# Factors That Determine Users' Switching Intention From a Debit/Credit Card to Adopting E-Wallet as a Payment Method

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## ABSTRACT

*This study investigates the switching intention and actual behavior of e-wallet users in Greater Jakarta by using the push-pull and mooring model. There were 33 constructs distributed in Greater Jakarta. Using a quantitative technique, this research used non-probability sampling. The samples collected consisted of 357 valid responses. PLS-SEM and bootstrapping were conducted to check the validity, reliability, and hypothesis testing. Based on the results, low efficiency and personal experience had no significant influence towards switching intention. There was a significant influence from switching cost, social image, security, and alternative attractiveness towards switching intention. Lastly, there was a significant influence of switching intention towards actual behavior. The results gained from the study generated managerial and theoretical implications, which later can be used for the e-wallet provider to improve its services.*

## INTRODUCTION

Since the beginning of time, the payment system has been an inseparable tool in our daily lives. The payment system can be defined as a system that allows for fund transfers and circulation (Lamberte). In order to have an effective system, the payment system must include three preconditions. One is to have a standardized procedure to transmit payments between users. The second is to have a secure and reliable system that is always available. Last but not least, the system affordability (price of the system) should also be taken into account (National Bank of Serbia).

The aim of this study is to investigate the factors that influence the switching intention and actual behavior of debit/ credit card users to adopt E-wallet as their payment system. The independent variables of this research are low efficiency, switching cost, personal experience, social image, security, and alternative attractiveness. Switching intention is a mediating variable from all of the independent variables towards the actual behavior of E-wallet usage. This study is created with the purpose of examining the factors that affect users' willingness to switch from a debit/ credit card to E-wallet. More specifically, this study examines which factors actually affect user willingness to switch from a debit/ credit card to E-wallet, whether E-wallet is being used as a substitute for a debit/ credit card in actual usage, whether there is a relation between the push, pull, and mooring effect towards switching intention, and whether there is a relation between switching intention and actual usage.

## BACKGROUND

Back in 1885, Ernst George Ravenstein analyzed that human migration is influenced by push and pull effects. Push factors are those that persuade a person to shift of one's own accord, and in most of the cases, individuals are forced to migrate because there is a risk that the individual has to bear if a person does not migrate. On the other hand, pull effects are the positive outcomes gained if people choose to move over to another option. For example, another option may have better promotion, services, or development (Lee, 1966). But using a push-pull model does not accurately show the intention of individual migration. Numerous studies have shown that psychological and normative elements also impact the individual decision to switch. In 1995, Moon proposed a PPM method and put mooring elements in the formula to explain migrations. The PPM method is used as the most advanced method today since it also reminds researchers to recognize that cultural, moral, and personal issues are also important elements to be noticed in people's migrations (Bansal, Taylor, & James, 2005).

## E-WALLET POTENTIAL

From time to time, humans develop and try to make life easier. Many forms have been taken into practice such as trading by bartering and then shifting towards a cash payment known as money. Money was created to make the trades more efficient and convenient. Money also takes various forms in terms of currency. The necessity to seek a more efficient method of payment is gradually being emphasized by many countries as one of the impacts of this digital era (Daniel, Swartz, & Fermar, 2004). Money itself is used for many economic activities such as functioning as a unit of measurement and as a payment instrument. The development of money has occurred in the past decades in order to minimize transaction fees that are created from doing transactions. For example, back when money was still in the form of coins, a transaction with a huge amount and a far location would cost a lot of effort and time to complete (Odior & Banuso, 2012).

The payment system will continue to evolve throughout time. A payment system itself is a foundation that supports all economic activities, and the communities will require more practical systems with better safety and efficiency (Nakajima, 2012). When it comes to completing transactions, people will clearly choose a more convenient way (Legters, 2013). A study by Humphrey (2004) showed that in a country with an advanced economy such as China and the United States, the usage of cash to do transactions in the retail sphere has been dropping since 1980 (Humphrey, 2004). Over the past years, offline payment systems have been modified by technological advancements (E-wallet) which generates several big E-wallet provider such as Google pay, Alipay, Apple pay, Microsoft Wallet, and etc.

Until recently, the majority of transactions done by customers on the Internet used either credit cards or debit cards. But sometimes there is a minimum purchase requirement when a user wants to use a debit/ credit card (Rivest, 1997). There are a lot of instances of fraud with debit/ credit cards (Pal, Herath, De, & Rao, 2018). Then, there is also a minimum balance, especially for a debit card. Most importantly, the debit and credit card system and procedures in completing a transaction led the financial institutions to be unable to reach smaller businesses such as stands, food trucks, and others (Dinakaran, 2016). With credit and debit cards having a downside, in which they have a transaction cost involved in every transaction, it makes E-wallet as an interesting and more convenient way to complete transactions. E-wallet is consistently being used more often to complete payments (Francisco, Juan, & Francisco, 2014). Therefore, the focus of this study that will be discussed is: Will debit/ credit card users be willing to switch to E-wallet to perform their transactions?

## LITERATURE REVIEW

### Actual Behavior

According to the theory of planned behavior, actual behavior has a direct connection to behavioral intention. Actual behavior is considered one of the ultimate dependent variables in the new technology acceptance and adoption model (Kim, 2012; Kim & Kang, 2016). Past research conducted by Ajzen (1991) and then used by Kim *et al.* (2016) defined actual behavior as different individual responses as the result of a situation given to each individual.

### Switching Intention

Switching intention is defined as the end line or an exit decision made by the customer to end a relationship towards a specific service provider (Stewart, 1998; Calvo-Porral & Lévy-Mangin, 2015). Intention to switch also refers to a negative attitude given by the consumer which leads to leaving a certain service for a substitute (Oliver, 1997; Calvo-Porral & Lévy-Mangin, 2015). Switching intention is also defined as an intention to betray an existing relationship that connects the current provider with the consumer. The decision solely depends on the consumer's decision on whether to stop buying or using the service given by the provider (Shen & Li, 2010; Liu & Technology, 2015).

### Low Efficiency

According to Shen (2012), low efficiency is one unique element that drives users away from a system-based service such as e-commerce. He also stated that the goal of such a system-based service is to complete the objectives of the service in the most efficient way available. Then, low efficiency can be considered as one of the push factors that will affect users' perceptions of whether they will continue to use the services of the provider or not (Li, 2018).

Past research (Olsina Santos, 1999) stated that efficiency is defined as the performance and the accessibility of a program. This definition also includes the ability of a certain program to achieve a good rating for the performance and responsive of the program (Ellahi & Bokhari, 2013).

### Switching Cost

Usually, switching cost constructs are used as an indicator to measure loyalty. Lam (2004) and Wu *et al.* (2014) believe that with an increase in switching costs, there will be lower switching behavior or intention from the users. These facts lead to an explanation of switching costs in other service industries as having different purposes and constructs.

Switching cost is defined as the cost linked to changing a service or product provider (Dick & Basu, 1994; I-Cheng, Chuang-Chun, & Kuanchin, 2014). The variables behind a switching cost may vary from economic, physical, psychological, and emotional sacrifices that might occur before, after, and during the shifting period (Kim, Shin, & Lee, 2006; I-Cheng, Chuang-Chun, & Kuanchin, 2014). These costs may be real costs, perceived monetary costs, or non-monetary costs (Kotler & Andreasen, 1996; I-Cheng, Chuang-Chun, & Kuanchin, 2014).

Switching costs can be differentiated into three major categories which are sunk costs, setup costs, and continuity costs (Patterson & Smith, 2003). Sunk costs refer to costs that have already occurred and cannot be recovered such as investments. Users are constricted to a certain situation where they will lose an investment that they have already made if a certain service is stopped (Rusbult, 1980; I-Cheng, Chuang-Chun, & Kuanchin, 2014). Setup costs include the initial or adoption costs needed to switch to a new alternative option/service. Lastly, continuity costs are costs incurred by the future benefits that need to be sacrificed if one chooses to switch to another option (Patterson & Smith, 2003).

### Personal Experience

Personal experience is perceived as an experience a person gets after completing transactions or shopping experiences that lead one to gain information and knowledge (Yoon, 2012). Personal experience is also described as the degree where users' attitudes and behaviors are determined by their information processing capability (Clark, Abela, & Ambler, 2005). The personal experience element is defined as a user's ability to perceive their past experience since the outcome of one's personal experience may differ even though the process is the same. At the same time, users' personal experiences also reduce the uncertainty when it comes to their actual behavior because with experiences, they can adjust their expectations and their decisions on whether to purchase or not (Campo & Breugelmans, 2015).

Consumer behavior is influenced by users' personal experiences in terms of switching in e-commerce and social commerce. Past research (Li, 2018) revealed that in analyzing the probability of E-commerce switching to social commerce. The study explored how the PPM model affects switching intention. In the process, it

showed that there's a connection from personal experience toward social benefit, self-presentation, and efficiency on switching intention.

As cited in Hsieh *et al. (2012),* personal experience affects future users' actual behavior since users will recall their past experiences when it comes to making future decisions. With the different experiences in switching of each individual, personal experience is put into mooring factors.

### Social Image

Social image is defined as the desired image in a social perspective which is the result of communicating and interacting with others (Goffman, 1967; Francisco, Juan, & Francisco, 2014). It is also described as a desire that drives people to develop, sustain, or avoid misfortune towards their status/image that is related to their social activities (Chung, Stoel, & Ren, 2012). Social image can also be understood as the level where an individual believes that there is an importance for oneself to use the innovation because of others' perspectives (Chong, Darmawan, & Lee, 2011; Francisco, Juan, & Francisco, 2014).

