Does the Trust Issue Impact the Intention to Use E-Wallets Technology among Students?

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Abstract – The current research goal is to examine the impact of trust towards the intention to use e-wallet services. Using the technology acceptance model (TAM) the study investigated four variable which were privacy and security, perceived ease of use, perceived usefulness, and trust for intention to use e-wallet. The study employed the quantitative research design with non-probability sampling using the purposive sampling method for data collection purpose. Through the Google survey form data were collected from the University of Malaya undergraduate students (N=150). The study applied the partial least square (PLS) tool using SmartPLS 3.0 to analyze the data. The outcome of the research found that all four variables had a positive significance connection for intention to use e-wallet services. The results indicate that the service of e-wallet is important among young generations because this electronic payment services is convenient to make payment as well as transactions from anywhere, besides increasing the e-wallet facilities among users, service providers should focus on users’ privacy and security.

Keywords: “e-wallet”, “TAM”, “trust”, “intention to use”, “PLS”.

1. Introduction

The benefits of advances in information technology have led to major changes in global economic and business ventures. The electronic wallet (e-wallet) is one of the technological innovations of the modern age that has permeates the economy of both developing and developed countries and has made a huge impact. Because of this, the increasing use of advance technology by users, especially through e-wallet, is rapidly attracting the attention of scholars (Rahman et al., 2022; Lu et al. 2017; Zhou 2011). There are several e-wallet apps such as e-mobile, payment via mobile services and Apple Store and Play Store are also available facilities. Recently, the popularity of e-wallet facilities have been expanding throughout the worldwide because of its ease and convenient
facilities through laptop and smartphone devices. As a result, lifestyle of individuals is much more comfort the way people make financial deal.

However, the increase in e-wallet usage in Malaysia is mainly due to several reasons, one of which is said to be the ease of cash transactions, security and cost reduction (Nizam, Hwang & Valaei, 2018). The use of e-wallet technology is increasing due to the high cost of cash management and one of the primary goals for using e-wallet technology is to reduce the use of cash (Bank Negara Malaysia, 2018). Inspired by government support, many municipalities are moving to provide mobile payment services, such as e-wallet service providers, including e-wallet platforms, which include both bank and non-bank). A large number of businesspersons such as retailers, food and beverage premises, small retailers, small shops, e-commerce companies and transport providers have introduced e-wallet payment rules for the development of their industries (Sivathanu 2019). It is said that e-wallet will be very popular among the technology lovers and young consumers as they are more attracted to the new mobile technology than before and have the ability to provide innumerable services (Lu 2019; Sinha et al. 2019).

There are several e-wallets in Malaysia, such as Touch and Go (TnG) e-wallet, GrabPay Wallet, JomPAY, WeChat Pay and Boost Pay. According to Cow et al (2017), one of the reasons for the growing popularity of e-wallet like other electronic payment systems is its ease of use and flexibility. In addition, the freedom to conduct a transaction without destination or time constraints has further attracted users to install these apps by Qasim and Abu-Shanab (2016). In order to increase the use of e-wallet, we first need to find out the advantages of it and the disadvantages that prevent users from using it. Trust has been found as an important influence in the aspect of information technology usage, mentioning earlier studies trust is affected by several issues (Hossain and Adnan, 2021; Shareef et al., 2020; Haciyakupoglu & Zhang, 2015). According to McKnight et al. (2002), trust has a significant effect on the use of these services in the virtual world in reducing uncertainty. Ashan and Sharif (2016) argue in their research that the importance of trust in the use of M-banking is linked to the initial belief in the behavioral intention of use and the expectation of effort and performance. Some variables such as privacy and security, ease of use and perceived usefulness were analyzed to study users’ trust and their intent to use e-wallet (Cho 2016; Yuan et al., 2021; Makanyeza and Mutambayashata 2018; Venkatesh and Davis 200). Moreover, this article briefly offers the Compatible literature to formulate the study model and hypotheses. The methods adopted for data analysis are discussed later. Next, the results of the study are presented with a discussion of the results. Finally, the paper ends with the contribution and limitations of the study.

