



User Behavioral Intention Model of E-Wallet

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Abstract. The adoption of fintech products has grown rapidly not only driven by the internet and technology nowadays but also reinforced by policies regarding the encouragement of non-cash payment movements. The strategy of cash-burning has been widely practiced by FinTech companies since the beginning to attract the users' interest. Nevertheless, this kind of promotion strategy is now starting to be abandoned. Not only reduced promotions but also the high risk of using fintech has the potential to hinder user intentions. This research seeks to discover the influence of promotion and perceived risk on user intention. An online survey was conducted on 120 e-wallet users in Bandung. The research model was built based on theories and literature review on related studies, which was then tested using SEM-PLS. The results showed that promotion and perceived risk had a significant influence on user intention. This study revealed that sales promotion had the strongest impact among all types of promotions. It was also discovered that in the context of perceived risk, the privacy risk was considered more of a concern than a security risk. The findings in this study are expected to help e-wallet companies to increase user intentions, which can have a good impact on the number of users in the future.

Keywords: E-Wallet · Perceived Privacy Risk · Sales Promotion · User Intention

1 Introduction

Bank Indonesia (BI) has been implementing a non-cash movement as a policy to build a secure, effective, and efficient payment system that can reduce the disruption to cash payments [1]. The level of internet penetration is growing due to the large growth of the middle class in Indonesia. The large unbanked population followed by huge funding from big investors in FinTech causes e-wallets to be on the rise with fast-growing users [2]. BI has also reported that FinTech's presence has begun to shift banking payments. The launch of QRIS as a standard national QR code to facilitate e-payment in Indonesia has also driven e-wallet usage as it enables the sellers to provide a variety of e-payment in a cheaper investment on a single integrated device. As a result, there are many e-wallet options available to consumers [3].

The use of e-wallets will be continuously massive in this era as online behavior is stronger than it was before the pandemic. This can be a great chance for e-wallet

companies in taking advantage of this golden momentum to make a huge profit through a promotion strategy [4]. Since the beginning, a cash-burning strategy has been carried out to effectively attract users to instantly try using e-wallets because they are bombarded with such a huge number of promos. In contrast, this strategy is now slowly being abandoned due to long-term profitability concerns. Some providers decide not to depend on huge promotions anymore [5]. Nevertheless, research by the Research Director of Ipsos Indonesia declared that people will still use e-wallets even without promos as they get the security and convenience of using e-wallets [6]. Hence, doubts arise regarding whether the promotion impacts user intentions or not. Apart from that, the low security of digital data in Indonesia seems to hold a high risk in using digital services which can also reduce user intention to use an e-wallet. Indonesia is one of the countries that does not have a legal level of regulation on Personal Data Protection [7, 8].

Prior studies on user intention have revealed the impacts of promotion and perceived risk, but the results have not been consistent. Research by [9] revealed that perceived risk and adoption readiness had a significant impact on customer intention to use mobile payment, where adoption readiness had a positive impact while perceived risk had a negative impact. In line with that, research by [10] showed that perceived risk, price, promotion, and product had a significant impact on customer intention to make an online purchase. A recent study by [11] also showed that promotion, technology security, hedonic motivation, and price value had a significant impact on user intention to use a mobile payment application. On the contrary, a study by [12] showed that perceived risk and perceived cost had no significant impact on user intention to adopt e-wallets. Similarly, another recent study by [13] also showed that perceived risk and promotion had no significant impact on user intention. The inconsistency of the results of previous studies and the increasing trend of e-wallets motivated researchers to investigate the factors that influence the intention to use an e-wallet.

This research strives to investigate the influence of perceived risk and promotion on the intention of e-wallet users. The findings in this study are expected to help e-wallet companies to increase user intentions, which can have a good impact on the number of e-wallet users in the future.

1.1 Literature Review and Hypotheses Development

In the decision-making process, consumers need to carry out a series of activities necessary to make the best purchase. They will begin to identify the problems, search for information, evaluate the alternatives, make a purchase decision then finally evaluate the post-purchase. Their intentions play a big role in predicting their actual behavior on purchasing. Therefore, marketers need to capture the factors associated with such intentions. Not only an intention-strengthening factor but also an intention-weakening factor [14].