Fenollar and Cuestas (2010) stated that social image itself is an important element to determine the social image outcome, and it is also a crucial variable that affects new products since a social image serves as a guideline for people's perspectives and acts as a driving force for those new products.

A study conducted by Chung, Stoel, and Ren (2012) analyzed non-users' perceptions of an online community that were affected by age differences. The study measured the variables that influenced non-user perceptions of the online community. It was mentioned that the variable that had the highest impact of intention to use was the external influence which was based on the social image and subjective norms.

Past research by Francisco, Juan, and Francisco (2014) discussed the antecedents of the adoption of a new mobile payment system. With the moderating effect of age, the study aimed to test a framework to determine whether there were relations and influences, and the importance of certain variables on the framework towards the adoption of the new mobile payment system.

Social image was found to be an important determinant for the intention to use and adoption of mobile payment services (Francisco et al., 2014). Social image is an important element to determine the adoption of a new product or service (Fenollar & Cuestas, 2010).

### Security

Researchers from the past have shown that security plays a huge role in e-services such as m-banking, E-wallet, and Internet banking (Casalo, Flavian, & Guinaliu, 2007; Susanto, Chang, & Ha, 2016). More specifically, the effects of security usually affect the adoption of a technology in its early stages. It is clear to say that the user perception of security is one of the major concerns for the acceptance of a new model/technology (Centeno, 2004; Shih & Fang, 2006; Tan & Teo, 2000; Susanto, Chang, & Ha, 2016). It was stated by Chen (2012) in his research that security and privacy have a positive impact towards users' satisfaction and trust when it is done correctly. The research was conducted with having smartphone banking services as the context. Users that have experienced good security and privacy when using smartphone banking services will tend to have a better satisfaction in relation to the system that they believe has a good security and privacy system (Cheng, 2014). The process of accepting and having a good perception of the security system and privacy leads to an improvement toward the possibility of the system being used in the future (Lin, Wu, & Tsai, 2005; Susanto, Chang, & Ha, 2016).

Because of the advancements of technology, there is significant growth in the amount of data the providers will possess. It leads to uncertainty and fear due to the lack of confidentiality in the users' information. It leads to personal information security being an important factor in determining whether the users will adopt a new technology (Lai & Wang, 2015). Security is one of the major reasons for switching since according to a recent study conducted by TD Bank, risk of payment fraud itself is the number one concern for 44% of financial industry in 2019 which is 14% increase in just 12 months (ThreatMetrix, 2019)

### Alternative Attractiveness

A past study conducted by Ping Jr. (1993) and mentioned by Ghasrodashti (2017) defined alternative attractiveness as the availability of a possible similar or higher satisfaction of another substitute relationship. Alternative attractiveness is also connected to the customer perception and awareness of alternative options in comparison to the current situation/relation (Ghasrodashti, 2017). Alternative attractiveness is influenced by customers' awareness of other options/alternatives. Therefore, the customers end up switching their relations/options once they become aware of an alternative. The attractiveness instead is due to the availability of a superior product or service (Ghasrodashti, 2017). Otherwise, if customers are not aware of alternative options, they will tend to stay in the relationship even when it is less beneficial than the other choices.

### Research Gap

Research regarding the switching of debit/ credit cards to E-wallet in Indonesia has never been conducted before, according to Emerald Insight and Google Scholar for the past 10 years. Most of the studies using the PPM method discuss switching behavior and customer satisfaction in mobile services (Calvo-Porral & Lévy-Mangin, 2015); E-commerce switching to social commerce (Li, 2018); virtual migration for social networking sites (I-Cheng, Chuang-Chun, & Kuanchin, 2014); and switching behavior in the airline industry (Jung & Han, 2015).

A study conducted by Li (2018) used the Push-Pull Mooring Method as its framework. The PPM method was also used in this study to the extent of user switching behavior from debit/ credit cards to E-wallet. This study mostly used the same model and variables of research carried out by Li (2018). Since there were different objects and contexts of the study, there were some alterations and additions of variables.

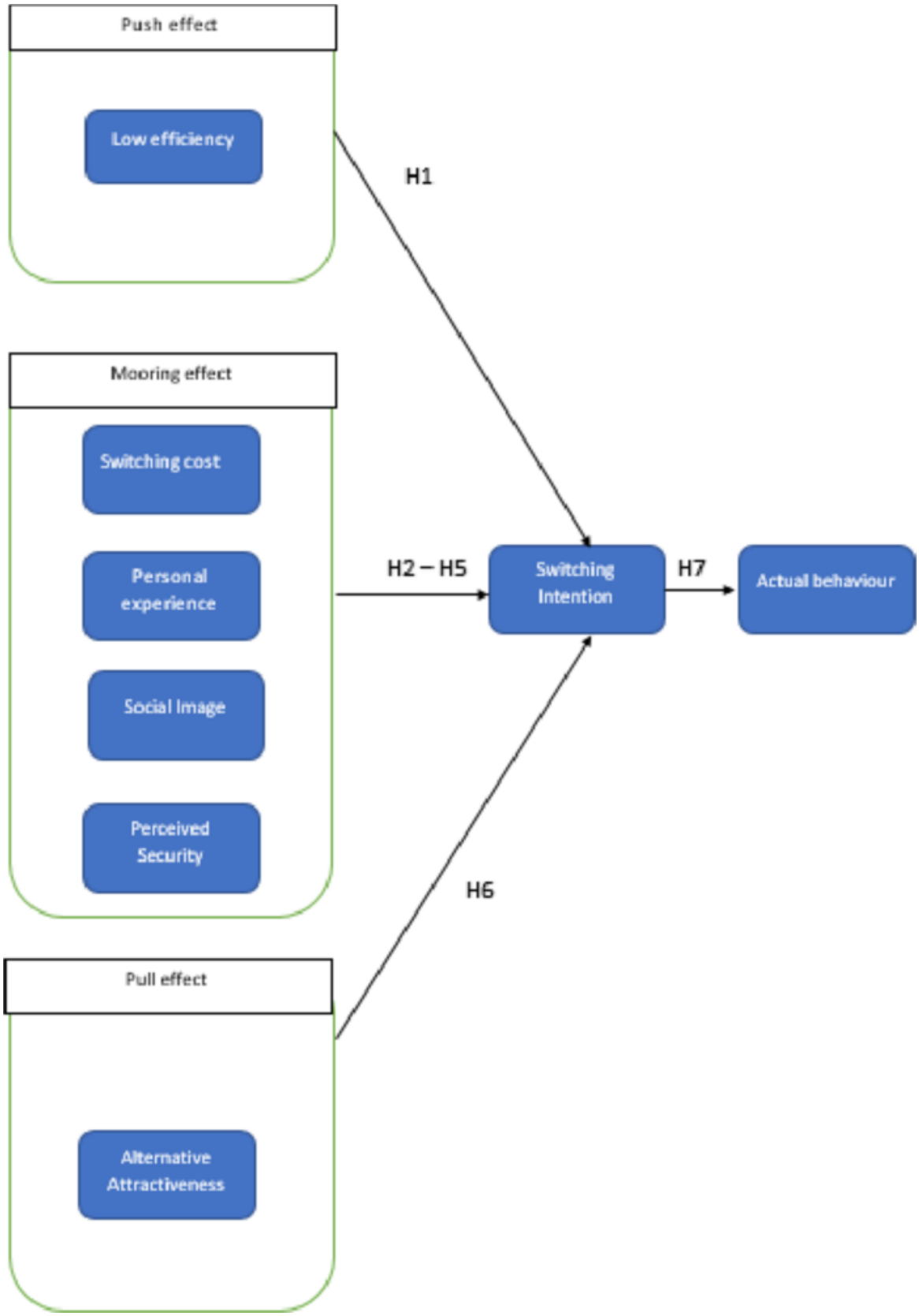
## METHODOLOGY

Information regarding the theoretical framework, hypotheses, operational definitions of variables, instrument, sampling, and data collection are included in this chapter. In addition, a complete explanation regarding the analysis method of descriptive and inferential analysis, reliability, and validity check are available below.

### Theoretical Framework

This research was conducted in order to know the willingness to switch from a debit/ credit card to E-wallet. In order to help readers to understand this research, a theoretical framework is provided as shown in the figure below.

*Figure 1. Framework*




### Hypothesis Development

The researcher developed seven hypotheses based on the theoretical framework of this research as stated below:

*Push Effect on Switching Intention*

With the advancement of technology, users demand more effective and efficient ways to live. Users seek more convenient and effortless methods to complement their shopping behavior (Shen, 2012). Low efficiency will affect switching intention since when customers cannot gain information easily, there will be an increase in their cost. Low efficiency Shas a significant impact on switching intention, based on a study by Li (2018) which was

conducted by using SmartPLS Version 2.0 with a total number of 382 people participating in this study; 25 responses were found to be invalid, resulting in 357 usable questionnaires. The female respondents comprised 68% of the sample. Nearly 71% of the respondents had a university education. Approximately 72% of the respondents were between 20 and 40 years of age, and over 63% had more than 3 years of online shopping experience. Approximately 58% reported spending an average of US$36–$70 each time they purchased an item from an online store. Thus, this research proposes the following hypothesis:

**H1:** Low efficiency influences switching intention.

### Mooring Effect on Switching Intention

In the Push-Pull Mooring Model (PPM model), it shows that switching cost is an important factor in mooring factors. The higher the switching cost, it leads to a lower switching intention, and the users may not switch at all (Jung & Han, 2015).

