

Factors affecting consumers' acceptance towards electronic payment system: Case of a government land and district office

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ABSTRACT

Electronic payment system (e-payment) is a new trending applied at government offices in Malaysia. Among the main reasons to introduce and apply this platform are to increase the efficiency by reducing the number of customers' queue, to minimize the risk of cash shortage and fraud by operating staff. Even though the implementation of the e-payment system has been for more than a decade and the encouragement has been done regularly to use the system, but there is still lack of acceptance and usage among the public. Hence, this paper aims to investigate the factors affecting the consumers' acceptance towards the usage of e-payment system. Employing the simple random sampling, we distribute questionnaires to 100 quit rent payers at Land and District office in Johor, Malaysia. Four variables are identified; performance expectancy, effort expectancy, social influence and facilitating conditions. We found that all the four variables have positive relationships with consumers' acceptance towards using the e-payment system. However, based on the multiple regression results, only the facilitating conditions and effort expectancy are found to have significant influences on the consumers' acceptance to use e-payment system. The results indicate that there are still shortcomings in the e-payment system in facilitating the users' transactions. The findings are beneficial to the government offices or agencies to continuously improve and upgrade their e-payment systems in effort to deliver the best and most efficient services as expected by the public users.

Keywords: *electronic payment system; consumers' acceptance; facilitating condition; effort expectancy*

1. Introduction

Emergence of the Internet technology has undeniably redefined the way goods and services are designed, communicated and delivered to customers. The application of Internet technology in the businesses has been proven to improve their performance (Maruf et al. 2017). For a business dealing in marketing and advertising, the Internet has provided countless opportunities to understand and serve the customers better and this currently has been the competitive advantage criteria among the competitors in the industry. Dauda and Santhapparaj (2007) studied the Internet banking security in Malaysia and Singapore overlooking the cultural factors. Although many banks have been offering banking services online, but there is still lack of usage of this service.

Ramalingam (2012) concluded that Malaysia is moving towards greater e-payment adoption. And, interestingly, the majority of the online population in Malaysia is still considered 'infants' with superficial level of Internet knowledge. This builds up fears of using e-payment. Angelakopoulos and Mihiotis (2011) reported 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. If the consumers have positive experience in using the offline channel, they will also perceive the corresponding online channel positively, which affects their intentions concerning the utilization of the online channel. On the other hand, a client unsatisfied 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.

In a research by Tater et al. (2011) studied the Indian consumers' opinion on the implementation and procedure for various banking networks such as branch banking, automated teller machine, the Internet and mobile banking. 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 technology. In addition, the results disclosed that demographic features of customers such as gender, age, education, and income play major roles in the adoption of different banking technologies.

Successful application and implementation of online banking and transactions in Malaysia or any other parts of the world is highly dependent on the adequacy of legal and physical infrastructure as found by Guru et al. (2001) in their study on the evaluation of service and consumer reactions. If these major prerequisites are fulfilled, then only the users will become more satisfied and have high level of confidence on the privacy and security issues associated with online banking. Online banking or transaction, which was first introduced in mid 1990's, has grown worldwide and translated into a growing number of banks offering a consistently increasing number of services online. Despite the interest and the resources utilized by the banks in their efforts to offer advanced services via the web, previous research has indicated that when the Internet technology is combined with the financial services, it would produce mixed feelings and a quite unpredictable level of perceptibility by the customers (Eriksson et al. 2005).

Even though there are a bunch of benefits offered by online services to customers, but a large proportion of them are still remarkably reluctant in adopting it as means to perform their daily banking transaction. The issues on secured banking transaction also account for the reason why consumers are still visiting bank premises instead of using online banking or online payment system. In addition, the issues of quality and availability of services are also crucial determinants for successful online payment system in Malaysia. Looking at the issues, we are motivated to investigate the factors i.e. performance expectation, effort expectancy, social influence and facilitating conditions, that affecting consumers' acceptance towards the usage of online payment system with the focus on the Land and District Office, a government agency, located in Johor Malaysia. Previous studies mostly focused on the online banking system and online marketing; hence this study is one of the earliest studies testing on the online payment system implemented at the government agency or office. The rest of the paper is arranged as follows; Section 2 will elaborate on the previous literatures related to the factors or variables tested, Section 3 discusses the methodology and hypotheses of this study, Section 4 is on the analysis of results and finally we conclude the paper and suggest recommendations for future research.

2. Literatures Review

We divide the literatures reviewed into seven (7) sub-sections i.e. the dependent variable (consumers' acceptance), electronic payment system (EPS), the Unified Theory of Acceptance and Use of Technology (UTAUT), and the four independent variables (performance expectancy, effort expectancy, social influence and facilitating condition).