Perceived Risk

Perceived risk is known as a result of the uncertainty that arises from certain activities carried out. Risk is considered a detrimental thing that is perceived as a negative consequence and can inhibit the intention to buy or use a product [15, 16]. Not only the gains, but also people as rational consumers care as much about the losses every time they

make a decision, especially for something invisible or untouchable to them. The theory of perceived risk has been more serious in the context of digital service. The invisible process of transferring data between connected digital devices brings the possibility of unwanted results that can prevent users from taking certain behavior [17].

The relevant dimensions of perceived risk were then adapted from [17, 18] whose studies examined the specific literature in the context of user behavior towards e-services such as e-payment, e-banking, e-commerce, etc. There are two dimensions of perceived risk in this study, namely perceived security risk, and perceived privacy risk. According to [17], perceived risk had a significant influence on user intention to use e-payment. A study by [18] also mentioned that perceived risk significantly influenced user intention, where the higher the risks perceived, the lower the user intention to use the e-wallet. The hypothesis is then stated as follows:

H1: Perceived risk influences user intention

Promotion

Promotion is a way marketers communicate with consumers and potential targets to inform and convince them about certain products. Various instruments in the promotion are continuing to change in an attempt to successfully respond to the market demands as one of the marketing objectives [19]. Promotion as a form of marketing communication aims not only to create brand awareness and brand attitudes but also to influence consumer behavior. The promotion allows consumers to recognize, memorize, desire, and finally act to fulfill their needs by purchasing certain products. Several promotion tools can be mixed to convey customer value [14].

FinTech companies are concerned not only about their discounts and advertising strategy but also about their digital campaigns to span their social media and mobile marketing. The relevant dimensions of promotion were then adapted from [14, 20] namely mobile marketing, sales promotion, online and social media marketing, and advertising. According to [11], promotion had a significant influence on user intention. Research by [20] also stated that promotion significantly influenced the intention, where the higher the promotion, the higher the intention too. The hypothesis is then stated as follows:

H2: Promotion influences user intention

User Intention

User intention to adopt e-payments is considered as the level of conscious effort people are willing to make to conduct monetary transactions using electronic devices. The intention indicates their continuity to use e-payments [9, 21]. According to [17], the measurement of intention can indicate an acceptable consumer behavior [17]. There are two main reasons for user intentions, namely reasons to support and reasons to inhibit the use of e-wallets [16]. In this study, user intention is viewed as the intention to use the e-wallet with promotion as a supporting reason and risk perception as an inhibiting reason.

According to [17], user intention was measured by a desire to adopt and a desire to continue using a product. It was also mentioned by [22, 23] that user intention was measured by Word of Mouth (WoM) such as the desire to recommend, positive comments, and desire to suggest others to use. Based on several studies that have been conducted, user intention in this study was then adapted into dimensions, namely intention to adopt and intention to recommend.

2 Method

The study employed a quantitative model using a verification approach. The research model was developed based on a relevant literature review. Data were spread through an online survey of e-wallet users in Bandung. The demographic of respondents and the measurement items were collected. There was a total of 24 measurement items in the questionnaire.

Referring to [24], the research sample should be at least five times the total measurement items, so the samples in this study were 120 respondents. The sample was determined based on a purposive sampling method with predetermined criteria, specifically e-wallet users who were at least 13 years and has used an e-wallet at least once in their lifetime.

The research model tested empirically using the Structured Equation Model-Partial Least Square (SEM-PLS), which works well on interrelated dependent relationships limited in other multivariate analysis techniques. SEM-PLS consists of both structural model and measurement model which are evaluated through several tests including validity, reliability, R-Squared, and t-test. The results of SEM-PLS and the demographic of respondents were then elaborated with relevant studies to compose a richer insight into the discussion.

3 Result and Discussion

The results of the study consist of descriptive statistics and the results of data testing using SEM-PLS. Descriptive statistics show a summary of information about the categories of respondents' characteristics. While the SEM-PLS results show the influence of risk perception on user intentions and the influence of promotion on user intentions.

