

Factors Influencing the Adoption of E-Payment: An Empirical Study in Malaysia

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ABSTRACT

This study examines the antecedents of the factors that influence customers to adopt the electronic payment system while making payments. Payment is the one of the element to complete the transaction while making payment. Due to the development of E-commerce, e-payment systems have been introducing. So, the use of electronic payment systems is being increasing day by day for people to complete their task quickly ineffective way. The result of the study shows that there is a relationship between dependent variables (effort expectancy and social influence) and independent variable (Adoption of e-payment). However, other variables (culture, perceived security and performance expectancy) were not significant with adoption of e-payment. Therefore, the study approves effort expectancy and social influence has a significant relationship with adoption of e-payment. Therefore, companies today that do business using electronic payment system as the medium to complete the transaction must focus more on this two variable to increase the number of people use this payment system. The increasing the number of people use this payment system will contribute to excellent result for e-commerce because e-payment system is one of the factor e-commerce becomes successful and it will give good impact to our nation's economy.

Keywords: *E-Payment; E-commerce; Malaysia*

INTRODUCTION

In the 21 century, electronic commerce (e-commerce) in Malaysia has growth rapidly. It has become an opportunity for the company to increase their sales. According to IPrice Group, the development of Malaysian e-commerce industry has grown steadily. IPrice Group is an e-commerce website that allows Malaysian buyers to connect with hundreds of e-commerce merchants and discover products, compare prices and get the best deals. Based on the data collected in January 2018, Lazada was announced as the leading e-commerce company in Malaysia, followed by Shopee and 11 Street. The data was taken based on their online traffic, staff numbers and followers on social media applications like Facebook, Instagram, and Twitter.

The payment system functions as a channel in which financial resources flow, and it has an important role in the economy. In order to facilitate the e-commerce with the improvement in technology, electronic payment system has been introduced. Electronic payments (e-payments) have quickly replaced traditional payment modes involving personal information between sellers and buyers.

According to Maruf, Rushami, and Sany, (2017), the application of internet technologies has improved performance of the business. Besides, the launch of e-commerce sites has increased sales with improving the way businesses operate, as soon as they grow their businesses in local and foreign markets and can enhance their relationships with existing customers. Increasing availability of products to larger customers with electronic payment systems will expand current mail order services, and reach other potential customers and local businesses through increased exposure.

Till date, there are many studies conducted on adoption of e-payment except in Malaysia. There are limited studies conducted on the factors that influence the customer's adoption of e-payment. The study carried out by Junaidi and Sfenrianto (2015) in Indonesia showed that researchers use UTAUT to investigate customer's adoption of the e-payment system. The UTAUT model originally has four variables; namely, performance expectancy, effort expectancy, social influence, and facilitating conditions. But in the later work, these were reduced into three factors which are performance expectancy, effort expectancy, and social influence.

According to Junaidi and Sfenrianto (2015), culture and safety are added to their studies as it is an important factor in the review of the e-payment system. Although electronic payment systems offer many benefits, the level of usage of this payment system is still less desirable by customers. Some customers feel that electronic payment systems can cause them to lose their money. Hence, there are still a large group of customers who refuse to adopt such services (MO Al-Smadi, 2012).

Without understanding what motivates the customers to use electronic payment systems, retailers will not be able to take actions to increase the use of such services. Therefore, this study attempts to identify factors that can influence the adoption of e-payment using the UTAUT model (performance expectancy, effort expectancy, and social influence) and the two external variables (culture and perceived security).

LITERATURE REVIEW

This study attempted to investigate the factors that influence the adoption of e-payment in Malaysian businesses.

A. Electronic Payment

In the early 2000s, e-payment is defined as a system which is classified into cash and cheque like traditional payment systems. Both types of payment systems are a direct payment system, which means that payments need communication between buyer and seller. With the development of the technology, the definitions of e-payment also change. Kabir, Saidin, & Ahmi, (2015) defined e-payment as a collection of components and processes that enables two or more parties to conduct a financial transaction and exchange monetary values through electronic means.

In other words, e-payment systems consist of an online credit card transaction, electronic wallet (e-wallet), and electronic cash (e-cash). In other words, financial transactions can be carried out anywhere and anytime via the internet with the use of devices which are computers or mobile phones (Ebeiyamba Oluchukwu, 2014). The e-payment system is also an important mechanism used by individuals and organizations as a safe and easy way to make payments over the internet and at the same time is the gateway to technological advances in the world economy (Slozko & Pello, 2015).