2.1. Consumers' Acceptance

Technological advances and development are modernizing the way business conducted. It seems like the Internet banking has conquered the banking transactions among banking customers. It was noted that the Internet banking is a form of self-service technology (Dixit 2010). E-banking was regarded as an important delivery channel that offered one-stop center services and information unit to gain competitive advantages in the banking sector (Al-Majali and Mat 2011). If the banks' websites only offered information on their pages without the possibility to do any transaction that is not qualified as internet banking services. Banking customers accept the internet banking services due to several factors (Eriksson et. al., 2005) and Wungwanit-Chakorn (2002) stated that compatibility and complexity of the web banking affected the acceptance of the usage.

Santouridis and Kyritsi (2014) found that customer conception about usefulness, credibility, and easiness of use of internet banking had a primary effect on intentions towards using internet banking in Greece. Kirakosyan and Danita (2014) focused on the relationship between the customer satisfaction and loyalty/retention and communication management in the banking system and concluded that banks required a paradigm shift in management procedures through continuous innovation in the service of customers. Takieddine and Sun (2015) indicated 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. Electronic Payment System (EPS)

EPS is described as any exchange of funds initiated by means of electronic communication channel (Shon and Swatman, 1998). The EPS has been expedited with the emergence of the Internet and this prevalent payment system enables any commercial or financial transactions to be performed securely among organisations or individuals. A few initiatives had been launched to accelerate the EPS growth and development as reported by Neuman and Medvinsky (1995) and Kalakota and Whinston (1996). However, several of them had been unsuccessful (Oh et al. 2006). According to Dani and Krishna (2001), the main obstruction for the growth of electronic commerce (e-commerce) is the absence or insufficiency of corresponding payment system and instrument.

Another challenge in delivering the EPS is to encounter the consumers' perception or expectation, where they perceive that this new system must have more advantages in terms of convenience, speed, accuracy and flexibility as compared to the traditional system (Smith 1998; Birch 1999; and Sumanjeet 2009). Other related studies by Fatimah et al. (2000), MDEC (2001), and Oh et al. (2006) revealed that the issues of security, trust and privacy remain as the main concerns and considerations by the consumers in accepting or adopting the EPS.

2.3. Unified Theory of Acceptance and Use of Technology (UTAUT)

As proposed by Venkatesh et. al (2003), the UTAUT model has four basic constructs, which are performance expectancy, effort expectancy, social influence and facilitating conditions performance expectancy, effort expectancy, social influence and facilitating conditions. The model is beneficial in analyzing the issues pertaining to the competencies in usage of technology.

The four constructs of UTAUT suggest as the determinants of consumers' acceptance of EPS. Performance expectancy is defined as individual believes that with the use of EPS, it will enhance the service delivery performance and bring better results. Effort expectancy connotes the meaning that with the use of EPS, the consumers will just need to put less or little effort in performing the financial transaction. Social influence signifies that the use of EPS is much influenced by others particularly by existing consumers. Lastly, the facilitating conditions denote that the organization or agency and technical infrastructure have been supportive in the process of using the EPS.

There is an extended UTAUT model with three additional constructs. The three are anxiety, perceived credibility and attitude towards using the system. However, these three constructs are hypothesized not to be direct determinants in relation to consumers' acceptance or intention to use a system (Venkatesh et. al 2003). Therefore, we decide to test only on the four basic constructs of UTAUT for this study.

2.4. Performance Expectancy

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 2013). In our study, performance expectancy is about the consumer belief or trust on using the online payment system in increasing their performance. A study in India conducted by Gupta et al. (2008) on the acceptance of information, communication and technology in government organization revealed that the performance expectancy has a positive impact on the use of the information and communication technology (ICT). Kijisanayotin et al. (2009) examined the key factors of the acceptance of health information technology in Thailand and found that performance expectancy is one of the factors that influence health information technology adoption.

According to Venkatesh et al. (2003), they debated that performance expectancy is the significant rewards that were obtained from the use of the system. Foon and Fah (2011) studied the performance expectancy and found that it had an impact on behavioral intention in internet banking acceptance. The result was consistent with a study by Chian-Son (2012) who found that performance expectancy had a significant influence towards consumer's intention in adopting mobile banking and this finding was supported by Zhou (2011).

2.5. Effort Expectancy

A research by Karjaluo et al. (2009) had shown that internet banking users prefer simple and highly accessible websites. 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 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 showed a significant relation with behavioral intention in information technology (IT) innovation usage (Moghavvemi et al. 2012). Moreover, a study conducted by Yu (2012) evidenced 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 and Martins et al. 2014). Thus, individuals who believe that online banking is effortless are likely to use it. In addition, 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 would save their efforts and can do other activities (Venkatesh and Davis 2000). In another related study, Tai and Ku (2013) concluded that effort expectancy also had a significant effect on intention to use mobile stock trading. According to Wang et al. (2013), 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. Sin et al. (2013) found that effort expectancy had a significance influence on the intention to use internet marketing among South Koreans, but not Malaysians because South Koreans tend to use internet marketing more compared to Malaysians.

