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The consumer acceptance towards electronic payment system

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Abstract

The electronic payment system is a new trending system used at many government offices in Malaysia. Among the reasons to use this alternative are to help reduce the number of customer queueing and to minimize the cash shortage risk. However, there is still a lack of usage among the public although the encouragement was done regularly for the usage of the system. Thus, the drive of this study is to identify the factors that influence the consumer acceptance in accepting the electronic payment system. The study used simple random sampling, and the survey conducted among 100 quit rent taxpayers that came to get the services from the KDL office which located in Johor, Malaysia. The factors used in this study were performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC). It found that all four factors have positive and significant relationship towards consumer acceptance in using the electronic payment system. However, the performance expectancy (PE) with Pearson Coefficient Correlation of 0.732 has the strongest influence towards consumer acceptance in using the electronic payment system. The researcher recommended, the future researcher uses several geographical locations in Malaysia to increase the accuracy of the result.

Keywords: System, payment system, electronic, influence, acceptance

1. INTRODUCTION

Internet technology has unquestionably redefined the way the products and services designed, communicated and delivered to customers. The application of Internet technologies improves business performance (Maruf, Rushami, and Sany, 2017). For a marketer, the internet has provided countless opportunities to understand and serve the customers better than competitors in the industry. 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 are still lack usage of this service. Although Ramalingam (2012) concludes that Malaysia is moving toward greater e-payment adoption, interestingly, the majority of the online population in Malaysia is still considered “infants” with a superficial level of internet knowledge, and this builds up fears of using e-payment.

Tater et al. (2011) discovered the Indian consumer’s opinion on the implementation and procedure for various banking networks, for example, branch banking, automated teller machine, the internet and mobile banking. Four factors identified . This study identified that factors such as convenience, privacy, security, ease of use, real-time user-friendliness, and correctness are enablers of banking technology implementation. The study also stated that slower transmission speed, technical failure, frauds, and lack of awareness are delaying the adoption of this

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technology. Additionally, the results disclose that demographic features of customers such as gender, age, education, and income play a major role in the adoption of different banking technologies.

Angelakopoulos and Mihiotis (2011) stated that one of the factors influencing the use of online banking is a low percentage of internet users and the lack of familiarity with technologically advanced devices. On the one hand, if the consumer has a positive experience in using the offline channel, he will also perceive the corresponding online channel positively, which impacts on his intentions concerning the utilization of the online channel. On the other hand, a client satisfied with the offline channel may not see the potential benefits arising from the use of the online channel, despite having a favorable opinion of this channel. Consequently, such a client will not be interested in transitioning to online services.

A study on the evaluation of service and consumer reactions by Guru (2010) stated that the successful application of electronic banking in Malaysia, or in any other part of the world, the adequate legal and physical infrastructure were major prerequisites. By then, the user will become more satisfied, high level of confidence on the privacy and security issues associated with online banking.

1.1 Problem Statement

Online banking first emerged in the mid 90's, gained a worldwide reputation, translated into a growing number of banks offering a consistently increasing number of services online. However, despite this interest and the resources consumed from banks in their effort to provide advanced services via the web, research has shown that internet technology, when combined with financial services, can produce mixed feelings and a quite unpredictable level of perceptibility to the customer (Eriksson, 2005). As a result of this, despite the benefits that offers to customers, a large proportion of them are still remarkably reluctant in adopting it as a means to perform their daily banking transactions.

The issues on secured banking also account the reason why consumers still visit banks and premises instead of using online banking. This innovation is still not implemented by all banks since there is a lack of adequate legal framework and security concerns. The issue of quality and availability of services also are crucial determinants for success in introducing online banking in Malaysia.

1.2 Research Objective

This research aims to study factors that determine the consumer acceptance towards internet banking products in the context of e-payment. Therefore, objectives of this study are:

- To examine the effect of performance expectation on consumer acceptance towards online banking and e-payment services
- To analyze the effect of effort expectancy on consumer acceptance towards online banking and e-payment services
- To identify the impact of social influence on consumer acceptance towards online banking and e-payment services
- To investigate the impact of facilitating conditions on consumer acceptance towards online banking and e-payment services

2. PAST RESEARCH

2.1 Consumer Acceptance

Technology development is modernizing the way business is done. It seems like internet banking has conquered the banking transactions among banking customers. It is noted that internet banking is a form of self-service technology (Dixit, 2010). The internet banking can also reflect as a gateway which customers use. If the banks' websites offered only information on their pages without the possibility to do any transaction that is not qualified as internet banking services (Nordin and Rohaya, 2006). Wu and Du (2012) argued that usage is certain and behavioral intention is not a good substitute.