Nowadays, transactions in e-commerce sites using a credit card are very common. Process in the use of credit cards for online transactions over the internet does not have

much different compare the offline transactions in traditional stores because the things make them different is online transactions do not require a physical credit card and signature.

Electronic payment systems enable payment for goods and services without the use of cash. According to Kamel Rouibah, Paul Benjamin Lowry & Yujong Hwang (2016), e-wallet is a type of electronic card used for transactions made online through a computer or smartphone. Utilities are the same as a credit card or debit card. E-wallet needs to be linked with the individual's bank account to make payments. Currently, mobile wallet payment services in Malaysia are Visa Checkout, Masterpass, CIMB pay, MOLPay and Samsung Pay. In Malaysia, the newest e-wallet system is Alipay.

B. The Unified Theory Of Acceptance And Use Of Technology (UTAUT)

The research model has been developed to determine the acceptance of technology information users. In 1986 the technology acceptance model (TAM) was introduced by Davis to determine the behavior of computer usage for the first time. In addition to TAM, the unified theory of acceptance and use of technology or UTAUT used for identifying motivation use of technology that developed by Venkatesh et al. (2003).

UTAUT has four variables namely performance expectancy, effort expectancy, social influence, and facilitating conditions that affect the intention and use of technology. In the previous study, the researcher has proposed a model, there are 2 (two) external variables added to the UTAUT model which are culture and perceived security.

According to Junaidi & Sfenrianto (2015), the reasons of variables added because culture and perceived security are the important factor in the study of electronic payment systems and e-commerce. Dauda and Santhapparaj (2007) compared internet banking security in Malaysia and Singapore overlooking the cultural factor. Although many banks have been offering banking service online, there is still a lack of usages of this service.

Although Malaysia is moving towards greater e-payment adoption, interestingly, the majority of online residents in Malaysia are still considered "infants" with a high level of internet knowledge, and this raises concerns about using e-payments. Therefore, acceptance and adoption of technology are different in a certain state depends on the culture of people itself.

The second factor of influence the adoption of e-payment is perceived security. Perceived security is the negative factors that affect customers trust to use the e-payment in online transactions. The perceived security in the context of online purchases is the perception of customer uncertainty which relates to the negative behavior of customers in product purchasing. Risks affect the evaluation of products or services in terms of the security and privacy protection of customer personal data. An online survey study found that Internet users are aware of the risks and security of paying online influencing the decision to use payment services through electronic commerce.

The third factor that will influence the adoption of e-payment among customers is performance expectancy (PE). Performance expectancy refers to how consumers feel that the use of electronic payment systems will help and give an advantage in conducting online transactions such as in terms of speed, security, and convenience of transacting.

Performance expectancy is the topic which an individual considers the system as a tool to increase job performance. Performance expectancy has a greater impact on the adoption of using technology in culture with higher power heights, lower individualism, and higher uncertainty avoidance.

Next factors effort expectancy is defined as the levels of user-friendly when using an electronic payment system in an online transaction on an e-commerce site. It also

relates to a system that is easy to understand and use without any particular skill. Whereas, social influence is the perceived influence of important others who encourage consumers to use electronic payment systems in the transaction. The important others are intended for families, couples, and organizations.

Basically, people tend to believe people surrounding or closer people when talk or want an opinion regarding trying new things because these people will not cheat or give false information. So, important people such as family, spouse, and organization as the social influence which affect the adoption of e-payment and the intention to do it.

C. Measuring The Unified Theory Of Acceptance And Use Of Technology (UTAUT) Model

CULTURE

Culture is the first factor that will be measure to see why people adopt the electronic payment systems. Culture is a level of education and experience of the technology. It is very important in the adoption of new technologies. Culture from one place to another might be the difference. According to Keramati et.al., (2012) which consists of several cultural factors that affect things like computer knowledge, internet access, Internet use, mobile phones, residential areas and travel habits. In a study conducted by Keramati et al. (2012), the level of knowledge and use of the Internet affect the adoption of electronic payments.

Meanwhile, according to He & Mykytyn (2007), gender, age, level of education, computer experience and often transact securities significant effect on the desire to use the online payment system. In the previous study, factor was added because researchers believe that culture is an important factor in the study of electronic payment systems and also e-commerce.