2.6. Social Influence

According to Alkhunaizan and Love (2012), social influence has a significant influence on behavioral 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 investigated the factors that affect individuals in adopting mobile banking in Taiwan was conducted by Yu (2012) revealed that social influence is the main factor in the study of people's intention to use mobile banking. Also, a study examined the factors influencing intention in mobile stock trading adoption among stock investors by Tai and Ku (2013) reported that gender difference was a moderator between social influence and behavioral intention in mobile stock trading usage.

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) argued that social influence has a positive and significant impact on user adoption of mobile banking. And, Dwivedi et al. (2011) concluded that social influence is the second most influential determinant factor of behavioral intention. Considering the context of emerging countries, they expected 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.

2.7. Facilitating Condition

Facilitating condition refers to the technical assistance offered by objective surroundings. Therefore, facilitating condition means supports from the organizations and technology infrastructure for the use of the system, including those for computer hardware and software, or the assistance in system operation and so on Venkatesh et al. (2003). A previous study revealed that facilitating conditions are related to the intention to use the Internet marketing by both Malaysians and South Koreans (Sin et al. 2013). Similar studies found on facilitating conditions and behavioral intention to use the system (Guo 2014; and Khatimah and 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. The finding was related to a study conducted by Yu (2012) that proved that facilitating conditions have a relationship with the individual behavior of using Internet banking.

3. Methodology of Study

The questionnaire is designed using five-point Likert scale and distributed to one hundred (100) quit rent tax payers at the District and Land (DL) office in May 2017. The questionnaire was initially pilot-tested by five (5) top managements from DL Office and five (5) internet users cum consumers. The results from the pilot test proved to be very satisfactory since all respondents found the questionnaire items understandable. Minor recommendations suggested by the pilot-test respondents and incorporated into the questionnaire for the final version and distribution. In this research, the sampling elements are the consumers who compose of different ages, occupations and educational levels. Due to differences in personality and views, more accurate and generalized results were attained.

Each respondent was given a self-administered questionnaire. The questionnaire was divided into two sections. Section A consists of demographic profiles of the respondents. The four independent variables and one dependent variable are in section B. This study adapted the questionnaires from various previous researches related to the topic of study and used the Likert scale measurement from the lowest; 1 = strongly disagree to the highest; 5 = strongly agree for all the determinant variables constructed in the proposed theoretical framework. The data collection process from the respondents is completed within a month. Then, several tests analysis was conducted i.e. reliability analysis, descriptive statistics, Pearson correlation analysis and multiple regression analysis.

3.1. Hypotheses

For this study, we had come up with four (4) hypotheses that are presented as follows:

Performance Expectancy:

- H₀: There is no significant influence of performance expectancy on consumers' acceptance towards using electronic payment system
- H₁: There is significant influence of performance expectancy on consumers' acceptance towards using electronic payment system

Effort Expectancy:

- H₀: There is no significant influence of effort expectancy on consumers' acceptance towards using electronic payment system
- H₁: There is significant influence of effort expectancy on consumers' acceptance towards using electronic payment system

Social Influence:

- H₀: There is no significant influence of social influence on consumers' acceptance towards using electronic payment system
- H₁: There is significant influence of social influence on consumers' acceptance towards using electronic payment system

Facilitating Condition:

- H₀: There is no significant influence of facilitating condition on consumers' acceptance towards using electronic payment system
- H₁: There is significant influence of facilitating condition on consumers' acceptance towards using electronic payment system

4. Analysis of Results

4.1 Reliability Analysis

Table 1. Summary of Reliability Statistics results

Construct	Cronbach's Alpha	Number of Items	Relationship
Performance Expectancy	0.858	5	Good
Effort Expectancy	0.925	5	Good
Social Influence	0.927	5	Good
Facilitating Condition	0.777	5	Acceptable
Consumers' Acceptance	0.908	5	Good

Table 1 shows that the Cronbach's alpha for all dimensions is exceeding the minimum alpha value of 0.60 (Hair et al. 1998). This indicates that the construct measures were reliable and all items in the construct measures could be retained. Based on the above Cronbach's alpha results, performance expectancy, effort expectancy, social influence factors and consumer acceptance fall into 'Good' range whereas facilitating condition falls into 'Acceptable' range. Therefore, coefficients obtained from all these sections are reliable and acceptable.