Switching cost has a significant impact on switching intention, which was discovered by I-Cheng *et al.* (2014). The study was conducted using standardized PLS path coefficients in testing the structural model using the SEM technique. A two-stage analysis method was implemented for the data analysis: a measurement model and a structural model. A total of 237 questionnaires were returned, with 218 questionnaires being regarded as valid after eliminating duplicate copies, copies with missing values, or other invalid copies.

Another study conducted by Ghasrodashti (2017) also showed a noticeable influence of switching cost on switching intention. The study was conducted by using Smart PLS and SPSS 16 to analyze descriptive statistics. Finally, 402 questionnaires were obtained. According to the literature, a sample size of 402 respondents is suitable. Thus, this study puts forward:

**H2:** Switching cost influences switching intention.

Personal experience has a different impact on each user's willingness to switch in the future (Kim, 2012). The users' future decisions can be determined by their past experiences in using the services (Farah, 2017). Jung *et al.* (2017) demonstrated that switching cost affects switching intention.

Personal experience has a significant impact on switching intention, based on a study conducted by Li (2018) which was conducted by using SmartPLS Version 2.0 with a total number of 382 people participating in this study; 25 responses were found to be invalid, resulting in 357 usable questionnaires. The female respondents comprised 68% of the sample. Nearly 71% of the respondents had a university education. Approximately 72% of the respondents were between 20 and 40 years of age, and over 63% had more than 3 years of online shopping experience. Approximately 58% of them reported spending an average of US$36–$70 each time they purchased an item from an online store.

Another study conducted by Hsieh *et al.* (2012) also showed that there is a positive relation between personal experience as a mooring factor and switching intention. The study was conducted by using SmartPLS 2.0 to assess the psychometric properties of the scale and the structural model. This latent structural equation modeling technique uses a component-based approach and supports the integration of both measurement and structural models. The online survey lasted for a four-week period during the spring of 2011; the convenience sample yielded 329 respondents, all of whom were registered on Facebook. We excluded 10 respondents who lacked experience with blog usage, for a total of 319 valid participants for the data analysis. Among these respondents, 157 (49.2%) were men and 162 (50.8%) were women. The vast majority (91%) were younger than 30 years of age, and 97.5% had at least a college degree. Then this study proposes the following:

**H3:** Personal experience influences switching intention.

Social image has been used many times in TAM and its later modification. Social image has proven to be an important factor when it comes to new products or services (Fenollar & Cuestas, 2010). There is a positive relation between social image and switching intention based on a study conducted by Francisco *et al.* (2014). The size of the final sample was 2012 valid questionnaires, using a quota sampling method based on users' characteristics. The researcher tested the research hypotheses in the literature review using a structural equation model (SEM). The data analysis was carried out following a two-stage procedure. It analyzed the validity of the

scales in the first place and performed a multi-group analysis in the second place, in order to check the associations that were put forward theoretically.

On the other hand, in a study by Han & Hyun (2012), it shows that there are no significant influences of social image towards switching intention. The study was conducted by using the Statistical Package for Social Sciences (SPSS) 16 and AMOS 5 to analyze the data. A total of 620 questionnaires were distributed to restaurant patrons, and 389 questionnaires were returned. After 22 unusable surveys were discarded, 367 remained (valid response rate = 59.19%). Three extreme outliers were excluded, resulting in 364 samples for data analyses. Then, this study hypothesizes:

**H4:** Social image influences switching intention.

Strong security needs to be established to ensure users that there will be no leaking of users' personal information. If there is a strong mooring factor such as security, it will lead to a higher switching intention (Lai & Wang, 2015).

A study conducted by Lai (2015) shows that there is a positive relation between security and switching intention with a total of 206 valid responses retained: 50.5% were females, 51.5% had chronic diseases, and 55.8% lived in an urban area. Their ages ranged from 45 to 75 years old. In this study, the Visual PLS software program was used for the PLS analysis, while the analysis of the model itself used a confirmatory factor analysis (CFA). Thus, this study postulates:

**H5:** Perceived security influences switching intention.

### Pull Effect on Switching Intention

The importance of alternative attractiveness is to give insights into an alternative for the users to compare with the current relationship. Having insufficient information of an alternative will definitely lead to non-switching behavior (Sharma & Patterson, 2000). It was stated that when information about an alternative is given to users, only then will the users end up switching if they find there is a better relation possible from the alternative (Ghasrodashti, 2017).

Past research conducted by Ghasrodashti (2017) showed that there is a significant influence of alternative attractiveness towards switching intention. A total of 402 respondents was suitable for the study, and they were descriptively analyzed using SPSS 16. The study was conducted by using Partial Least Squares (PLS) to evaluate the validity and reliability of the scales of the study. Then, to validate the adequacy of the PLS path model globally, a global fit measure (GoF) was used.

A study by I-Cheng *et al.* (2014) also revealed that there is a significant influence of alternative attractiveness towards switching intention. This study used the PLS method of SEM (SmartPLS) to conduct the data analysis, because the PLS method can handle formative constructs and highly complex predictive models. A total of 237 questionnaires were returned, with 218 questionnaires being regarded as valid after eliminating duplicate copies, copies with missing values, or other invalid copies. The sample comprised 46.8% male and 53.2% female respondents. In total, 24.8% of the respondents were below the age of 20 years, 66.9% of the respondents were between the ages of 20 and 40 years, and 8.3% of the respondents were above the age of 40 years. Thus, this study puts forward:

**H6:** Alternative attractiveness influences switching intention.

### Switching Intention on Actual Behavior

A relationship between switching intention and actual behavior has been demonstrated in some theories such as TAM (Davis, 1989), UTAUT (Venkatesh, Morris, & Davis, 2003), and the Expectation Confirmation Model (Bhattacherjee, 2001). The model used in this research (PPM model) shows that there is a relation between switching intention and actual behavior.

Switching intention and actual behavior have a positive relationship which can be seen in previous research conducted by Li (2018) who conducted research about switching to E-commerce by using SmartPLS Version 2.0 with a total number of 382 people participating in this study; 25 responses were found to be invalid, resulting in 357 usable questionnaires. The female respondents comprised 68% of the sample. Nearly 71% of

the respondents had a university education. Approximately 72% of the respondents were between 20 and 40 years of age, and over 63% had more than 3 years of online shopping experience. Approximately 58% reported spending an average of US$36–$70 each time they purchased an item from an online store.

Bansal *et al.* (2005) also proved that there is a positive relation between switching intention and actual behavior which was conducted by using a Confirmatory Factor Analysis (CFA), using LISREL 8 with a maximum-likelihood (ML) estimation. A final sample of 680 completed surveys (356 from auto-repair service consumers, and 324 from hairstyling services) was obtained. More than 70 percent of the replacements involved missing data of less than 1 percent, with a maximum replacement of 2.9 percent for one variable. Hence, this study suggests:

**H7:** Switching intention influences actual behavior.

## OPERATIONAL DEFINITION OF VARIABLES

*Table 1. Operational definition of variables*

| Measurement | Adjusted from | Sources | Construct |
|---|---|---|---|
| 1. Processing a transaction using a debit/ credit card isn't efficient (payment processing, time consuming)<br>2. A debit/ credit card payment isn't convenient (has a physical form)<br>3. Using a debit/ credit doesn't provide a genuine service<br>4. I don't think the fees from a debit/ credit card are worth paying for<br>5. Overall, a debit/ credit card doesn't help me more than E-wallet | 1. Is it worth to pay for<br>2. Helps to improve my driving skills<br>3. Processing transactions on PChome is efficient<br>4. The PChome search function is quick<br>5. PChome provides customized applications | (Li, 2018)<br>(Höltl & Trommer, 2013) | Low Efficiency |
| 1. It would cost me a lot of money to switch from a debit/ credit card to E-wallet<br>2. It would take me a lot of effort to switch from a debit/ credit card to E-wallet<br>3. It would take me a lot of time to switch from a debit/ credit card to E-wallet<br>4. There'll be no problem if I change from a debit/ credit card to E-wallet<br>5. I feel it's necessary to change from a debit/ credit card to E-wallet | 1. In general, switching airlines would require a lot of time<br>2. In general, switching airlines would require a lot of effort<br>3. Switching to another airline would involve a monetary loss due to a higher price for a seat<br>4. In general, switching to another airline would be a hassle<br>5. I prefer not to switch because I think I will lose the benefits received from the brand" | (Bansal, Taylor, & James, 2005)<br>(Han, Kim, & Hyun, 2011)<br>(Hou, Chern, Chen, & Chen, 2011)<br>(Jung & Han, 2015) | Switching Cost |