PERCEIVED SECURITY

Security may be defined as protecting the details of transactions and customers from internal and external fraud or criminal usage. People may fear to make a transaction and online payment because they fearing that their personnel information might be stolen. Security remains one of the most crucial and well-researched areas of study in payment systems (Abrazhevich, 2004). Concerns about security in network areas reveal that there should be further improvements in the electronic payment protocol to increase trust in the online payment system.

According to Azizi and Javidani (2010), maintaining the belief that security concerns refer to the security of financial information such as credit card information or online account passwords. Online transactions are secure if the information comes from the right side and reaches the right entity without being observed, changed or destroyed during the transition process and storage.

According to Kurt and Hacıoglu (2010), argue that customers perceived online security as an ethical issue and expect online merchants to guarantee the security of sensitive information which they hold. The existing literature recognizes the security concerns of users and the effect they have on the adoption of electronic payment systems (Kurnia and Benjamin, 2007). Customers will feel that using e-payments is unsecured. It also can lead to a loss of privacy and sense of anxiety is about e-payment. All these

reasons will lead to customers do not have the intention to use online transaction using e-payment systems. To avoid this kind of problem the bank take initiative which each of the transaction must have pin numbers.

PERFORMANCE EXPECTANCY

Performance expectancy (PE) is defined as the degree to which an individual believes that using a system will help him or her attain gains in job performance (Venkatesh et al., 2003). Prior studies suggested that PE was a predictor of Behavioral Intention to use technology and significant in shaping an individual's intention to use new technology (Venkatesh and Davis, 2000; Venkatesh et al., 2003; Zhou et al., 2010). Male users tend to be more comfortable with new information systems than females and tend to spend more time using new information systems, thus obtaining additional benefit from the systems (Venkatesh and Davis, 2000; Venkatesh et al., 2003), although Yi et al. (2005) reported that female end users found the system to be more useful than their male counterparts.

Older end users have difficulties and are uncomfortable when using information systems, and they tend to find new information systems less useful when performing their assignments (Burton-Jones and Hubona, 2005; Morris and Venkatesh, 2000; Venkatesh et al., 2003). Thus, this will lead to lower PE among them where they perceived the system as not useful and cannot satisfy their job requirements. In the previous study, perceived expectancy has a positive factor that influences people to adopt the electronic payment.

EFFORT EXPECTANCY

Effort expectancy (EE) is the extent of convenience perceived for using a system. EE is the degree of facilities related to system use. Several previous studies suggested that effort expectancy was significant in forming individual behavioral to adopt a new technologies (Venkatesh and Davis, 2000; Venkatesh et al., 2003; Zhou et al., 2010) and remains one of the most critical factors that contribute to technology acceptance.

Constructs associated with effort expectancy would be stronger determinants of individuals' intention for women (Venkatesh and Morris, 2000; Venkatesh et al., 2003). According to Venkatesh (2003) female users of new information systems, such as digital libraries, have higher levels of computer anxiety and the degree of their effort expectancy tend to be lower than their men. Also, women are more concerned with the ease of use of the information system and are considered easier to use than men (Venkatesh and Morris, 2000).

Older users with different capabilities have the difficulty in obtaining information from the information system, and this ability decreased as age increases, so older end users struggling to adapt to new environments as compared to younger end users (Burton-Jones and Hubona, 2005; Morris and Venkatesh, 2000).

The effort expectancy is one of the factors that influence the use of Internet e-payments as the easiest platform among consumers in Malaysia. This is because consumers are aware that internet banking and e-payments are easy to use compared to traditional ways and they believe they will handle their transactions with less effort but with more outcomes.

SOCIAL INFLUENCE

Many studies have been done to investigate whether the social influence is one of the factors that relate to adoption. Several studies have suggested that social influence has a significant effect on adoption. According to Alkhunaizan and Love (2012), social influence has a significant influence on adoption to use m-commerce in Saudi Arabia. Social influence (SI) as the degree to which an individual perceives how important others believe is it that he/she should use the technology (Venkatesh et al., 2003). SI assumes that individual behavior is influenced by the people around them and how others will see the use of their new technology.

