicates that the overall multiple regression model is the relationship between acceptance of e-wallet among consumers and determinants of Usefulness, Perception and Expectation, Technology, and Readiness.

TABLE V. COEFFICIENT OF MULTIPLE REGRESSION

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig
	B	Std. Error	Beta		
Constant	0.477	0.189		2.519	0.012
Usefulness	0.255	0.058	0.223	4.436	0.000
Perception	0.253	0.053	0.247	4.807	0.000
Technology	0.154	0.056	0.135	2.729	0.007
Readiness	0.260	0.051	0.258	5.108	0.000

a. Dependent Variable: Acceptance E-wallet

According to Table V, each of the independent variables in this study provide a contribution that is used to predict acceptance of e-wallet among consumer in Malaysia. First, the strongest and sole predict is Readiness, β=0.260, t(384)=5.108, $p<0.05$. This is because the unstandardized beta, β of Readiness is the highest positive value compared with other independent variables. From this result, Readiness has the highest influence of positive relationship with the acceptance of e-wallet among consumers. As the researcher concludes, readiness is ranked as the most critical facet of e-wallet and has the strongest influence on consumer acceptance in e-wallet.

Then, the second strongest predictor is Usefulness, β=0.255, t(384)=4.436, p<0.05. This is because the unstandardized beta, β of Usefulness is the second-highest positive value compared with other independent variables. From this result, Usefulness has the second-highest influence of positive relationship with the acceptance of e-wallet among consumers.

Next, followed by the second lowest predictor is Perception and Expectation, β=0.253, t(384)=4.807, p<0.05. This is because the unstandardized beta, β of Perception and Expectation is the second-lowest positive value compared with other independent variables. From this result, Perception and Expectation have the second-lowest influence of positive relationship with the acceptance of e-wallet among consumers. Thus, it is important also in this research.

Lastly, the lowest predictor is Technology, β=0.154, t(384)=2.729, p<0.05. This is because the unstandardized beta, β of Technology is the lowest positive value compared with other independent variables. From this result, Technology has the lowest influence of positive relationship with the acceptance of e-wallet among consumers.

From the result above, although each of the independent variables has a different value and rank of influence towards the dependent variable, each of them has developed a different contribution and provides a significant prediction towards the acceptance of e-wallet among consumers. Based on the result of multiple regression, the relationship between a dependent variable and 4 different independent variables can be determined based on the following multiple regression equation. The multiple regression of this study is shown as below:

$$Y = a + bx1 + cx2 + dx3 + ex4$$

$$Y = 0.48 + 0.26x1 + 0.25x2 + 0.15x3 + 0.26x4$$

Where:

Y	Acceptance e-wallet among consumer
a	Constant
b	Influence of x1 (Usefulness)
c	Influence of x2 (Perception and Expectation)
d	Influence of x3 (Technology)
e	Influence of x4 (Readiness)
x1, x2, x3, x4	Independent variables

In a conclusion, the regression equation is established to predict the acceptance of e-wallet among consumers is:

Acceptance e-wallet = 0.48 + 0.26 (Usefulness) + 0.25 (Perception and Expectation) + 0.15(Technology) + 0.26 (Readiness). Thus, the regression equation is established to show how the variables are associated to each other.

E. Summary

In a summary, this chapter has mainly discussed all the results and data that have been developed by this study and analyzing method. IBM SPSS Statistics was chosen by the researcher for the purpose to analyse the data that develop from 384 respondents to study the acceptance of e-wallet among consumers in Malaysia. The validity test and reliability test were used in the pilot test with 30 respondents have been chosen and the result shows that this study has reached the validity test and reliability standard which is by Cronbach's alpha analysis and explanatory factor analysis. The Pearson's coefficient result analyzed by SPSS software showed that there is a moderate positive correlation relationship between independent variables (usefulness, perception, and expectation, technology, and readiness) and the dependent variable which is acceptance e-wallet among consumers in Malaysia as all variables are significant (2-tailed) with (p=0.000) which were all lower than 0.05. From multiple regression test, it proves that the strongest and sole predictor is a readiness that influences most of the acceptance e-wallet while from the hypothesis testing, all the four independent variables which are usefulness, perception, and expectation, technology, and readiness have a significant relationship towards acceptance e-wallet among consumers in Malaysia.

IV. CONCLUSION

The analysis is carried out to fulfil the main research objective which is to identify the relationship between e-wallet service and consumer acceptance in Malaysia. In the end, the researcher can fulfil the objective by providing through the factor analysis, Pearson's Correlation Coefficient, linear regression test, and hypothesis test on the factors (Usefulness, Perception and Expectation, Technology and Readiness) affecting acceptance of e-wallet among consumers. In summary, respondents are highly acceptance all four factors that influence their acceptance of e-wallet [12].

From the managerial contribution, to gain more e-wallet consumer, it is important to understand the factors that influence the acceptance of e-wallet among consumer in Malaysia. This research tried to provide depth measurement and understand the factors that influence the acceptance of e-wallet among consumers in Malaysia [13]. Firstly, this research study suggests e-wallet services for enhancing their service in terms of Perception and Expectation, the second-lowest predictor from acceptance of e-wallet among consumers based on regression test. The e-wallet service should be targeting on dominant aspect and increase the speediness in the transaction of e-wallet used in a physical store to enhance the acceptance of e-wallet among consumers.

Besides, e-wallet services should focus on the technology application even it is the lowest predictor of acceptance of e-wallet among consumers [14]. However, e-wallet services need to improve their technology by making it easier to be used for payment on public transport. The technology of e-wallet must always be up to date to increase their consumer acceptance.

Overall, e-wallet services should be a focus on all the factors that will affect consumer acceptance. Efforts to improve these factors can increase the performance, which in turn will lead to higher acceptance of e-wallet among consumers [15].

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