2. Literature Review

2.1 Theoretical foundation
A number of theories have emerged on how to understand the consumer’s intention using IS technology. The TAM model has been discussed in detail in a number of literatures (Davis, 1989). This is because it is essentially a model of information services that deals with how information and service users maintain and use a particular technology (Dauda,
et al., 2015). Realizing the importance of this model, various researchers have expanded its field and used it in different technologies. Such as: e-learning (Cheung and Vogel, 2013; Al-Maroof and Al-Emran, 2018), m-commerce (Barry, et al., 2018) and Short Message Service (Muk, et al., 2015). The TAM variable is considered to be the most suitable method for deciding to adopt new technology (Vijayasarathy, 2004). This TAM model is considered in academic research as the most acceptable extension for exploring the suitability as well as willingness to utilize advance technologies as earlier mentioned by Aydin, et al. (2016). Although the main TAM variables do not accurately represent the core beliefs, it does influence consumer sentiment in e-shopping. And so, to make the model much more up to date, Jaradat (2013) suggested to add a few additional variables to test the effectiveness of TAM. Among the enhanced variables that have been mentioned for TAM are two important variables, privacy and security, which have emerged positively for behavioral purposes when using innovative technology. In accordance with aforementioned review, this research included privacy and security as extending variables to test trust for e-wallets facilities. Two more variables in this study that adapted from original TAM model.

2.2 Privacy and security (PRS)
According to Cliquet et al. (2015), “privacy is defined as the ability of an individual to personally monitor self-relevant information”. Everyone is aware of the fact that the issue is very necessary to everybody). Soodan, et al., 2020) research results show that privacy and security is a factor that influences the use of e-wallets and is considered more advisable. Milberg et al. (2000) indicated that deficiency of security and privacy is an issue that keeps consumers from buying products unless they are protected. Kaur et al., (2018) said, making payments via e-wallet without ensuring security can lead to unauthorized access to personal information and a lucrative opportunity for cyber criminals to infringe data. Therefore, many consumers still believe that online payment channels are unsafe for transactions and can be blocked. This lowers the level of consumer confidence, which discourages them from making online banking transactions. According to Ahmed et al (2010), as technology is rapidly changing, users are becoming more aware of the privacy and security of their information and their bank details such as credit card details and it should not be disclosed on online business site. In this way, the following hypothesis was developed:

H1: Perceived security and risk has a positive impact on trust in intention to use e-wallet

2.3 Perceived ease of use (PEOU)
There were several prior research identified that behavioral intention is positively and significantly influenced by the ease of use of technology. For instance, according to Venkatesh et al. (2002), “it was revealed that perceived ease of use and behavioral intention to use are positively and significantly relevant”. Similarly, Eze et al. (2011) investigated that behavioral intention on the ease of use of information systems is significant connection. Barry and Jan (2018) showed that “a positive and significant effect of perceived ease of use on perceived usefulness and perceived ease of use in behavioral intention to use particular systems”. Since the positive and significant behavioral intention
of the customer depends on ease and convenient technology, it can be said that the more the idea of ease of use of e-wallet, the more the behavioral intention of the customer towards the technology. An easy-to-use e-wallet app with a good interface and intuitive navigation to increased consumer trust will reflect the skills and benefits of service providers. Hence, the study has suggested:

H2: Perceived ease of use has a positive impact on trust in intention to use e-wallet

2.4 Perceived usefulness (PU)
The perceived usefulness of construction shows how much a person considers how much a technology can increased their productivity or performance in a particular job (Davis, 1989). Such a description refers to the customer's perception of improving the results of using e-wallet applications through mobile devices, laptops and desktops, making the financial transaction execution experience more positive. This perception positively influences the intent to believe in the use of e-wallets, the behavioral aspects of trust building intent (Dimitriades and Kyrezis, 2010). Afshan and Sharif (2016) say in their research that individuals will only adjust a specific technology when they feel it is necessary to perform it in their day-to-day work and they will not accept it unless there is some improvement in this work. However, this study estimates:

H3: Perceived usefulness has a positive impact on trust in intention to use e-wallet

2.5 Trust (TR)
According to Sharma and Sharma (2019), questions about security and privacy-related risks in money transfer through mobile devices seem to be more serious because such devices store personal and personal information. Goad et al. (2020) their research suggests that increasing the need for e-wallet applications and ensuring privacy will build people's trust in this activity. Therefore, trust is an important element in continuing to use e-wallet activities and increasing the intent to satisfy users. Decision makers and service providers agree that trust-based partnerships need to be focused on in the early stages of cooperation to encourage endless utilize of e-wallet services.