Table 1 represents the percentage of the respondents categorized according to gender, age, and usage frequency.

Demographic results show that more respondents are male (51.6 percent) than female (48.3 percent), with 70.9 percent cumulatively belonging to the age group of Gen Y (26–41 years old) and Gen X (>42 years old). Most of the respondents are BUMN workers (35 percent), and the respondents mostly use e-wallets less than 3 times per month.

3.1 Measurement Model

The measurement model or outer model describes the relationship between a latent variable and its indicator. The model consists of both a validity test and a reliability test.

Table 1. The Demographics of Respondents.

| Category | Percentage |
|---------------------------|------------|
| Gender | |
| Female | 48.3 |
| Male | 51.6 |
| Age | |
| 13–25 years old | 29.2 |
| 26–41 years old | 36.7 |
| >42 years old | 34.2 |
| Occupation | |
| Civil Worker | 8.3 |
| Private Worker | 23.3 |
| BUMN Worker | 35 |
| Entrepreneur | 4.2 |
| Student | 16.7 |
| Other | 12.5 |
| Usage Frequency per Month | |
| <3x | 38.3 |
| 3–4x | 32.5 |
| >4x | 30.8 |

The validity test includes both convergent validity and discriminant validity, while the reliability test includes composite reliability. The results are shown in Table 2.

Table 2. Validity and Reliability Test Result.

| Dimension | Loading Factor | | | AVE | CR | CA |
|-----------|----------------|-------|-------|-------|-------|-------|
| | PR | P | UI | | | |
| PSR | 0.93 | −0.79 | −0.79 | 0.879 | 0.936 | 0.863 |
| PPR | 0.94 | −0.81 | −0.81 | | | |
| MM | −0.80 | 0.94 | 0.90 | 0.904 | 0.974 | 0.965 |
| SP | −0.83 | 0.96 | 0.86 | | | |
| OSM | −0.83 | 0.95 | 0.85 | | | |
| ADS | −0.80 | 0.95 | 0.89 | | | |
| IA | −0.83 | 0.91 | 0.98 | 0.970 | 0.985 | 0.969 |
| IR | −0.85 | 0.90 | 0.98 | | | |

Validity Test

Convergent validity measures the validity of each relationship between the indicator and its latent variable. It requires the loading factor more than 0.7 or the Average Variance Extracted (AVE) more than 0.5. Meanwhile, discriminant validity means that two theoretically different concepts must show sufficient difference. It requires the cross-loading factor value higher than the correlation value among the rest of the variables. As shown in Table 2, the results have fulfilled both the requirement of convergent validity and discriminant validity.

Reliability Test

Reliability requires the value of composite reliability and Cronbach's alpha more than 0.7. As shown in Table 2, the data used are reliable because the values have met the reliability requirements.

3.2 Structural Model

A structural model or inner model describes the relationship of latent variables based on the substance of the theory. The structural model is evaluated using an R-Squared test and t-test.

R-Squared

The R-Squared shows the contribution of independent variables in explaining the dependent variable. The results are shown in Table 3.

The result of R-Squared is shown in Table 3. An R-Squared value of 0.869 is considered a good category. It means perceived risk and promotion can contribute to explaining the user intention by 86.9 percent. While the remaining 13.1 percent is explained by variables that are not involved in the research.

T-test

The result of the t-test or t-statistic test proves the hypotheses developed in the study. It shows the influence of the independent variable on the dependent variable. The results are shown in Table 4.

As shown in Table 4, the t-statistic value shows the influence of perceived risk on user intention by a value of 9.69 with a p-value of 0.000 and a positive value of path coefficient. It means H1 is accepted. It indicates a significant positive influence of perceived risk on user intention. Otherwise, the influence of promotion on user intention is significantly negative. It is shown by the t-stat value of 9.69 with a p-value of 0.002 and a negative value of the path coefficient. Thus, H2 is accepted as well.