4.2 Pearson Correlation Analysis

Table 2. Summary of Pearson Correlation results

	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	1.000

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

Referring to Table 2, facilitating condition and effort expectancy factors have the strong positive correlations with the consumer acceptance with *r* values of 0.732 and 0.719, respectively. Meanwhile, performance expectancy and social influence factors show moderate positive correlations with the consumer acceptance with *r* values of 0.513 and 0.480, respectively. It is concluded that all the four independent variables or factors were positively and significantly correlated with the consumer acceptance towards using the online payment system. This means that if there is betterment in the four independent variables, it will also increase the consumers' acceptance towards using the online payment system among the quit rent payers or vice versa.

4.3 Multiple Regression Analysis

Table 3. Summary of Multiple Regression results

Model	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>Prob.</i>
	Beta	Std. Error			
(Constant)	0.530	0.453		1.169	0.246
Performance Expectancy (PE)	0.067	0.125	0.051	0.538	0.592
Effort Expectancy (EE)	0.319	0.128	0.333	2.487	0.015*
Social Influence (SI)	0.017	0.093	0.017	0.181	0.857
Facilitating Condition (FC)	0.505	0.145	0.425	3.488	0.001*

a. Dependent Variable: Consumer Acceptance (CA)

* Significant at the level 0.05

From the results in Table 3, the following model is developed for this study based on the unstandardized beta coefficients:

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

All the four independent variables (PE, EE, SI and FC) are found to have positive linear relationship with the dependent variable (CA), but only two of the four are significant and most influential factors. Facilitating condition is the most significant factor on the consumers' acceptance towards using the online payment system. FC affects the consumers positively, where it means that if there is sufficient technical assistance and supports in terms of system operations, hardware and software, then the quit rent taxpayers at the LDO would be much willing to using the online system to do their transactions or transfer the payments. Effort expectancy is the next most significant factor on consumers' acceptance based on the prob. 0.015 and beta coefficient of 0.319. This result shows that the users at the LDO prefer an online system, which is simple or not complex, user-friendly, easy to use and highly accessible.

Based on the two findings above, we suggest the related government agency particularly the LDO to improve their online system with better features as expected by the users besides offering much-sought technical assistance and support to the users. In term of system accessibility, it depends on the speed and coverage of the Internet at the locations. The government agency needs to collaborate with the private sectors, which provide the Internet services to improve to higher speed and wider coverage so that the online system will be highly accessible and smooth without disturbance. The significant findings on facilitating condition are consistent with Sin et al. (2013); Yang and Forney (2013); and Yu (2012) while the significant results on effort expectancy are consistent with Riffai et al. (2012); Martins et al. (2014); Dwivedi et al. (2011); and Tai and Ku (2013).

In contrast, performance expectancy and social influence are found to be not significant factors on the consumers' acceptance towards using the online payment system based on their prob. more than 0.05. These findings were not consistent with previous researches since almost all the literatures reviewed, except Sin et al. (2013), have shown conflicting results. Nevertheless, both factors have shown positive influence on the consumers' acceptance as previously reported by Gupta et al. (2008); Foon and Fah (2011); and Zhou et al. (2010). So, these findings, despite of its insignificance, should not be ignored by the online payment system provider since it could positively impact the consumers' acceptance towards online payment system usage. Continuous awareness campaigns and explanation should be conducted by the agency to all levels of users regardless of their ages, races, occupations and educational backgrounds so that their acceptance towards usage of the online payment system will rise in future.

5. Conclusions and Recommendations

In this research, we investigate the relationship and effects of four determinant factors on the consumers' acceptance towards usage of electronic payment system at the Land and District Office. From the results, all the four variables show positive correlation and relationship with consumers' acceptance. It was found that facilitating condition and effort expectancy have the most significant influence on the consumers' acceptance towards using the electronic payment system among the public users at the government land and district office whilst performance expectancy and social influence reveal no significant impact on the consumers' acceptance to use online payment system. We could conclude that the consumers or users in Malaysia, in general, prefer an electronic payment system with qualitative characteristics such as simple features, effortless, easy to use or user-friendly and highly accessible. Besides, Malaysian users also have low level of anxiety in using new system and technology. They are

willing to learn using new technology with proper technical assistance and support from the related online system provider. The findings could be used by the government agencies or organizations to improve the electronic payment system, physical and software infrastructures, and to reduce the complexity of the system features. The efficiency of the online system is crucial to meet the users' need and expectation that ultimately encourages them towards using the system.

This study merely involves one hundred respondents at the Land and District Office in Johor. Future research could be conducted by taking larger number of respondents at the other government agencies that offer online payment system such as the Inland Revenue Board (LHDN) and the Royal Malaysian Custom (KDRM) at the other districts or states in Malaysia. This study could also be extended to include other variables for instance the system security and data privacy or confidentiality factors that become one of the main concerns among the online system users nowadays. Finally, future research could employ other methods like Logistic (Logit) regression and Structural Equation Modeling (SEM) approach to test the variables as robustness and to come out with comparative results.

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