The Barriers towards the Adoption of E-Wallet Payment System

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Abstract

Many countries including Malaysia are aiming for cashless society, in which represent the transition of business transaction from cash to electronic-based transactions. Hence, the escalating trend of using electronic payment system can be observed especially during the COVID-19 crisis where consumers are transitioning to electronic commerce (e-commerce) as well as mobile commerce (m-commerce) business, however there are consumers who are not keen on e-wallet usage. Thus, this research aims to investigate the barriers towards the adoption of E-Wallet payment system. Based on Innovation Resistance Theory (IRT), the barriers refer to the factors of value barrier (VB), usage barrier (UB), risk barrier (RB) and perceived cost barrier (PCB). The results of the research were obtained from 248 respondents of fourth year students in the Faculty of Entrepreneurship and Business, University Malaysia Kelantan with the help of Krejcie and Morgan table sampling method and through the use of questionnaire. Besides, Statistical Package of Social Sciences (SPSS) method and Spearman's correlation analysis were also used to analyze the data from the questionnaire. It was found that value barrier, usage barrier, risk barrier as well as perceived cost barrier have a significant relationship with the adoption of E-wallet payment system. As the results highlighted the barricades that cease an individual from using e-wallet despite of its benefits, the policy maker can ponder the result to accelerate the adoption of e-wallet to a more desirable level in the nation.

Keywords: Barrier, Adoption, E-Wallet, Value Barrier, Usage Barrier, Risk Barrier, Perceived Cost Barrier

1. INTRODUCTION

The emerging trend of e-commerce and m-commerce in the recent years entails the improvement of its processes and systems to ensure effective and efficient transactions [19]. This includes the electronic payment processes and systems, in which consumers and traders are advised to use e-wallet; a convenient, user-friendly and secure payment system [30]. It is an application that allows an individual to perform any e-commerce transactions by storing their debit or credit card information [30; 13]. Just like a physical wallet with sufficient cash, e-wallet needs digital funds to function and complete the transactions. It also allows consumers to manage their purchases loyalty, membership, and banking information centrally instead of having several cards in their physical wallet [30; 10; 13]. Each country has its own preferences when it comes to e-wallets and according to Karim et al. (2020), AEON Wallet, Boost, BigPay, GrabPay, WeChat pay and Touch 'n Go are among the most popular e-wallets in Malaysia. As cashless society could save up to 1% of a country's economy due to lower retail payment cost as compared to the reliance on cash-based transactions [20], the initiatives to encourage the adoption of e-wallet in Malaysia has been progressive. A one-off digital incentive was given to eligible Malaysians under e-Tunai Rakyat with RM450 million budget allocation. In order to speed up the adoption of e-wallets among both users and merchants, three official e-wallet partners including Touch 'n Go, Boost and GrabPay, were selected based on four measures: a significant number of active users, a great level of capability, a wide network of merchants as well as a significant volume of investment in their own services in Malaysia [29]. Nonetheless, Covid-19 crisis has shaped the role of e-wallet from just a convenience mean for consumers and even merchants, to a necessary tool to embrace the "new normal". Recently, an allocation of RM750 million under Malaysia's Economic Recovery Plan called PENJANA was announced to drive the adoption of e-wallets in Malaysia during the COVID-19 pandemic. The perceived risk of COVID-19 crisis significantly influences the intention of Malaysian consumers to use e-wallet [18]. Despite of the threat of COVID-19 crisis, the phenomena of e-wallet in Malaysia is growing at slower pace than its regional peers [2; 12]. It is observed that Malaysian consumers are still transitioning towards an emerging market, the processes as well as systems of e-commerce is still developing and they are still relying on cash-based transactions [19]. In 2017, only 68% of respondents were using electronic payment and moving away from cash and 32% of respondents were not familiar with the system [6]. On the other perspective, Malaysia market is well-served by online banking, debit card and credit cards that draw back the importance of e-wallet at the eyes of Malaysian consumers [20; 32]. In contrast, China shows the great level of e-wallet adoption since the market is under-served by card network [20]. Thus, there are some Malaysians who is still lagging in embracing e-wallet despite its robust development before and during the COVID-19 crisis. Hence, the issue of refusal to adopt e-wallet by Malaysian consumers could be due to the merchants, the

consumers and even the developers, which need to be investigated further. Therefore, there were four research objectives which include 1) To examine the relationship between usage barrier and adoption of E-wallet payment; 2) To examine the relationship between value barrier and adoption of E-wallet payment system; 3) To examine the relationship between risk barrier and adoption of E-wallet payment system; and 4) To examine relationship between perceived cost barrier and adoption of E-wallet payment system.