Banking customers accept the internet banking services due to several factors (Eriksson et al., 2005). Shih and Fang (2003) stated that the factors of behavior intention to use the internet banking are the actual usage of banking transactions, attitude, subjective norms, perceived and relative advantages of the Internet banking, and normative influences. This research has the same findings with Wungwanit-Chakorn (2002) which compatibility and complexity of the web banking would affect the acceptance of the usage. E-banking is regarded as an important

delivery channel that offered one-stop services and information unit to gain competitive advantages in the banking sector (Malek and Nik Kamariah, 2011). Martins et al. (2014) examined user acceptance of internet banking services in Portugal, but they did not incorporate the cultural element in the study.

Santouridis and Kyritsi (2013) have done research on investigating the determinant of internet banking adoption in Greece, which showed that customer conception about usefulness, credibility, and easiness of use of internet banking have a primary effect on intentions towards using internet banking. Kirakosyan and Danita (2014) focused on the relationship between the customer satisfaction and loyalty/retention and communication management in the banking system that concluded that banks required a paradigm shift in management procedures through continuous innovation in the service of customers. Takieddine and Sun (2015) showed that national culture is a significant moderator as it created transformations in internet banking circulation as well as internet access in different country groups.

2.2 Performance Expectancy

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 intention to use technology in cultures with higher power remoteness, lower individualism, and higher uncertainty avoidance (Yuen, 2010). In this study, performance expectancy is about the consumer believes on using internet banking will increase their performance. A study in India conducted by Gupta, Dasgupta, and Gupta (2008) to detect the acceptance of information, communication and technology in government organization revealed the performance expectancy has a positive impact on the use of ICT.

Kijisanayotin et. al. (2009) examined the key factors that give impact to the acceptance of health information technology in Thailand and found that performance expectancy is one of the factors that influence health information technology adoption. Wang (2009) concluded that the factors derived from the UTAUT model are performance expectancy, effort expectancy, and social influence which influenced the behavioral intention to use m-learning. The study is consistent with a study by Venkatesh et al. (2003). According to Venkatesh (2003), they debate that performance expectancy is the significant rewards that obtained from the use of the system. This show that the gender differences in gender and age have more significant influence on performance expectancy. The effect in male or young workers showed the highest value compared to other age groups.

Foon and Fah (2011) studied the performance expectancy and found that it had an impact on behavioral intention in internet banking acceptance. The result is consistent with a study by (Chian-Son, 2012) which found that performance expectancy has a significant influence towards consumer's intention in adopting mobile banking which also consistent with a study by Zhou (2011) from China. Thus, it is obvious that performance expectancy has a relationship with behavioral intention and consumer acceptance and usage towards technology adoption in internet banking product.

2.3 Effort Expectancy

The second independent construct is effort expectancy. Research has shown that internet banking users prefer simple and highly accessible websites (Karjaluoto, 2009). Consumers from an individualistic and low power distance culture tend to have a high level of effort expectancy because they are more interested in new technologies and are more willing to learn how to use the technologies (Im et al., 2011).

Wang et. al (2009) noticed that the user of mobile learning user enjoyed internet banking as it was user-friendly, easy to use due to the hardware and also the software factors. A research on external factors influencing the performance of behavior towards effort expectancy. It showed a significant relation with behavioral intention in IT innovation usage. Also, it had the tendency to act as a moderator in this research (Moghavvemi, Mohd Salleh, Zhao, & Mattila, 2012). Moreover, a study conducted by Yu (2012) proved that effort expectancy significantly affected original intention to use mobile banking.

Dwivedi et al. (2011) conducted a meta-analysis on the UTAUT and found strong evidence that effort expectancy is an underpinning factor in technology adoption. Accordingly, effort expectancy predicts the intention to adopt online banking (Riffai et al., 2012; Martins et al., 2014). Thus, individuals who believe that online banking is effortless are likely to use it. Furthermore, when the system is user-friendly, customers are more likely to enhance their perceptions regarding its performance (Venkatesh and Bala, 2008). In other words, when the system is not difficult to use, customers save efforts and can do other activities (Venkatesh and Davis, 2000).