| Measurement | Adjusted from | Sources | Construct |
|---|---|---|---|
| 1. In the past, I usually shopped using a debit/ credit card<br>2. In the past, I seldom changed my payment method<br>3. Nowadays, I still use a debit/ credit card<br>4. I know how to use a debit/ credit card<br>5. I understand how a debit/ Credit card works when completing a transaction | 1. In the past, I usually shopped online<br>2. I know everything about online shopping stores<br>3. I can understand almost all the aspects of the services I purchase from my adviser<br>4. I possess good knowledge of financial planning services and products<br>5. I can understand my adviser's techniques and strategies very well | (Sharma & Patterson, 2000) (Hsieh, Hsieh, Chiu,, & Feng, 2012) (Li, 2018) | Personal Experience |
| 1. The people in my environment who use E-wallet are more educated than those who do not use it<br>2. The people in my environment who use E-wallet have a superior profile<br>3. Using E-wallet is a status symbol in my environment<br>4. I prefer to use E-wallet when I am with a group of friends<br>5. I use E-wallet because it makes a good impression on others | 1. The people in my environment who use this type of tool are more prestigious than those who do not use it<br>2. The people in my environment who use this type of tool have a superior profile<br>3. Using this type of tool is a status symbol in my environment<br>4. Shopping for fashion products makes a good impression on others<br>5. I prefer to go shopping with a group of friends | (Venkatesh V. &., 2008) (Francisco, Juan, & Francisco, 2014) | Social Image |
| 1. I think E-wallet has a better mechanism to ensure the safe transmission of its users' information<br>2. I don't feel any discomfort when performing a transaction using E-wallet<br>3. I know that my financial information is secure when I use E-wallet<br>4. I don't worry that someone can access my financial information when I use E-wallet<br>5. Overall, E-wallet is a safe payment method | 1. I think this smartphone banking service has mechanisms to ensure the safe transmission of its users' information<br>2. I worry about the abuse of my financial information when I use Fintech<br>3. My financial information is not secure when I use Fintech<br>4. I worry that someone can access my financial information<br>5. Overall, this smartphone banking service is a safe place to transmit sensitive information | (Casalo, Flavian, & Guinaliu, 2007; Lee M., 2009; Susanto, Chang, & Ha, 2016; Ryu, 2018) | Security |
| 1. All considered, E-wallet would be less costly than a debit/ credit card<br>2. E-wallet provides better services<br>3. E-wallet is more convenient and easy to use<br>4. E-wallet has more benefits that a debit/ credit card<br>5. I would feel more satisfied with the services of E-wallet than I am with a debit/ credit card | 1. All in all, another adviser would be less costly than the present adviser is<br>2. A new adviser would provide a full range of services<br>3. A new adviser is located closer to me as compared to the current adviser<br>4. A new adviser would benefit me more than my current adviser in achieving my goals<br>5. I would feel more satisfied with the services of a new adviser than I am with my current adviser | (Sharma & Patterson, 2000) | Alternative Attractiveness |

| Measurement | Adjusted from | Sources | Construct |
|---|---|---|---|
| 1. I am considering switching from a debit/ credit card to E-wallet<br>2. The likelihood of me switching from a debit/ credit card to E-wallet is high<br>3. I intend to use E-wallet as my priority payment method<br>4. I am determined to switch from a debit/ credit card to E-wallet<br>5. I would not continue using a debit/ credit card if it's possible | 1. Improbable…..Probable<br>2. Unlikely…..Likely<br>3. No chance…..Certain<br>4. I have an intention to switch my smartphone service's company<br>5. I have no intention to use my earlier smartphone company's services | (Calvo-Porral & Lévy-Mangin, 2015) (Li, 2018) | Switching Intention |
| 1. I gradually use E-wallet from time to time<br>2. I use E-wallet more than a debit/ credit card<br>3. I rarely use a debit/ credit card since I started using E-wallet<br>4. I do most of my transactions on E-wallet rather than a debit/ credit card<br>5. I use E-wallet to help me on a daily basis | 1. Regarding usage frequency, I usually use Kidshome every day<br>2. I spend more time on Kidshome than on PChome | (Li, 2018) | Actual Behavior |

### Instrument

The utilization of Google Form was applied for the questionnaire, and it was distributed through personal social media. An online questionnaire can bring up the possibility of targeting the wrong respondents; hence, screening questions are needed in order to screen the wrong respondents. Screening questions were placed at the beginning of the questionnaire, so that only the right respondents filled in the rest of the questionnaire to get the valid data. There were two screening questions applied in this research, listed as follows:

1. Have you ever used E-wallet (Gopay, OVO, T-cash, etc.)?
2. Have you ever used E-wallet to pay for something other than transportation (food, product, etc.)?

After a respondent passed the screening questions, it meant that he or she was the right respondent and could proceed to complete the rest of the questionnaire.

### Sampling

This research determined the sampling criteria in order to meet the research requirements. The target respondents for this research were those who had experience in using E-wallet to pay for something besides transportation. This research used non-probability sampling and random sampling as the chosen methods. Random sampling means that each person has an equal chance of being selected to fill out this questionnaire. The questionnaire utilized Google Form as the tool, and the link was shared to 400 contacts through personal social media (Line, WhatsApp, Instagram, etc.). Sugiyono (2015) conveyed that when there is no exact number of the total population or if it is categorized as an infinite population, the number of the sample for the 5% error is equal to 300 samples.

### Data Collection

#### Procedures

This research focused on quantitative research. Collecting data through Google Form and sharing it to social media contacts is the method that is used in order to get data from the targeted respondents directly or also known as primary data. Then, the gathered data was measured using SmartPLS 3.0. Online questionnaires can

be used as a tool to gather data regarding respondents' opinions (Paten, 2016). It has many advantages: easy to be distributed widely, cost-efficient, and quick in collecting the results (Debois, 2016). A six-point Likert Scale is used as the measurement for each construct where 1 means "strongly disagree" and 6 means "strongly agree". By using an even number, it can avoid having respondents be neutral.

### *Validity and Reliability*

#### *Validity*

There are 4 types of validity based on a study by Taherdoost (2016), which are face validity, criterion validity, content validity, and construct validity. Face validity refers to the degree which analyzes operational construct subjectively. Content validity itself is the degree to which items reflect the content universe to which the instrument will be generalized. Criterion validity consists of predictive validity, concurrent validity, and postdictive validity. Taherdoost (2016) defined construct validity as how well you perceive or transform a concept, idea, or behavior which is a construct into a functioning and operating reality, the operationalization. Construct validity consists of convergent validity and discriminant validity.

The standards for what makes a "good" α coefficient are entirely discretionary and depend on one's theoretical knowledge of the scale in the questions. α coefficients that are less than 0.5 are more likely to be unacceptable (Goforth, 2015). Outer loadings of 0.5 are considered as acceptable while outer loadings of 0.7 are considered as highly satisfactory. The Average Variance Extracted (AVE) needs to meet a minimum of 0.5 or higher to be considered as satisfactory. Discriminant validity can be assessed by Fornell and Larcker's criterion. It is done by examining the cross-loading factors of each variable. The requirement itself is the cross loading on its own construct should be higher than the other cross loading in the same construct.

#### ***Reliability Test***

The reliability of PLS-SEM is examined with the use of Cronbach's α and composite reliability (CR). Cronbach's α is defined as a measure that is used to assess and calculate the reliability and consistency of a set of test items. Cronbach's α needs to meet 0.5 to be considered as reliable (Sari, 2015). Then composite reliability refers to the true value of the reliability of a construct. It is known as a preferred alternative to Cronbach's α and it needs to meet a minimum of 0.7 to be considered as reliable (Oei, 2016).

### *Respondents' Profile*

After passing the screening questions, the respondents proceeded to fill in their profiles, starting from their name, gender, age, occupation, educational level, monthly income, and E-wallet usage frequency. The typed their name, and then chose the gender whether male or female. Age was given 5 options, which were: <15, 15-20, 21-25, 26-30, and >30 years old. Four options were provided for occupation: student, employee, unemployed, and others. Four options were also given for educational level: high school or below, Undergraduate Degree, Bachelor's Degree, and Master's Degree or above. Four options were listed for monthly income: less than IDR 1.5 million, 1.5 million – 3 million, 3.1 million – 5 million, and more than 5 million. Last but not least, 4 options were provided for E-wallet usage frequency: once, 2-4, 5-8, and more than 8 times a month.

### *Descriptive Analysis*

A six-point Likert scale was used as a descriptive analysis in this research. There were 6 points as the measurement scale, in which 1 represents "strongly disagree", 2 represents "disagree", 3 represents "somewhat disagree", 4 represents "somewhat agree", 5 represents "agree", and 6 represents "strongly agree" (Vagias, 2006). By using an even number, it can avoid having respondents from being neutral (Chomeya, 2010).

### *Inferential Analysis*

PLS-SEM is used to maximize the dependent variables' explained variance by adopting an ordinary least squares estimation method. PLS-SEM is a nonparametric method; hence, it makes no distributional assumption which is considered to be exploratory (Ravand, 2016). To ensure that there is an accurate model, an inner model

analysis is conducted. An inner model analysis can be seen through $R^2$ (R Square), which is categorized as 0.67, 0.33, and 0.19, which rates endogenous variables as substantial, moderate, and weak. R square values represent the total number of variances in endogenous variables that represent the structural model itself (Hsiao, 2017).

In the hypothesis testing, t-statistic and p-value were used to measure whether the variables were accepted/rejected. A p-value less than 0.05 ($p<0.05$) also needed to be fulfilled in order for a variable to be accepted.

## RESULTS AND DISCUSSION

### Pretest Study

In order for the study be measured accordingly, a pre-test study was conducted with 30 random respondents. The results of the pre-test led to 7 low loading factor questions which later were deleted in this study. There were two questions deleted from the low efficiency variable, which were: “It would cost me a lot of money to switch from a debit/ credit card to E-wallet” and “It would take me a lot of effort to switch from a debit/ credit card to E-wallet”. There were three questions extracted from the personal experience variable which stated: “Nowadays, I still use a debit/ credit card”, “I know how to use a debit/ credit card”, and “I understand how a debit/ credit card works when completing a transaction”. There was one question deleted from the alternative attractiveness variable which was “A debit/ credit card payment isn’t convenient (has a physical form). Last but not least, there was one question deleted from the switching intention variable which was: “The likelihood of me switching from a debit/ credit card to E-wallet is high”.