Table 3. R-Squared.

| | R-Squared | Category |
|----------------|-----------|----------|
| User Intention | 0.869 | Good |

Table 4. Hypotheses Testing.

| Hypotheses | Path Coefficient | t-Stat | P-Values |
|------------|------------------|--------|----------|
| PR → UI | -0.24 | 9.69 | 0.000 |
| P → UI | 0.72 | 3.05 | 0.002 |

3.3 Discussion

The Influence of Perceived Risk on User Intention

The perceived risk significantly influenced user intention to use the e-wallet. Perceived risk had negatively influenced user intention, wherein an increase in perceived risk led to a decrease in user intention. This might be because Indonesia still lacks legal-law regulations regarding the protection of personal data while in the use of e-wallets, many processes involve personal data.

In addition, most respondents in this research were millennials and boomers. They tend to be more concerned with risk than the generation after them, Gen Z, who has been familiar with technology since they were born. As a result, they face and perceive risk in technology differently. Besides, different knowledge and experience make millennials and boomers more careful in using technology than Gen Z. In terms of dimensions, perceived privacy risk, having a higher loading factor than the other dimension, is known to be the stronger dimension in explaining the perceived risk. Compared to Gen Z, Gen X and Y were more familiar with physical processes in payment, such as paying using cash, receiving a receipt, signing the payment proof, etc.

The result is also consistent with research by [15] that stated the perceived risk significantly and negatively influenced user intention to use ride-sharing applications in China. Compared to conventional ways, such as e-wallet apps, ride-sharing apps also involve huge personal information (privacy) that come with high risk as well. The users are also concerned about the security of their privacy and property in the process of online transactions through the application. Users may face a similar situation when they use an e-wallet. On the contrary, research by [12] claimed that perceived risk had an insignificant influence on user intention to use the e-wallet due to Gen Z as dominant respondents who were less concerned about the risk. Gen Z tend to think that risk is an inessential factor for using e-wallets because they are willing to use e-wallets mainly to enjoy the benefits provided. The e-wallets offer them a more convenient and efficient process of transactions.

The Influence of Promotion on User Intention

Promotion significantly influenced user intention where promotion could increase the user intention of e-wallets. Among the 4 dimensions of promotion, sales promotion was found to be the dimension that gave the largest contribution to explaining the promotion. This indicates that sales promotion including discounts, cashback, and a bonus was the strongest dimension of promotion according to e-wallet users.

This finding was in line with a study by [25] that concluded that promotion significantly impacted customer intention. The research model involved promotion with

two other variables, perceived value and brand image. The model showed promotion as the second-largest influential variable after perceived value. This is reasonable because the research was conducted on consumers in convenience stores, where in general they will buy their daily needs. They are very dependent on the value of perception. As for e-wallet users, they make the most of transactions in online stores. They tend to attach great importance to promotions as well as the perceived risk associated with the transactions. Moreover, they are confronted with many choices of similar services from the e-wallet providers, ranging from paying bills, and top-ups, to conducting e-commerce transactions.

Since the beginning, e-wallet users have been spoiled with many “cash burn”. It made them attached to discounts, cashback, or other cash compensation from the e-wallet. In line with studies conducted by [15, 26], which showed that monetary rewards could impact customer intentions in a way that sales promotion can increase their intentions to use. The customers are also willing to switch to one that can offer them monetary rewards. In line with that, the respondents of this study dominated by Gen X and Gen Y, known to be more sensitive about the money issue. This is due to crises during their past lives.

4 Conclusion

The proposed model was able to explain users' intention by 87 percent, while the other 13 percent explained by other variables. The perceived risk significantly influenced user intention to adopt e-wallets, where perceived privacy risk was the most concern to users due to personal data protection. The lower the risk perceived by users, the higher they tend to adopt e-wallets. While, the higher the promotion, the higher users tend to adopt e-wallets. The promotion has significantly influenced user intention to adopt e-wallets. The sales promotion was the most attractive type of promotion because users have been used to with a monetary benefit. In addition, it was considered that age groups might have the implications in verifying the influences of perceived risk and promotion on user intention. Furthermore, future studies may conduct more detailed research based on the age group of the respondents to get richer research insights.

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