Another study that examined factors influencing intention in mobile stock trading adoption among stock investors by Tai and Ku (2013) stated that effort expectancy also had a significant effect on intention to use mobile stock trading. Effort expectancy tested in the study of information kiosk users. The study proved that effort expectancy had a significant effect on behavioral intention, which means the kiosk developers need to improve the complexity of hardware or software to make it easier for users to use it (N. Wang, Shen, and Sun, 2013).

A study by Sin et al. (2013) found that effort expectancy had a significance influence on the intention to use internet marketing among South Korean, but not Malaysians because South Koreans tend to use internet marketing more compared to Malaysians. In contrast, the research on 3G Mobile Communication found that effort expectancy did not have a significant effect on behavioral intention. This is because most technology adoptions propose the influence of “ease of use” on behavioral intention (Wu, Tao and Yang, 2008).

The effort expectancy is one of the factors that affect the adoption of Internet banking as the easiest platform among consumer in Malaysia. This is because the consumers realize that internet banking and e-payment are easy to use compared to traditional way and they believe that they will operate their transaction with less effort but with more outcomes.

2.4 Social Influence

Many studies have been done to investigate whether the social influence is one of the factors that relates to intention or usage behavior. Several studies have suggested that social influence has a significant effect on intention or usage behavior. According to Alkhunaizan and Love (2012), social influence has a significant influence on behavior intention to use m-commerce in Saudi Arabia.

In Malaysia, a study on entrepreneur’s perception on information technology innovation adoption revealed that it has the tendency to act as a moderator between social influence and behavioral intention (Moghavvemi et al., 2012). Subsequently, a study to investigate the factors that affect individuals in adopting mobile banking in Taiwan was done by (Yu, 2012). Surprisingly, the study revealed that social influence is the main factor in the study of people’s intention to use mobile banking. Also, a study to examine factors influencing intention in mobile stock trading adoption among stock investors by Tai and Ku (2013) stated that gender difference was a moderator between social influence and behavioral intention in mobile stock trading usage. Since the UTAUT model is formulated by eight past theories, many researchers have argued that the UTAUT model be the best model to study about technology acceptance.

A previous study showed that social influence has no relationship with the intention on internet marketing usage among Malaysians and South Koreans (Sin et al., 2013). In fact, the users’ intention on Internet marketing usage was not influenced by others. In the literature on new technology adoption, social influence represents the social pressure exerted on a person to adopt a new technology (Martins et al., 2014). Zhou et al. (2010) argue that social influence has a positive and significant impact on user adoption of mobile banking. Also, Dwivedi et al. (2011) conclude that social influence is the second most influential determinant of behavioral intention. Considering the context of emerging countries, we expect that with the slow penetration rate of Internet and Internet banking, individuals will gradually trust the online channel while continuing to trust the offline (i.e., traditional) one.

However, in this study, social influence will be used as one of the factors affecting the adoption of social media as a business platform. The consumers believe that they will be influenced by someone they trust or are important to them to operate the internet banking.

2.5 Facilitating Condition

Age and experience are moderators in facilitating conditions’ usage where the effect is higher for older workers with experience. This definition captures concepts embodied by three different constructs, which are: Perceived Behavioral Control, Facilitating Conditions, and Compatibility. Of all, Perceived Behavioral Control refers to the user’s judgment about the self-efficacy of the system; that is, the judgment of the user’s ability to operate the system alone. Facilitating Conditions refers to technical assistance offered by objective surroundings. Hence, Facilitating Conditions mean supports from organization and technology infrastructure for the use of the system, including those for computer hardware and software, or the assistance in system operation and so forth Venkatesh et al. (2003).

A previous study proved that facilitating conditions are related to the intention to use Internet marketing by both Malaysian and South Koreans (Sin et al., 2013). This is similar to studies on facilitating conditions and behavioral intention to use (Guo, 2014; Khatimah & Halim, 2014). Furthermore, Yang and Forney (2013) indicated that the

effect of facilitating conditions is relevant to consumers with a low level of technology anxiety compared to those with a high level of technology anxiety. Additionally, a study conducted by Yu (2012) proved that facilitating conditions have a relationship with the individual behavior of using internet banking.