### Validity and Reliability Test

Reliability Test

*Table 2. Cronbach’s alpha and composite reliability*

| | Composite Reliability | Cronbach’s Alpha |
|---|---|---|
| **AB** | 0.893 | 0.851 |
| **ALTERNATIVE ATTRACTIVENESS** | 0.819 | 0.706 |
| **LOW EFFICIENCY** | 0.833 | 0.897 |
| **PERSONAL EXPERIENCE** | 0.806 | 0.519 |
| **SECURITY** | 0.877 | 0.824 |
| **SOCIAL IMAGE** | 0.919 | 0.889 |
| **SWITCHING COST** | 0.854 | 0.792 |
| **SWITCHING INTENTION** | 0.897 | 0.846 |

In consonance with previous research (Li, 2018), SmartPLS Version 3.0 was employed to perform the PLS analyses. In addition, bootstrapping was employed with 500 sub-samples to assess the significance of the indicators and path coefficients. In this study, the reliability and validity of all the constructs were determined. It also conducted an exploratory factor analysis to ensure high loadings of the hypothesized factors and low loadings of the cross-loadings in the data set. The standards for what makes a “good” α coefficient are entirely discretionary and depend on your theoretical knowledge of the scale in the questions. α coefficients that are less than 0.5 are more likely to be unacceptable (Goforth, 2015). In this research, the Cronbach's alpha of each multi-item was over 0.5 with the number of actual behavior (0.851); switching intention (0.846); alternative attractiveness (0.706); low efficiency (0.897); personal experience (0.519); security (0.824); social image (0.889); and switching cost (0.792) that were demonstrated to be above the standard of moderate reliability Hinton *et al. (*2004). The composite reliability measures were all above 0.8 with the number of actual behavior (0.893); switching intention (0.897); alternative attractiveness (0.819); low efficiency (0.833); personal experience (0.806); security (0.877); social image (0.919); and switching cost (0.854), which were higher than the recommended 0.7 which indicates that the internal consistency is adequate (Bagozzi & Yi, 1988; I-Cheng,

Chuang-Chun, & Kuanchin, 2014). Thus, all of the variables meet the minimum requirements of both Cronbach's Alpha and the Composite Reliability test. It implies that all of the variables and constructs are reliable.

### *Validity Test*

The data was processed using SmartPLS 3.0 software to calculate and analyze the PLS algorithm. The results are shown in the following table.

*Table 3. Outer loadings of variables*

| | AB | ALTERNATIVE ATTRACTIVENESS | LOW EFFICIENCY | PERSONAL EXPERIENCE | SECURITY | SOCIAL IMAGE | SWITCHING COST | SWITCHING INTENTION |
|---|---|---|---|---|---|---|---|---|
| **AA1** | | 0.710 | | | | | | |
| **AA3** | | 0.716 | | | | | | |
| **AA4** | | 0.755 | | | | | | |
| **AA5** | | 0.733 | | | | | | |
| **AB1** | 0.780 | | | | | | | |
| **AB2** | 0.796 | | | | | | | |
| **AB3** | 0.821 | | | | | | | |
| **AB4** | 0.812 | | | | | | | |
| **AB5** | 0.748 | | | | | | | |
| **LE3** | | | 0.602 | | | | | |
| **LE4** | | | 0.994 | | | | | |
| **LE5** | | | 0.744 | | | | | |
| **PE1** | | | | 0.815 | | | | |
| **PE2** | | | | 0.828 | | | | |
| **S1** | | | | | 0.825 | | | |
| **S2** | | | | | 0.601 | | | |
| **S3** | | | | | 0.816 | | | |
| **S4** | | | | | 0.794 | | | |
| **S5** | | | | | 0.781 | | | |
| **SC1** | | | | | | | 0.751 | |
| **SC2** | | | | | | | 0.632 | |
| **SC3** | | | | | | | 0.723 | |
| **SC4** | | | | | | | 0.744 | |
| **SC5** | | | | | | | 0.817 | |
| **SI1** | | | | | | 0.791 | | |
| **SI2** | | | | | | 0.819 | | |
| **SI3** | | | | | | 0.877 | | |
| **SI4** | | | | | | 0.791 | | |
| **SI5** | | | | | | 0.883 | | |
| **SWI1** | | | | | | | | 0.809 |
| **SWI3** | | | | | | | | 0.847 |
| **SWI4** | | | | | | | | 0.810 |
| **SWI5** | | | | | | | | 0.843 |

The results shown in Table 4 detail that the outer loadings of the variables and each construct are more than 0.5 in value. Then it was determined that all of the variables passed one of the requirements for discriminant validity. The highest outer loading is LE4 with the number of 0.994, while the lowest is S2 with 0.601 outer loadings.

*Table 4. Average variance extracted (AVE)*

| | AVE |
|---|---|
| **AB** | 0.627 |
| **ALTERNATIVE ATTRACTIVENESS** | 0.531 |
| **LOW EFFICIENCY** | 0.634 |
| **PERSONAL EXPERIENCE** | 0.675 |
| **SECURITY** | 0.590 |
| **SOCIAL IMAGE** | 0.694 |
| **SWITCHING COST** | 0.541 |
| **SWITCH ING INTENTION** | 0.685 |

Convergent validity is demonstrated because the AVE values for all constructs are above the suggested number which is 0.5, according to Fornell and Larcker (2013) as cited in (I-Cheng, Chuang-Chun, & Kuanchin, 2014). The discriminant validity was assessed using Fornell and Larcker's (2013) procedure.

*Table 5. Cross loading of variables*

| | AB | ALTERNATIVE ATTRACTIVENESS | LOW EFFICIENCY | PERSONAL EXPERIENCE | SECURITY | SOCIAL IMAGE | SWITCHING COST | SWITCHIN INTENTIO |
|---|---|---|---|---|---|---|---|---|
| **AA1** | 0.496 | **0.710** | 0.053 | 0.483 | 0.536 | 0.454 | 0.491 | 0.518 |
| **AA3** | 0.491 | **0.716** | -0.190 | 0.262 | 0.445 | 0.425 | 0.405 | 0.497 |
| **AA4** | 0.582 | **0.755** | -0.067 | 0.268 | 0.508 | 0.507 | 0.462 | 0.583 |
| **AA5** | 0.524 | **0.733** | -0.013 | 0.263 | 0.522 | 0.412 | 0.374 | 0.504 |
| **AB1** | **0.780** | 0.604 | 0.047 | 0.445 | 0.575 | 0.540 | 0.584 | 0.636 |
| **AB2** | **0.796** | 0.527 | 0.033 | 0.162 | 0.451 | 0.534 | 0.447 | 0.606 |
| **AB3** | **0.821** | 0.603 | -0.110 | 0.279 | 0.603 | 0.628 | 0.433 | 0.711 |
| **AB4** | **0.812** | 0.544 | -0.076 | 0.256 | 0.582 | 0.580 | 0.487 | 0.651 |
| **AB5** | **0.748** | 0.574 | 0.013 | 0.254 | 0.457 | 0.455 | 0.406 | 0.516 |
| **LE3** | 0.016 | 0.060 | **0.602** | 0.151 | -0.048 | -0.025 | 0.042 | 0.016 |
| **LE4** | -0.024 | -0.058 | **0.994** | 0.074 | -0.176 | -0.097 | -0.042 | -0.108 |
| **LE5** | 0.037 | 0.013 | **0.744** | 0.109 | -0.032 | -0.002 | 0.021 | -0.001 |
| **PE1** | 0.276 | 0.341 | 0.040 | **0.815** | 0.392 | 0.355 | 0.399 | 0.354 |
| **PE2** | 0.305 | 0.375 | 0.055 | **0.828** | 0.426 | 0.352 | 0.397 | 0.365 |
| **S1** | 0.620 | 0.619 | -0.059 | 0.486 | **0.825** | 0.567 | 0.534 | 0.656 |
| **S2** | 0.346 | 0.452 | -0.045 | 0.350 | **0.601** | 0.395 | 0.297 | 0.390 |
| **S3** | 0.557 | 0.560 | -0.174 | 0.380 | **0.816** | 0.536 | 0.407 | 0.587 |
| **S4** | 0.482 | 0.477 | -0.203 | 0.338 | **0.794** | 0.599 | 0.385 | 0.614 |
| **S5** | 0.565 | 0.535 | -0.215 | 0.358 | **0.781** | 0.500 | 0.401 | 0.575 |
| **SC1** | 0.406 | 0.438 | 0.020 | 0.443 | 0.397 | 0.342 | **0.751** | 0.405 |
| **SC2** | 0.333 | 0.391 | 0.052 | 0.300 | 0.239 | 0.218 | **0.632** | 0.260 |
| **SC3** | 0.468 | 0.466 | -0.086 | 0.334 | 0.355 | 0.328 | **0.723** | 0.421 |

| | AB | ALTERNATIVE ATTRACTIVENESS | LOW EFFICIENCY | PERSONAL EXPERIENCE | SECURITY | SOCIAL IMAGE | SWITCHING COST | SWITCHIN INTENTIO |
|---|---|---|---|---|---|---|---|---|
| **SC4** | 0.456 | 0.419 | -0.080 | 0.305 | 0.428 | 0.465 | **0.744** | 0.537 |
| **SC5** | 0.498 | 0.483 | -0.049 | 0.405 | 0.481 | 0.561 | **0.817** | 0.574 |
| **SI1** | 0.536 | 0.446 | 0.005 | 0.417 | 0.503 | **0.791** | 0.471 | 0.558 |
| **SI2** | 0.588 | 0.468 | -0.006 | 0.330 | 0.496 | **0.819** | 0.433 | 0.588 |
| **SI3** | 0.619 | 0.559 | -0.168 | 0.343 | 0.649 | **0.877** | 0.467 | 0.695 |
| **SI4** | 0.562 | 0.556 | -0.091 | 0.315 | 0.509 | **0.791** | 0.472 | 0.614 |
| **SI5** | 0.596 | 0.541 | -0.137 | 0.393 | 0.661 | **0.883** | 0.461 | **0.727** |
| **SWI1** | 0.642 | 0.629 | -0.010 | 0.499 | 0.636 | 0.607 | 0.605 | **0.809** |
| **SWI3** | 0.682 | 0.591 | -0.099 | 0.329 | 0.567 | 0.637 | 0.487 | **0.847** |
| **SWI4** | 0.699 | 0.600 | -0.129 | 0.295 | 0.633 | 0.617 | 0.496 | **0.810** |
| **SWI5** | 0.604 | 0.573 | -0.162 | 0.327 | 0.631 | 0.685 | 0.482 | **0.843** |