H4: Trust has a positive impact on trust in intention to use e-wallet

2.6 Intention to use e-wallet (ITEW)
Intention can be defined as a coach of action that a person aims to gain (Zhao, et al., 2010). Behavioral intention is a matter related to time which is intended to be achieved by the individual in a particular time period (Ajzen, 1988). The subject refers to how a person will function in the future. E-wallet which implies an advance nature of transaction methods and people are accepting this technology widely. In Malaysia, e-wallet in future may be vital and convenient acceptable technology due to its widely expansion as indicated by Nizam et al. (2018). According to Yuan et al. (2021), “behavioral intention (BI) has positively and significantly affected actual use”. There are others four variables which are related to the adoption of technology and the outcomes built that individual behavioral willingness influences usage behaviour directly (Venkatesh et al., 2003).
3. Methodology

3.1 Data collection
In order to test the hypotheses, this study investigate the impact of PRS, PEOU, and PU on TR towards the ITEW among students. The reason behind choosing students as population of this study is because students are more inclined to use new technology for purchasing and paying payments to use e-wallet. In this regard, Mun et al. (2018) mentioned that youths particularly students may provide the better response about the technology and might be a trustworthy and potential user to the e-wallet services. This study employed the purposive sampling technique as non-probability sampling because this sampling method has been used in different situations such as respondents’ thought and observation, survey questionnaires and empirical analysis (Campbell et al., 2020; Neupane et al., 2002). Using a Google survey from, 150 respondents were collected from University of Malays’ undergraduate students in April 2022.

3.2 Research instruments
The current research model consists of five variables namely privacy and security, perceived ease of use, perceived usefulness, trust and intention to use e-wallet. The questionnaires for this study are articulated on the basis of present theory items and adapted mostly from (Jarveenpaa et al., 2000; Barry and Jan, 2018; Mcknight et al., 2002). All the items were moderately improved and revised to align the present research. To measure the items, the study employed the five-point likert scale for respondents’ agreement.

3.3 Analysis techniques
This study applied the two statistical methods for data analysis. First, this study used the Statistical Package for the Social Sciences (SPSS) 21 software for demographic information. Second, this study employed the partial least structure equation modelling (PLS-SEM) method to test the hypotheses. Smart PLS 3.0 version were employed for further data analysis by the PLS-SEM method. In this PLS-SEM technique, the data have been analysed based on two analytical steps namely the measurement model and structural model. The
measurement model refers to the reliability, validity and entire model fitness of the variables whereas the structural model addresses the hypotheses testing.

4. Results

4.1 Demographic information
The results of descriptive statistics, which revealed that all respondents were familiar with e-wallet facilities and utilize them. According to the participants, results found that 75.3% respondents were male, showing that male establish one of the respondents’ largest sex groups. This also means that male were more inclined to accomplish the poll. The age range of 78.7% was between 26 and 30 years, making them the biggest among participants. With regard to ethnicity, Malay respondents account for 50% of the participants. 61.3% was the highest educational levels those were 2-year students.

| Table 1: Demographic information |
|------------------|-----------------|--------|------|
| Items            | Demographics    | Sample | %    |
| Gender           | Male            | 37     | 24.7 |
|                  | Female          | 113    | 75.3 |
| Age              | 18-20           | 1      | 0.7  |
|                  | 21-25           | 31     | 46   |
|                  | 26-30           | 118    | 78.7 |
| Education        | First year students | 23  | 15.3 |
|                  | Second year students | 92  | 61.3 |
|                  | Third year students | 22  | 14.7 |
|                  | Fourth year students | 13  | 8.7  |
| Ethnicity        | Malay           | 75     | 50   |
|                  | Chinese         | 47     | 31.3 |
|                  | Indian          | 16     | 10.7 |
|                  | International   | 12     | 6.4  |