Women tended to be more sensitive to others' opinions, and therefore, SI was found to be more important when forming an adoption to use new technology. Older users were more tend to experience more difficulty in processing new or difficult information, thus affecting their learning of new technologies, and this difficulty may be attributed to the increasing physical limitations associated with age (Morris et al., 2005). Individuals, during the early use of a new technology, seemed to be more strongly influenced by social factors than later on during sustained usage. Accordingly, the following hypotheses were proposed:

- H1: There is a positive relationship between culture and adoption of e-payment.
- H2: There is a positive relationship between perceived security and adoption of e-payment
- H3: There is a positive relationship between performance expectancy and adoption of e-payment.
- H4: There is a positive relationship between effort expectancy and adoption of e-payment
- H5: There is a positive relationship between social influence and adoption of e-payment.

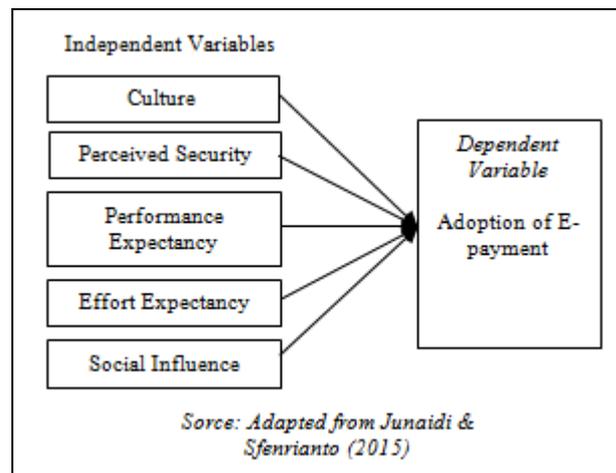


Figure 1: Research Framework

METHODOLOGY

This study was conducted using correlational research technique. The purpose of the correlational research is to discover the relationship between two variables which are independent variable and dependent variable through the use of correlational statistics. The choice of using the research design because the researchers want to measure the relationship of the factors that influence adoption of e-payment among Malaysian consumers.

Furthermore, 150 consumers participated in this study using convenient sampling technique. This technique is used as it provides fast, inexpensive and easier for researcher to obtain the data. The required data for this study were collected by using survey instrument and were coded and analyzed using SPSS Version 22.0.

A. Demographic Profile of Respondents

Table 1. Respondent's Profile.

		Frequency	Percentage
Gender	Male	45	30.0
	Female	105	70.0
Marital Status	Single	54	36.0
	Married	96	64.0
Age	<20 years old	21	14.0
	>21 years old	129	86.0
Income level	<RM2,000	90	60.0
	RM 2,001 – RM 4,000	54	36.0
	>RM 4,001	6	4.0

The above table shows that the data for the study were collected from 150 sets of questionnaire which responded by 105 female and remaining 45 were answered by male. The majority of the respondents are married which comprise of 64.0 percent out of total sample. For the age distribution of the respondents, most of them aged more than 21 years old which indicates 86.0 percent while remaining 14.0 percent was below 20 years old. Besides, for the income level, majority of the respondents (90) earned less than RM2,000 per month for their job, followed by those with income range between RM2,001 – RM4,000 (54) and only 6 respondents earned more than RM4,000.

B. Reliability Analysis

The reliability analysis facilitates the goodness of a measure for each variable by computing the Cronbach's alpha score. Based on the table 2, the Cronbach's alphas for all the variables are in the range of 0.804 to 0.870 which indicates that the items measured were well understood by the targeted respondents. In addition, results of correlation analysis have shown that all variables are moderately correlated with each other. All variables are significantly correlated with each other with the lowest correlation is between efficiency and responsiveness ($r = .380$, $p < 0.01$) and the highest correlation is between empathy and responsiveness ($r = .787$, $p < 0.01$). Hence, it has been proven that the measures used for this study are highly reliable and ready for further analyses.

Table 2. The results of a reliability and correlation analysis for the independent variables and dependent variable of the study

No	Variables	Mean	SD	1	2	3	4	5	6
1	Adoption of e-payment	3.90	.619	(.898)					
2	Culture	3.47	.654	.392**	(.878)				
3	Perceived Security	3.59	.633	.593**	.676**	(.851)			
4	Performance expectancy	3.50	.746	.380**	.615**	.580**	(.885)		
5	Effort Expectancy	3.64	.633	.486**	.787**	.745**	.684**	(.844)	
6	Social Influence	3.56	.688	.488**	.660**	.656**	.687**	.781**	(.890)

FINDINGS AND DISCUSSION

The hypotheses designed in this study are tested by examining the influence of the factors (culture, perceived security, performance expectancy, effort expectancy, social influence) towards adoption of e-commerce among Malaysian consumers. The multiple regression result indicates that a strong relationship existed among some variables as hypothesized. The results of the regression analyses have shown that there was no serious violation of the assumption of independent observations which stipulated no multicollienarity issue. Besides, R value pointed out that some strong association between the independent variables and dependent variables existed.