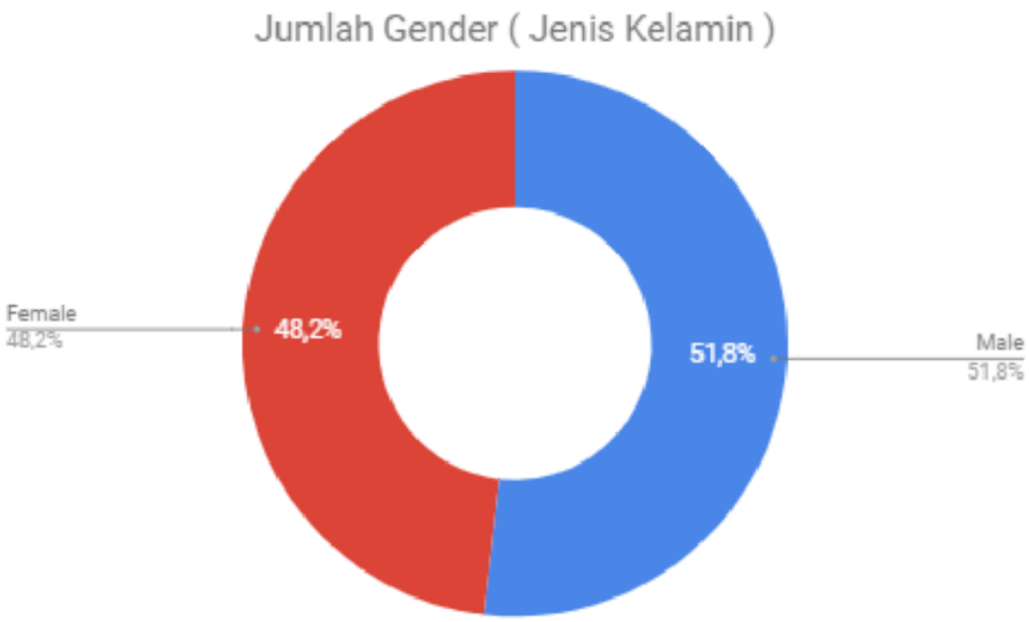
Discriminant validity is the concept of a test to ensure whether the concept or measurement differs in every variable. For this purpose, this research used the cross loading of the data shown in Table 5. The data shows that all of the cross loading values and each variable of their own construct have the highest loading factors compared to other variables. The results also indicate the square roots of AVE are all higher than all of the inter-construct correlations, so that the discriminant validity is achieved.

### Respondents' Profiles

This research focused on the switching intention of debit/ credit card users towards E-wallet as an alternative payment system. Hence, this research targeted people who had completed a purchase using E-wallet such as OVO, Go-pay, T-cash, etc., more than one time to purchase something other than transportation. In addition, the respondents had to have a minimum purchase of 1 time a month. The questionnaire was filled in by 413 respondents with 409 respondents passing the screening questions and data from 357 respondents was used for the analysis.

*Respondents by Gender*

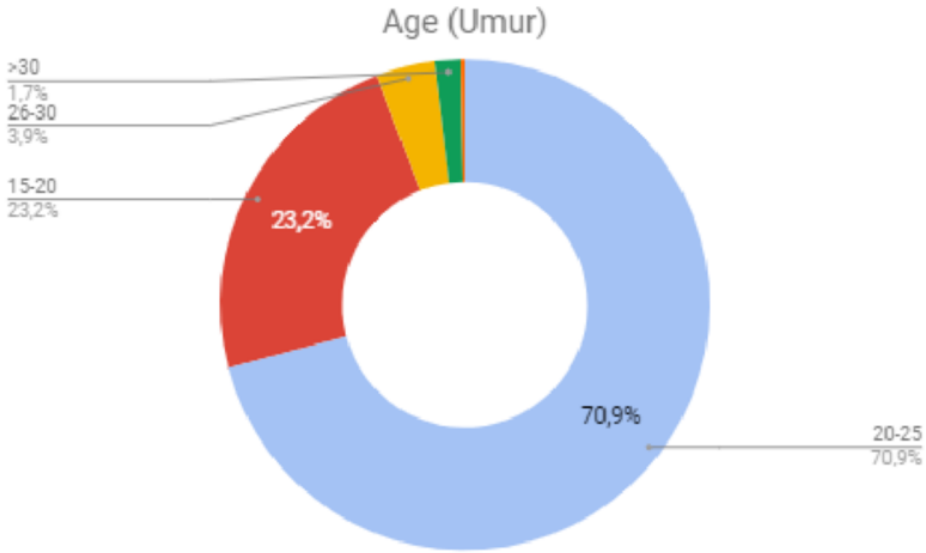
*Figure 2. Respondents' gender*



Based on Figure 2, the gender majority of the respondents in this research was males with 51.8% equal to 185 male respondents. On the other hand, female respondents equaled 48.2% or 172 respondents in total.

### *Respondents by Age*

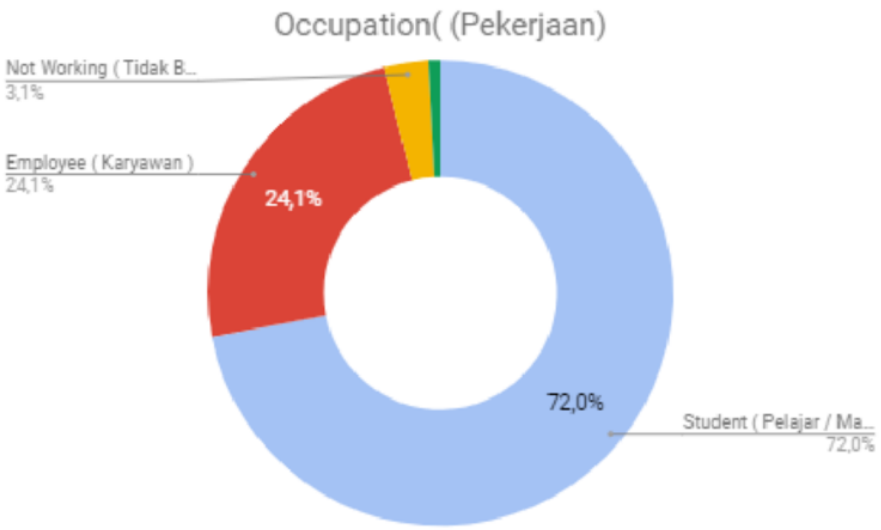
*Figure 3. Respondents' Age*




As shown in Figure 3, the majority of the respondents was dominated by people in the range of 21-25 years old with the number of 70.9% which equaled 253 respondents. It was followed by the 15-20 age group with the number of 23.2% which equaled 83 respondents. Then the respondents between the ages of 26-30 had 4% in number which equaled 14 respondents. Lastly, it was followed by respondents with ages above 30 which were 1.7% which equaled 6 respondents and 0.3% or 1 respondent under the age of 15.

### *Respondents by Occupation*

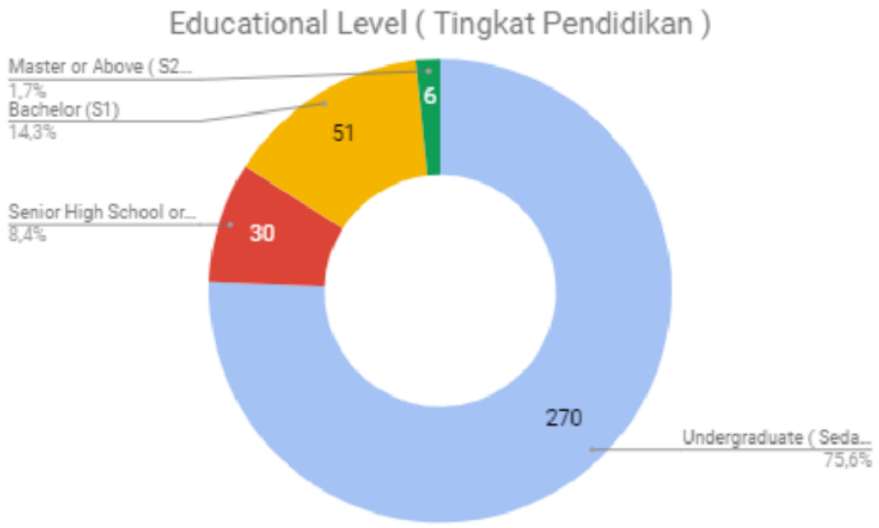
*Figure 4. Respondents' occupation*



As the data from Figure 4 shows, the respondents generally came from students with the number of 72% which was equal to 257 respondents. It was followed by employees with the number of 24.1% which was equal to 86 respondents. In the third place, it was 3.1% which was equal to 11 respondents who did not work. Last but not least, there was 0.8% equal to 3 respondents who chose another option.