4.2 Measurement model
In the measurement model, at first, we calculated the outer loadings which understood the internal consistency. According to Figure 2, almost all outer loadings were achieved the suggested value of 0.70 (Hair et al., 2016). Sarstedt et al. (2019) indicated that values those were less than 0.60 were omitted from the model in line with CR, and AVE. On the other hand, Chin and Newsted (1999) mentioned that loadings between 0.50 and 0.70 are still
generally acceptable if the AVE and CR values were found higher loadings. Thus, this study deemed the value for the outer loadings (0.50 and 0.70).

Next, we evaluated the convergent and discriminant validity for the measurement model. Calculating the convergent validity, Chin (1998) suggested that the value has to be higher than 0.7 for reliability (CR) and Cronbach’s alpha (α). Moreover, Hair et al. (2006) recommended that value should be greater than 0.5 for average variance extracted (AVE). This study’s Table 2 found that measurement model overall indicators were gained the satisfactory convergent validity as well as reliability. Results for all Cronbach’s alphas (0.870 to 0.893) achieved its suggested value, and CR outcomes (0.895 to 0.916) were also meet the acceptable threshold. Similarly, AVE results also showed its acceptable value. And the outcome of outer loadings value in this model were also meet the recommended value as shown in Figure 2.

Table 2: Convergent Validity and Reliability

<table>
<thead>
<tr>
<th></th>
<th>AVE</th>
<th>CR</th>
<th>α</th>
<th>ITEW</th>
<th>PEOU</th>
<th>PU</th>
<th>PRS</th>
<th>TR</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITEW</td>
<td>0.552</td>
<td>0.895</td>
<td>0.870</td>
<td>0.743</td>
<td></td>
<td></td>
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</table>

Figure 2: R square and outer loadings result by Smart PLS
4.3 Structural model

After examining the measurement model, we evaluated the structural model for path relations. According to Figure 2, the study identified the value of $R^2$ which showed the 26% for trust meaning overall variance of trust can be explained by privacy and security, perceived ease of use and perceived usefulness. Similarly, the $R^2$ of 11% pointed that 11% of the overall variation intention to use e-wallet can be explained by trust. As shown in Table 3, the impact of privacy and security, perceived ease of use and perceived usefulness on trust towards intention to use e-wallet that privacy and security ($\beta = -0.361, t$-value=5.243), perceived ease of use ($\beta = 0.268, t$-value=3.695), perceived usefulness ($\beta = 0.257, t$-value=3.692), and trust ($\beta = 0.339, t$-value=5.062) were found the significant positive relationships. Thus, the study ensured that all the predictors were influential impact on trust for e-wallet facilities.

This study also determined the effect size of each construct by analysing the $f^2$ values. Cohen (1988) recommended that $F$-square value 0.35 indicated the high effect size, while 0.15 and 0.02 are deemed for medium and small effect sizes. As indicated in Table 3, privacy and security $f^2$ (0.169) implies that it has a medium effect of $R^2$ on trust. The $f^2$ of 0.263 for perceived ease of use had a medium impact on the $R^2$ for trust. The $f^2$ of 0.101 perceived usefulness suggested that it had a moderate influence for trust on the $R^2$. The $f^2$ of 0.129 trust found a medium effect on the $R^2$ for intention to use e-wallet. Moreover, the study also evaluated the Q-square for prediction accuracy of the existing model. Q-square is predictive relevance; assesses whether or not a model is predictive (>0 is good). Q-square above zero values show that the model is adequately rebuilt, and the model is predictive of usefulness (Fornell & Cha, 1994). This study showed that Q2 values of 0.148 was greater than zero, thus, the model showed its predictive importance as well as well constructed (Fornell & Cha, 1994).