2. LITERATURE REVIEW

2.1 Innovation Resistance Theory (IRT)

In basis, IRT was proposed by Ram (1987) [22] and later modified by Ram and Sheth (1989) [23]. It focuses on consumers' response to any product in terms of barriers such as usage, risk, value, tradition and image, which provide scholars with a theoretical basis to explain the resistance towards innovations that never cease progressing and entering the market [23]. There is a large number of studies that examined the resistance towards innovations such as e-commerce and m-commerce however, less attention has been given to examine the resistance towards e-wallet payment system (Aransyah et al., 2020).

2.2 Adoption of E-wallet Payment

Straub (2009) proposed that an individual has a choice whether to refuse or accept an innovation. Straub (2009) also proposed that the innovation is prone to fail if the resistance cannot be overcome which consequently slows down the adoption process. Thus, there is a need to answer why some individuals opt to refuse e-wallet payment system and why certain individuals choose to adopt it? [28]. What are the barriers of adopting e-wallet payment system? [28].

2.3 Value Barrier

As a consumer refuse to change unless an innovation offers greater value from the substitute, value barrier is the resistance towards an innovation due to the value of innovation from the perspective of consumers [23]. It also refers to the degree of benefits versus the cost of using the technology [8; 15]. Antico and Kleijnen (2009) proposed that value barrier is one of the functional barriers besides of usage and risk barrier. Empirically, they supported the relationship between value barrier and the adoption of technological innovation. This has been supported by Cheng et al. (2018) who found that usage barrier is significantly and positively influence the resistance of consumers to adopt e-wallet payment system. Recently, Aransyah et al. (2020) also supported that value barrier positively influence the resistance of consumers to adopt e-wallet payment system. It is suggested that consumers are more likely to refuse when they perceive the substitutes of e-wallet have higher value to serve them [3].

H1: There is a significant relationship between value barrier and the adoption of e-wallet payment system.

2.4 Usage Barrier

As an innovation requires changes from a consumer since new skills need to be learned and existing habits need to be modified for using a new product or service before it can be fully accepted, usage barrier is the resistance towards an innovation due to the inconsistency with current routine, exercise and plan [23]. Thus, it also refers to the degree of difficulty for an individual to understand and use the technology [24; 14]. According to Moorthy et al. (2017) [16], usage barrier significantly affects the adoption of innovation. This has been supported by Cheng et al. (2018) who found that usage barrier is significantly and positively influence the resistance of consumers towards adopting e-wallet payment system.

H2: There is a significant relationship between usage barrier and the adoption of e-wallet payment system.

2.5 Risk Barrier

As an innovation comes with potential side effects, risk barrier is the resistance towards an innovation due to the uncertainty which result from adopting a new product or service [23; 11]. Hence, consumers who are aware with the risk may oppose the technology and they will wait until they get more knowledge about the modification [23]. It was found that risk barrier is significantly associated with the adoption of e-wallet payment system [5].

H3: There is significant relationship between risk barrier and the adoption of e-wallet payment system.

2.6 Perceived Cost Barrier

Lu et al. (2011) proposed that additional monetary expenses are involved when a consumer is using a technology, in which measured as consumer's perceptions of cost. Thus, perceived cost barrier is the resistance towards an innovation due the degree of consumer's expectations on how costly it would be to adopt an invention. Although Chan et al. (2015) found that perceived cost barrier is not associated with the adoption of e-wallet payment system, Sahut (2008) stressed out that the cost of e-wallet significantly affect its adoption rate. It is crucial to ensure that the advantages of e-wallet can compensate for the share of cost incurred [25].