### *Respondents by Educational Level*

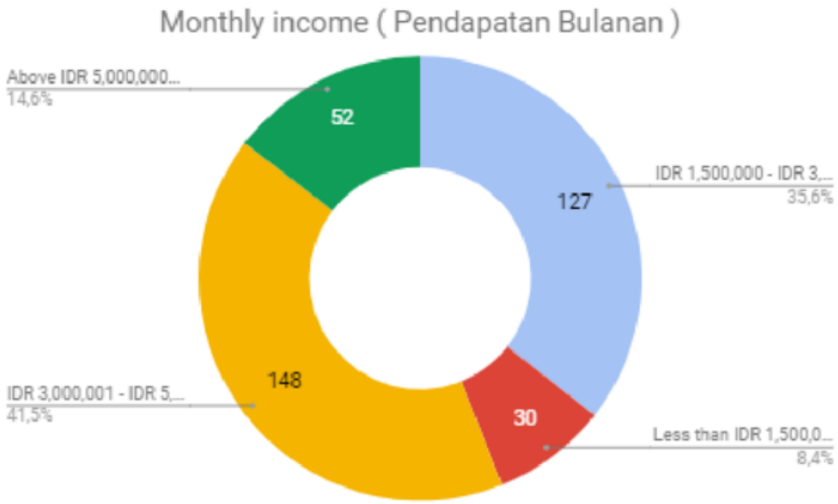
*Figure 5. Respondents' educational level*




As seen from Figure 5, there was 89.9% which was equal to 321 respondents who were Undergraduate Degree holders. Second, senior high school students or below had the number of 8.4% which was equal to 30 respondents. Lastly, Master's Degree or above had the lesser number of 1.7% or equal to 6 respondents.

### *Respondents by Monthly Income*

*Figure 6. Respondents' monthly income level*

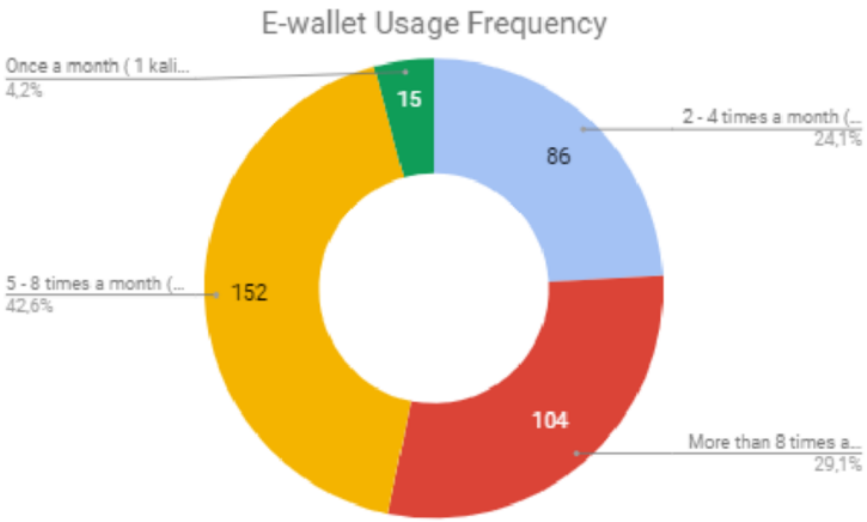



As shown in Figure 6, the highest monthly income level came to IDR 3,000,001 – IDR 5,000,000 with the number of 41.5% people which was equal to 148 respondents. It was followed by IDR 1,500,000 – IDR 3,000,000 with 35.6% which was equal to 127 respondents. In the third place, there was 14.6% which was equal

to 52 respondents that had an income level above IDR 5,000,000. Last but not least, there was 8.4% which was equal to 30 respondents who had an income level below IDR 1,500,000.

*Respondents by E-wallet Usage Frequency*

*Figure 7. Respondents' e-wallet usage frequency*




As shown in Figure 7, the majority of the respondents was dominated by people in the range of 5-8 times a month with the number of 42.6% which was equal to 152 respondents. It was followed by the section of more than 8 times a month with the number of 29.1% which was equal to 104 respondents. Then the respondents that had used E-wallet between 2-4 times a month had a number of 24.1% which was equal to 86 respondents. Lastly, it was followed by respondents with a purchase of only once a month with a percentage of 4.2% which was equal to 15 respondents.

## Descriptive Analysis

### Low Efficiency

(LE3) "Using a debit/ credit card hasn't provided a genuine service" had a number of (m= 2.89; SD= 1.48). (LE4) "I don't think the fees given from a debit/ credit card are worth the services that I am paying for (monthly fee)" had a number of (m= 3.01; SD= 1.48). (LE5) "Overall debit/ credit card services don't help make my purchases more efficient" had a number of (m= 2.75; SD= 1.57).

As seen in Table 6, the LE3, LE4, and LE5 means were lower than 3.02, which was in the capacity of "slightly disagree". The standard deviations of LE3, LE4, and LE5 were more than 1.00, which can be considered as polarized.

*Table 6. Low efficiency data summary*

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| LE3 | 357 | 1.00 | 6.00 | 2.8936 | 1.48585 |
| LE4 | 357 | 1.00 | 6.00 | 3.0112 | 1.48395 |
| LE5 | 357 | 1.00 | 6.00 | 2.7507 | 1.57830 |

*Switching Cost*

(SC1) “It would not cost me a lot of money to switch from a debit/ credit card to E-wallet” had a number of (m= 5.24; SD= 0.95). (SC2) “It would not take a lot of effort to switch from a debit/ credit card to E-wallet” had a number of (m= 5.00; SD= 0.78). (SC3) “It would not take me a lot of time to switch from a debit/ credit card to E-wallet” had a number of (m= 5.27; SD= 0.86). (SC4) “There’ll be no problem if I change from a debit/ credit card to E-wallet” had a number of (m= 5.00; SD= 0.96). (SC5) “I feel it’s necessary to change from a debit/ credit card to E-wallet because I will not lose the benefits given by a debit/ credit card” had a number of (m= 5.05; SD= 1.00).

As seen in Table 6, SC1, SC2, SC3, SC4, and SC5 had means higher than 5.00, which are in the capacity of “agree”. The standard deviations of SC1, SC2, SC3, and SC4 were less than 1.00, which can be considered as low polarized. This result is contrary with the standard deviation of SC 5, which is more than 1.00 and can be considered as polarized.

*Table 7. Switching cost data summary*

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| SC1 | 357 | 1.00 | 6.00 | 5.2437 | .95957 |
| SC2 | 357 | 1.00 | 6.00 | 5.0000 | .78253 |
| SC3 | 357 | 2.00 | 6.00 | 5.2745 | .86618 |
| SC4 | 357 | 1.00 | 6.00 | 5.0028 | .95840 |
| SC5 | 357 | 1.00 | 6.00 | 5.0504 | 1.00433 |

### *Personal Experience*

(PE1) “In the past, I usually shopped using a debit/ credit card” had a number of (m= 5.20; SD= 1.01). (PE2) “In the past, I seldom changed my payment method” had a number of (m= 4.98; SD= 0.82).

As seen in Table 7, PE1 has a mean higher than 5.00, which is in the capacity of “agree”. Then PE2 has a mean slightly below 5.00, which is still in the capacity of “agree”. The standard deviation of PE2 is less than 1.00, which can be considered as low polarized. This result is contrary with the standard deviation of PE1, which is more than 1.00 and can be considered as polarized.

*Table 8. Personal experience data summary*

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| PE1 | 357 | 1.00 | 6.00 | 5.2045 | 1.01957 |
| PE2 | 357 | 1.00 | 6.00 | 4.9804 | .82935 |

### *Social Image*

(SI1) “The people in my environment who use E-wallet usually are more educated than those who do not use it” had a number of (m= 5.04; SD= 1.13). (SI2) “The people in my environment who use E-wallet have a superior profile” had a number of (m= 4.78; SD= 1.07). (SI3) “Using E-wallet is a social status symbol in my environment” had a number of (m= 4.88; SD= 1.33). (SI4) “I prefer using E-wallet when I am with a group of friends” had a number of (m= 5.00; SD= 1.08). (SI5) “I use E-wallet because it also makes a good impression on others” had a number of (m= 4.87; SD= 1.31).

As seen in Table 8, SI1 and SI4 have means higher than 5.00, which are in the capacity of “agree”. Then SI2, SI3, and SI5 have means slightly below 5.00, which are still in the capacity of “agree”. The standard deviations of SI1, SI2, SI3, S4, and SI5 were higher than 1.00, which can be considered as polarized.

*Table 9. Social image data summary*

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| SI1 | 357 | 1.00 | 6.00 | 5.0448 | 1.13831 |
| SI2 | 357 | 1.00 | 6.00 | 4.7871 | 1.07555 |
| SI3 | 357 | 1.00 | 6.00 | 4.8852 | 1.33481 |
| SI4 | 357 | 1.00 | 6.00 | 5.0000 | 1.08359 |
| SI5 | 357 | 1.00 | 6.00 | 4.8739 | 1.31470 |

### *Security*

(S1) “I think E-wallet has a better mechanism to ensure the safe transmission of its users’ information” had a number of (m= 5.09; SD= 1.02). (S2) “I don’t feel discomfort when performing a transaction using E-wallet” had a number of (m= 5.01; SD= 0.81). (S3) “I know that my financial information is secure when I use E-wallet” had a number of (m= 5.17; SD= 0.92). (S4) “I don’t worry that someone can access my financial information when I use E-wallet” had a number of (m= 4.90; SD= 1.20). (S5) “Overall E-wallet is a safe payment method” had a number of (m= 5.17; SD= 0.84).