Multiple Regression Analysis for Independent Variables and Dependent Variable

The purpose of this paper is to investigate the factors (culture, perceived security, performance expectancy, effort expectancy, social influence) influencing the adoption of e-commerce among Malaysian consumers. Further, findings indicate that there is a positive relationship independent and dependent variable. The specific results are shown in table 3.

Table 3. The Regression Coefficients for the independent variables and dependent variable of the study

Variables	Standardized Beta
Culture	0.017
Perceived security	0.327
Performance expectancy	0.009
Effort expectancy	0.122*
Social Influence	0.502*
R ²	0.899
Adjusted R ²	0.896
F Value	256.966
Significance F Value	.000
Durbin-Watson	2.027

The result on table 3 above shown that only two factors that influence the adoption of e-payment which are effort expectancy and social influence with the values of ($\beta= 0.122$, $p<0.05$) and ($\beta= 0.502$, $p<0.05$) respectively. This result indicates that these variables significantly influence the adoption of e-payment among Malaysian consumers. Nevertheless, the remaining factors namely culture, perceived security and performance expectancy showed not significant to the dependent variable with the values of ($\beta=0.017$, $p>0.05$), ($\beta=0.327$, $p>0.05$) and ($\beta=0.009$, $p>0.05$) respectively which connoted that those variables seems do not influence the adoption of e-payment among Malaysian consumers.

Table 4 summarize the result of hypothesis testing in the study.

Table 4. The Result of Hypothesis Testing

H	Relationship	Std. Beta	P-Value	Decision
H1	Culture => Adoption e-payment	0.017	0.590	Not supported
H2	Perceived Security => Adoption e-payment	0.327	0.113	Not supported
H3	Performance Expectancy => Adoption e-payment	0.009	0.822	Not supported
H4	Effort Expectancy => Adoption e-payment	0.122	0.048	Supported
H5	Social Influence => Adoption e-payment	0.502	0.027	Supported

Based on the result there is an independent variable that positively related to the dependent variable (adoption of e-payment). However, it shows the factors is influenced the customer to adopt the e-payment even not all the factors give the same result. It shows that the retailer has an opportunity to make a move and improve the weakness. Effort expectancy and social influence is the most influence on the adoption of e-payment.

Therefore, the retailer should more focus on culture, perceived security and performance expectancy from now on. According to Mohamad Azwan Md Isaa, Ferri Nasrul, Rohayu Senanb, Suhana Mohamed (2017), the effort expectancy is one of the factors that affect the adoption of e-payment as the easiest platform among consumer in Malaysia. This is because the consumers realize that e-payment are easy to use compared to the traditional way and they believe that they will operate their transaction with less effort but with more outcomes. To encourage more customer use this payment system manager of the store needs to make sure all the process of the transaction must happen smoothly.

CONCLUSION

This study examines the antecedents of the factors that influence customers to adopt the electronic payment system while making payments. All five factors of the adoption which are culture, perceived quality, performance expectancy, effort expectancy and also social influence were used to affect the customer’s adoption of the electronic payment. Payment is the one of the element to complete the transaction while making payment. Due to the development of E-commerce, e-payment systems have been introducing. So, the use of electronic payment systems is being increasing day by day for people to complete their task quickly ineffective way.

Based on correlation analysis, it shows that there is a relationship between dependent variables and independent variables. Results identify the two factors that influence the adoption of e-payment out of five is highly positive correlation relationship. Those factors are perceived security and social influence. This is because the value of factors indicates above 0.90. Besides that, effort expectancy shows a high positive correlation relationship with the value 0.843. In addition, culture and performance expectancy has positive moderate correlation relationship. It makes that all independent variables have relation with the adoption of e-payment.

Other than that, the regression model can conclude effort expectancy and social influence is significant with dependant variables. Result show effort expectancy is significant due

value is 0.048 which is below of 5%. Besides, social influence is significant because of the same value 0.027.

Therefore, its study approves effort expectancy and social influence is significant. However, it can conclude the highest factor that influences the adoption of e-payment would be the social influence variable with a beta weight of 0.502 compares with effort expectancy.

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