H4: There is a significant relationship between perceived cost barrier and the adoption of e-wallet payment system.
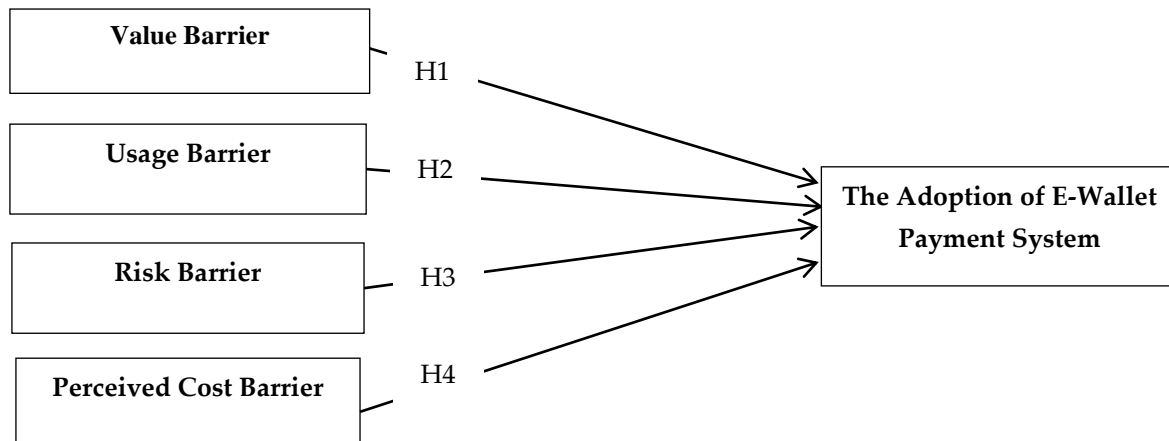
Figure 1: Research Framework

3. CONCEPTUAL FRAMEWORK

Based on Innovation Resistance Theory (IRT), the conceptual framework was developed to answer the research objectives. Based on Figure 1.0, the independent variables are value barrier, usage barrier, risk barrier as well as perceived cost barrier and the dependent variable is the adoption of e-wallet payment system.

4. METHODOLOGY

This research adopted a quantitative approach. Based on Krejcie and Morgan (1970), the sample size was set at 248 considering the total number of fourth year students in the Faculty of Entrepreneurship of Business is 686. They are from different major of studies, yet they are under entrepreneurial studies which is very close to the research topic; online payment system. A non-probability sampling method which is convenience sampling was used to collect the data through the questionnaire which includes three sections. Section A has demographic questions. On the other hand, section B and section C include series of questions related to independent variables and dependent variables with a 5 point of Likert Scale. A pilot test was conducted prior to data collection for reliability [27]. Since the value of Cronbach's alpha of all variables are above 0.7, this indicates the reliability of questionnaire [27].

5. FINDINGS

Table 4.1 shows the frequency summary of demographic profile which includes the involved respondents' gender, age, race, course as well as their e-wallet usage and frequency. Based on the collected and analyzed data of students in the Faculty of Entrepreneurship and Business, it was found that 69.3% of respondents are e-wallet users and 30.2% of respondents are not adopting any e-wallet to perform online transaction. Even though there are more than 50% of respondents who adopt e-wallet payment system, only 4.4% of respondents are using e-wallet in a daily basis, 20.6% of respondents are using e-wallet in a weekly basis and 29.8% of respondents are using this tool in a monthly basis. There was a

slightly difference between the percentage of non-users of e-wallet (30.2%) and the percentage of users who never use e-wallet (27.4%). This can be due to the users who install the e-wallet applications, so they consider themselves as e-wallet users but, they never actually use it.

Table 1: Respondents Profile

GENDER	FREQUENCY	PERCENT (%)
Male	154	62.1
Female	94	37.9
Total	248	100.0
AGE	FREQUENCY	PERCENT (%)
18-21 years	21	8.5
22-25 years	210	84.7
26 and above	17	6.9
Total	248	100.0
RACE	FREQUENCY	PERCENT (%)
Malays	123	49.6
Chinese	74	29.8
Indian	45	45
Batak	1	0.4
Kenyah	1	0.4
Rungus	1	0.4
Thailand	1	0.4
Total	248	100.0
COURSE	FREQUENCY	PERCENT (%)
Commerce	105	42.3
Islamic Banking	34	13.7
Retailing	46	19.4
Logistics	48	18.5
Entrepreneurship	15	6.0
Total	248	100.0

USER	FREQUENCY	PERCENT (%)
Yes	173	69.8
No	75	30.2
Total	248	100.0
FREQUENCY	FREQUENCY	PERCENT (%)
Never	68	27.4
Daily	11	4.4
Weekly	51	20.6
Monthly	74	29.8
Year	44	17.7
Total	248	100.0

Source: SPSS output

The hypotheses of this research were analyzed using Spearman correlation as the data was not normally distributed [17]. Table 4.2 shows the significant relationships between respective independent variables (IVs) and dependent variable (DV) as the p-value less than 0.05 (typically $\leq$ 0.05) is statistically significant. Therefore, all hypotheses are supported. Referring to the rule of thumb for interpreting Spearman's correlation coefficient [17], the value of correlation coefficient for the first hypothesis is 0.313 which indicates a negative relationship between value barrier and the adoption of e-wallet payment system. This exemplifies that when value barrier increases, the adoption of e-wallet payment system decreases. Similarly, the value of correlation coefficient for the second hypothesis is 0.341 which indicates a negative relationship between usage barrier and the adoption of e-wallet payment system. This also exemplifies that when usage barrier increases, the adoption of e-wallet payment system decreases. On the other hand, even though the third and fourth hypotheses are significant, the value of correlation coefficient of the first is only 0.240 and the latter is only 0.190 which show negligible correlation between IV and DV.