Despite all these evidence, this study believes that facilitating conditions significantly affect the adoption of Internet banking and e-payment. Therefore, facilitating conditions is one of the key factors affecting consumers in the adoption of online banking as an easy platform to make a transaction.

3. METHODOLOGY

Questionnaires consisted of 2 sections i.e. demographic question and main question were responded using 5-point Likert scale (from strongly disagree to agree strongly). Questionnaires were distributed to quit rent tax payer in KDL office for the month of May since the last date of paying a quit-rent is 31 May every year and lot of consumer comes at this time. The questionnaire was initially pilot tested by 5 top management from KDL Office and five internet users which were approached by direct contact. The results of pilot test proved to be very satisfactory since all respondents found the questionnaire items understandable. Minor rewording recommendations made by pilot test participants and incorporated into questionnaire's final version. In this research, the sampling elements are the consumer who enrolled in different of age, occupation and education levels. Due to differences in personality and views, a more accurate and generalize results attained.

Each participant was given a self-administered questionnaire. The questionnaire divided into two sections. The first Section A consists of demographic profiles of the respondents. The four independent variables and dependent variable are in section B. The study adapts the questionnaires from various past studies related to this topic and mainly uses Likert scale measurement (i.e. "1" represent "strongly disagree" and "5" represent "strongly agree") for all the variables constructed in the proposed theoretical framework. 100 questionnaires have distributed the respondents and only take a month to complete data collection process.

Previous research has indicated that the relationship between performance expectancy and behavioral intention is a strong predictor of technology acceptance. Performance expectancy has a greater impact on the intention to use technology in cultures with high power distance, lower individualism, higher uncertainty avoidance (Yuen *et al.*, 2010). Thus, the following hypothesis is proposed.

- H₀: There is no a relationship between performance expectancy and consumer intention to use internet banking and e-payment services provided by KDL Office
- H₁: There is a relationship between performance expectancy and consumer intention to use internet banking and e-payment services provided by KDL Office

The relationship between effort expectancy and behavioral intention is a constant debate because of the effect of performance expectancy on behavioral intention. According to Im *et al.* (2010), a consumer from an individualistic and low power distance culture tend to have a high level of effort expectancy because they are more interested in new technologies and are more willing to learn how to use the technologies. Thus these proposed the following hypothesis:

- H₀: There is a no relationship between effort expectancy and consumer intention to use internet banking and e-payment services provided by KDL Office
- H₂: There is a relationship between effort expectancy and consumer intention to use internet banking and e-payment services provided by KDL Office

According to Kim *et al.*,(2009) recommendations from friends and family often encourage the consumer to use internet banking services. Consumer from collectivistic culture are more likely to seek advice from others before accepting a technology (Jin *et al.*, 2008) and thus, these propose the following hypothesis.

- H₀: There is a no relationship between social influence and consumer intention to use internet banking and e-payment services provided by KDL Office
- H₃: There is a relationship between social influence and consumer intention to use internet banking and e-payment services provided by KDL Office

Previous researchers mentioned that facilitating equipment such as hardware, software, documentation, and technology infrastructure that support internet banking also being an important factor for a consumer to accept internet banking. According to Bebedetto, (2013) individuals equipped with more supporting resources have

greater intention to use internet banking services in comparison with those with fewer resources. This proposed the following hypothesis:

- H₀: There is no relationship between facilitating condition and consumer intention to use internet banking and e-payment services provided by KDL Office
- H₄: There is a relationship between facilitating condition and consumer intention to use internet banking and e-payment services provided by KDL Office

4. ANALYSIS AND DISCUSSION

4.1 Reliability Analysis

Table 1. Summary of reliability statistics

Construct	Cronbach's Alpha	Number of Items	Relationship
Performance Expectancy (PE)	0.858	5	Good
Effort Expectancy (EE)	0.925	5	Good
Social Influence (SI)	0.927	5	Good
Facilitating Condition (FC)	0.777	5	Acceptable
Consumer Acceptance (CA)	0.908	5	Good

The research instruments tested for reliability using the Cronbach's coefficient and reported in the above table. The Cronbach's alpha for all dimensions is exceeding the minimum alpha value of 0.60 (Hair et al., 1998). This showed that the construct measures are reliable and all items in the construct measures retained. Referring to Table 1, shows that Cronbach's alpha found that Performance Expectancy (0.858) Effort Expectancy (0.925), Self Social Influence (0.927) and Consumer Acceptance (0.908) fall into good range. Only Facilitating Condition (0.777) falls into acceptable range. Therefore, coefficient obtained from all this section is reliable and acceptable.