Table 3: Path coefficient

<table>
<thead>
<tr>
<th>No</th>
<th>Hypotheses</th>
<th>Coefficients</th>
<th>Std Error</th>
<th>T-value</th>
<th>P-values</th>
<th>$f^2$</th>
<th>Q$^2$</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PRS &gt; TR</td>
<td>-0.361</td>
<td>0.069</td>
<td>5.243</td>
<td>0.000</td>
<td>0.169</td>
<td>Supported</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>PEOU &gt; TR</td>
<td>0.268</td>
<td>0.073</td>
<td>3.695</td>
<td>0.000</td>
<td>0.263</td>
<td>0.148</td>
<td>Supported</td>
</tr>
<tr>
<td>3</td>
<td>PU &gt; TR</td>
<td>0.257</td>
<td>0.070</td>
<td>3.692</td>
<td>0.000</td>
<td>0.101</td>
<td>Supported</td>
<td></td>
</tr>
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</table>
5. Discussion

The purpose of this current research is to test the impact of trust issue towards the intention to use e-wallet services among Malaysian students particularly University of Malaya’s students. Based on TAM theory, this study developed the conceptual model in investigating the impact of PRS, PEOU, and PU on TR towards the ITEW. The model was significantly explained the relationships between exogenous and endogenous variables. There were four hypotheses tested in this study and the results found the positive significant links among constructs. The exciting model was able to describe 26% variance for trust variable and 11% variance for intention to utilize e-wallet services which demonstrating the issue of respondents’ belief and their willingness for using e-wallet facilities. The study showed that privacy and security had an acceptable influence on trust regarding intention to use e-wallet, which is relevant with prior studies from Wu et al. (2013) and McKnight and Chervany (2002). Their results identified that the participants’ perception of privacy and security mainly had a positive and significant impact on trust. This understands that when a user feels secure in saving and caring their information and privacy incline to trust more in electronic transactions. Similarly, Hossain and Adnan (2021b) mentioned that the perceived privacy is one of the antecedents that directly effect trust. Perceived ease of use was also found a positive and significant effect on trust for intention to use e-wallet. This finding was consistent with Zhou (2013) and Yuan et al. (2021), who examined the convenient as well as ease of electronic or online transaction apps, the better user’s tendency to trust on the app. Thus, it is crucial for service providers particularly e-wallet employees to concern that e-wallet technology would be simple and comfort to utilize in their daily lifestyle. The study also revealed the direct and significant impact of perceived usefulness on trust for intention to use e-wallet. The result is relevant with Ramos et al. (2018), they investigated that there was a significant link between usefulness and trust. This can imply user who sees the usefulness of e-wallet which increase the level of users’ trust for utilizing e-wallet facilities. The outcome of this research was also revealed that there was a significant links between trust and intention to use e-wallet. This is consistent with another study, which found a link between trust and intention to use mobile technology like e-wallet (Goad et al., 2020). In addition, Pal et al. (2020) examined that continuance intention to use e-wallet was directly affected by attitude, satisfaction, habit and price benefit. It can be indicated that if user has a positive belief on online technology apps, they ultimately increase their level of trust on e-transaction especially e-wallet technology.

6. Conclusion

This study represents significance outcomes which may be valuable for the online transaction sector. The key contribution is in the advance of the understanding of user
behavior particularly students’ behavior of e-wallet and of how trust precursors effects the intention to use e-wallet services in the payment context. The findings of this study showed the positive links that represents a way forward in understanding the theory of technology acceptance and study on e-wallet applications. The study ensured the significance of the association between students trust and their intention of e-wallet application. In this research, there are some limitations have been identified. Firstly, because of limited time of researcher, this research focused on university students as study population which may not better representing Malaysia. It is recommended for future that the research should be carried out across Malaysia such as urban and rural areas because of the usage of online payment and transaction method broadly have been spread. Secondly, not only university students are ensuing their degrees in various higher educations they also engaged in various work segments and organizations. The choice of utilizing e-wallet still can be different in terms of several earnings level of young adults.

References