Table 2: Summary of Correlation Analysis

Hypothesis		Sig (2-tailed)	Spearman Correlation	Alternative Hypothesis
H1$_1$	There is a significant relationship between value barrier and the adoption of e-wallet payment system.	0.000	0.313	Supported
H1$_2$	There is a significant relationship between usage barrier and the adoption of e-wallet payment system.	0.000	0.341	Supported
H1$_3$	There is a significant relationship between risk barrier and the adoption of e-wallet payment system.	0.000	0.240	Supported
H1$_4$	There is a significant relationship between perceived cost barrier and the adoption of e-wallet payment system.	0.003	0.190	Supported

Source: SPSS output

6. DISCUSSIONS AND RECOMMENDATIONS

This research found that when e-commerce users deemed e-wallet as inconvenience process of switching from cash to electronic payment, they are most likely to resist from adopting e-wallet payment system. This validates the hypothesis and explains the negative correlation between usage barrier and the adoption of e-wallet payment system. The provider should be able to provide the ease of use in terms of convenience as the limitation to experience it consequently limits the use of e-wallet payment system by the user [33].

Besides, it was found that when e-commerce users find that e-wallet is hard to use and causing them confusion to perform the transaction, they tend to refuse its adoption. This validates the hypothesis and explains the negative correlation between usage barrier and the adoption of e-wallet payment system. In some countries, lack of literacy is seen as the major barrier for its citizen to adopt m-commerce activities and customer care points are needed to mitigate the problem [21]. In fact, lack of

information literacy also can lead to underutilization of information and communication technology [26].

On the other hand, the third hypothesis was supported with a negligible correlation. Even though previous studies suggested that risk barrier as one of the major factors that influence the adoption of technology, this study found that the fears of personal error, privacy violation, security violation and not having sufficient battery may lead to the adoption of e-wallet payment system and even the refusal to adopt this technology [4; 9]. Dotzauer and Hais (2017) [7] also found the significant relationship between risk barrier and the adoption of technology but they also highlighted that certain consumer characteristics influence the perception of barriers and consequently influence the adoption of innovation. Beforehand, Rahman (2013) proclaimed that the respondents are confident to conduct monetary transactions via online despite the technological risk that may occur.

Similarly, the fourth hypothesis was supported with a negligible correlation. This is consistent with Rahman (2013)

who proclaimed that it is only a minor relationship between perceived cost barrier and the adoption of technology in developing country like Bangladesh. Based on United Nations (2020) [31], Malaysia is also a developing country. Besides that, Zhao and Kurnia (2014) found that the respondents may adopt the technology even though there is extra cost for using the system especially at the early stage of offering technology service.

7. CONCLUSION

In a nutshell, the barriers of value, usage, risk as well as perceived cost that consumers are facing, should be reduced in order to achieve the greater level of adoption of e-wallet payment system in Malaysia. This is crucial to be considered considering that great initiatives have been taken to speed up the adoption of e-wallets as well as to encourage safe and contact-free payment during COVID-19 pandemic. However, the researchers were challenged with limitations such as time constraint. Hence. the findings of the research were only representing fourth year students in the Faculty of Business and Entrepreneurship in one of public higher education institutions in Malaysia. Thus, it is recommended that students from first year until third year are included to provide more conclusive results. Besides, as this research only focused on value barrier, usage barrier, risk barrier as well as perceived cost barrier, future research can be extended to include other variables such as image barrier, tradition barrier as well as perceived novelty barrier. Other relevant variable such as consumer characteristics also can be included into the conceptual framework. This will provide beneficial insights on the other barriers that can influence the adoption of e-wallet payment system as well as possible factors that can affect the relationship. Last but not least, future research can be extended to qualitative approach in order to explore attitudes, behaviour and experience based qualitative methods such as in-depth interview, focus group or even participant observation.

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