4.2 Pearson Correlation Analysis

Table 2. Summary of Pearson Correlation Analysis

	Consumer Acceptance (DV)
Performance Expectancy	0.513** / 0.000
Effort Expectancy	0.719** / 0.000
Social Influence	0.480** / 0.000
Facilitating Condition	0.732** / 0.000
Consumer Acceptance	1

**Correlation is significant at the 0.01 level (2 tailed)

Referring to Table 2, Facilitating Condition has the strongest relationship with consumer acceptance with r value 0.732. Then follows by Performance Expectancy with r value 0.513, Effort Expectancy with r value 0.719 and Social Influence with r value 0.480, have a reasonable relationship with Consumer Acceptance. It concluded that all the variables statistically significant correlated.

4.3 Regression Analysis

Table 3. Summary of regression coefficients

Model	Unstandardized B	Coefficients Std Error	Standardized Coefficients Beta	t	Sig.
(Constant)	0.530	0.453		1.169	0.246
Performance Expectancy	0.067	0.125	0.051	0.538	0.592
Effort Expectancy	0.319	0.128	0.333	2.487	0.015
Social Influence	0.017	0.093	0.017	0.181	0.857
Facilitating Condition	0.505	0.145	0.425	3.488	0.001

a. Dependent Variable: Consumer_Acceptance

Referring to table 3, the following model developed for this study:

$$CA = 0.530 + 0.067PE + 0.319EE + 0.017SI + 0.505FC \quad (1)$$

Figure 1 shows that the estimated $CA = 0.246 + 0.592PE + 0.015EE + 0.857SI + 0.001FC$ has a linear relationship. Therefore, all the independent variables (PE, EE, SI, & FC) are linearly related to the dependent variable (CA). The Facilitating Conditions has a significant influence on consumer acceptance because p-value (0.001) is less than 0.05. In contrast, Performance Expectancy p-value (0.592) Effort Expectancy p-value (0.015) and Social Influence p-value (0.017) has no significant at all because p-value is more than 0.05.

In this study, all four independent variables which are performance expectancy, effort expectancy, social influence and facilitating condition being tested to find the relationship with consumer acceptance towards internet banking and e-payment. From the finding, all the independent variables have a positive and significant relationship with consumer acceptance to use an internet banking and e-payment.

It is found that performance expectancy and facilitating conditions influence the behavioral intention of using internet banking whereas effort expectancy, social influence and trust do not affect behavioral intention to use online banking. Like every study, this study also leaves some limitations and gaps that can be filled by further research.

Performance Expectancy has the highest mean which means that it the strongest influence on consumer acceptance towards internet banking and e-payment system. Thus, in Pearson Correlation Analysis facilitating condition also has the strongest relationship with the consumer. It shows that the Pearson correlation has a strong positive linear correlation because the value indicates 0.732 near to the 1, Facilitating Condition has a significant influence on consumer acceptance because p-value (0.000) is less than 0.05.

Facilitating Condition also has a positive relationship between consumer acceptance towards internet banking and e-payment provided by e-payment with a mean of 4.0851 is the second highest in Descriptive Analysis. In Cronbach Alpha, Facilitating Condition (0.777) has an acceptable relationship towards consumer acceptance.

The third independent variable is Social Influence; it also has a positive relationship between consumer acceptance towards internet banking and e-payment provided by Johor Online with a mean of 4.0092 in Descriptive Analysis. In Cronbach Alpha, Social Influence has the highest result of 0.925 and has a good relationship towards consumer acceptance in accepting internet banking and e-payment provided by e-payment.

Effort Expectancy also has influenced the consumer acceptance towards internet banking and e-payment mean of 4.0736 in Descriptive Analysis. Effort Expectancy also has a good relationship towards consumer acceptance according to Cronbach Alpha with a value of 0.925. Thus it shows that all of the independent variables have a positive and significant relationship with consumer acceptance.

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