As seen in Table 9, S1, S2, S3, and S5 have means higher than 5.00, which are in the capacity of “agree”. Then S4 has a mean slightly below 5.00, which is still in the capacity of “agree”. The standard deviations of S2, S3, and S5 were less than 1.00, which can be considered as low polarized. This result contrasts with the standard deviation of S1 and S4 which is more than 1.00 and can be considered as polarized.

*Table 10. Security data summary*

| | N | Minimum | Maximum | | Mean | Std. Deviation |
|---|---|---|---|---|---|---|
| S1 | 357 | 1.00 | 6.00 | | 5.0980 | 1.02438 |
| S2 | 357 | 1.00 | 6.00 | | 5.0168 | .81403 |
| S3 | 357 | 1.00 | 6.00 | | 5.1765 | .92086 |
| S4 | 357 | 1.00 | 6.00 | | 4.9020 | 1.20808 |
| S5 | 357 | 1.00 | 6.00 | | 5.1793 | .84555 |

### *Alternative Attractiveness*

(AA1) “E-wallet provides better services” had a number of (m= 5.28; SD= 0.81). (AA3) “E-wallet has more benefits than a debit/ credit card” had a number of (m= 5.31; SD= .82). (AA4) “I would feel more satisfied with the services of E-wallet than I am with a debit/ credit card” had a number of (m= 5.17; SD= 0.77). (AA5) “All considered, E-wallet would be less costly than a debit/ credit card” had a number of (m= 5.31; SD= 0.78).

As seen in Table 10, AA1, AA3, AA4, and AA5 have means higher than 5.00, which are in the capacity of “agree”. The standard deviations of AA1, AA3, AA4, and AA5 are less than 1.00, which can be considered as low polarized.

*Table 11. Alternative attractiveness data summary*

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| AA1 | 357 | 2.00 | 6.00 | 5.2801 | .81418 |
| AA3 | 357 | 2.00 | 6.00 | 5.3165 | .82997 |
| AA4 | 357 | 2.00 | 6.00 | 5.1765 | .77511 |
| AA5 | 357 | 2.00 | 6.00 | 5.3137 | .78049 |

### *Switching Intention*

(SWI1) “I am considering to switch from a debit/ credit card to E-wallet” had a number of (m= 5.19; SD= 0.93). (SWI3) “I intend to use E-wallet as my priority payment method” had a number of (m= 5.15; SD= 1.01). (SWI4) “I am determined to switch from a debit/ credit card to E-wallet” had a number of (m= 5.08; SD= 0.92). (SWI5) “I would not continue using a debit/ credit card if it’s possible” had a number of (m= 4.93; SD= 1.29).

As seen in Table 11, SW1, SWI3, and SWI4 have means higher than 5.00, which are in the capacity of “agree”. Then SWI5 has a mean slightly below 5.00, which is still in the capacity of “agree”. The standard deviations of SWI1 and SWI4 were less than 1.00, which can be considered as low polarized. This result is contrary with the standard deviations of SWI3 and SWI5, which are more than 1.00 and can be considered as polarized.

*Table 12. Switching intention data summary*

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| SWI1 | 357 | 1.00 | 6.00 | 5.1905 | .93172 |
| SWI3 | 357 | 1.00 | 6.00 | 5.1541 | 1.01190 |
| SWI4 | 357 | 1.00 | 6.00 | 5.0840 | .92936 |
| SWI5 | 357 | 1.00 | 6.00 | 4.9300 | 1.29308 |

### *Actual Behavior*

(AB1) “I gradually use E-wallet from time to time” had a number of (m= 5.20; SD= 0.92). (AB2) “I use E-wallet more than a debit/ credit card” had a number of (m= 5.01; SD= 0.99). (AB3) “I rarely use a debit/ credit card since I started using E-wallet” had a number of (m= 5.12; SD= 1.12). (AB4) “I do most of my transactions through E-wallet rather than a debit/ credit card” had a number of (m= 5.09; SD= 1.02). (AB5) “I use E-wallet to help me on a daily basis” had a number of (m= 5.29; SD= 0.84).

As seen in Table 12, AB1, AB2, AB3, AB4, and AB5 have means higher than 5.00, which are in the capacity of “agree”. The standard deviations of AB1, AB2, and AB5 were less than 1.00, which can be considered as low polarized. This result is contrary with the standard deviations of AB3 and AB4 which are more than 1.00 and can be considered as polarized.

*Table 13. Actual behavior data summary*

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| AB1 | 357 | 1.00 | 6.00 | 5.2017 | .92329 |
| AB2 | 357 | 1.00 | 6.00 | 5.0112 | .99147 |
| AB3 | 357 | 1.00 | 6.00 | 5.1232 | 1.12751 |
| AB4 | 357 | 1.00 | 6.00 | 5.0952 | 1.02327 |
| AB5 | 357 | 1.00 | 6.00 | 5.2997 | .84622 |

## Inferential Analysis

### Good Fit Model

The Good Fit Model in SmartPLS 3.0 is measured by using SRMR (Standard Root Mean Residual). SRMR is the difference of the observed correlation and the model in the correlation matrix. It allows the researcher to assess the average magnitude of discrepancies between observed and expected correlations as one of the absolute measures of model fit criteria. Henseler et al. (2014) introduced SRMR as one of the goodness of fit measures for PLS-SEM to avoid model misspecification. With an SRMR value of 0.069, which is a value that is less than 0.08, it is considered a good fit.

### *Hypothesis Testing*

It was based on the minimum value of the t-table which was 1.96 and a p-value less than 0.05 ($p<0.05$). The following table shows the p-value of each variable.

*Table 14. P-value*

| | Original Sample (O) | Sample Mean (M) | Standard Error (STERR) | T Statistics (\|O/STERR\|) | P Values |
|---|---|---|---|---|---|
| **ALTERNATIVE ATTRACTIVENESS -> SWITCHING INTENTION** | 0.231 | 0.232 | 0.065 | 3.575 | 0.000 |
| **LOW EFFICIENCY -> SWITCHING INTENTION** | -0.007 | -0.005 | 0.037 | 0.196 | 0.844 |
| **PERSONAL EXPERIENCE -> SWITCHING INTENTION** | -0.029 | -0.028 | 0.048 | 0.604 | 0.546 |
| **SECURITY -> SWITCHING INTENTION** | 0.261 | 0.264 | 0.071 | 3.675 | 0.000 |
| **SOCIAL IMAGE -> SWITCHING INTENTION** | 0.373 | 0.364 | 0.080 | 4.665 | 0.000 |
| **SWITCHING COST -> SWITCHING INTENTION** | 0.156 | 0.158 | 0.049 | 3.160 | 0.002 |
| **SWITCHING INTENTION -> AB** | 0.795 | 0.795 | 0.026 | 31.027 | 0.000 |

H1: “Low efficiency influences switching intention” is not supported with a p-value of 0.836. H2: “Switching cost influences switching intention” is supported with a p-value of 0.001. H3: “Personal experience influences switching intention” is not supported with a p-value of 0.511. H4: “Social image influences switching intention” is significant since the score of the p-value is 0.000. H5: “Perceived security influences switching intention” is supported since the score of the p-value is 0.000. H6: “Alternative attractiveness influences switching intention” is supported since the score of the p-value is 0.000. H7: “Switching intention influences actual behavior” is also supported with a p-value of 0.000.

A. Multiple R-square

The model was evaluated using the $R^2$ (R-square) that aimed to show the proportion of variance in the endogenous variables and is shown as a representative of the explanatory power of the structural model.

*Table 15. R-square of switching intention and actual behavior*

| | Original Sample (O) |
|---|---|
| **AB** | 0.631 |
| **SWITCHING INTENTION** | 0.735 |

Table 15 shows the R-square of switching intention (0.735) and actual behavior (0.631). It describes that 73% of switching intention can be affected by low efficiency, personal experience, switching cost, social image, security, and alternative attractiveness. Thus, 63% of actual behavior can be affected by low efficiency, personal experience, switching cost, social image, security, alternative attractiveness, and switching intention.

## Discussion

The first hypothesis which is: “Low efficiency influences switching intention” is rejected with a p-value of 0.836. The minimum score of the p-value is less than 0.05 ($p<0.05$). Both of the criteria do not meet the requirements, which leads to the rejected result. On the other hand, past research conducted by Li (2018) shows that low efficiency has a significant impact on switching intention.

To explore why there is no significant influence from low efficiency towards switching intention, this research conducted a focus group discussion with 6 respondents. Each of the respondents gave their own opinions on the question regarding debit/ credit card efficiency. The results had an unexpected answer. The first respondent stated that “I find that using a debit/ credit card is already efficient enough for this time being”. The second respondent agreed and added “A debit/ credit card is easier to use since all of our money is already there, and there’s no need to recharge the balance”. The third respondent stated that “I think a debit/ credit card is already efficient and worth to pay for”. The other three respondents agreed with the statements made by the first there with the following statement: “Yes, we agree and think that overall, a debit/ credit card is already sufficient for the time being”. All of the respondents revealed that they perceived that a debit/ credit card is already efficient enough to support their usage until this time. They believe that the easiness of using E-wallet is not significant enough for them to believe that it is more efficient to use E-wallet rather than a debit/ credit card. Then to summarize, the efficiency alone will not lead the users’ to switch from a debit/ credit card to E-wallet.

The second hypothesis which is: “Switching cost influences switching intention” is accepted since the score of the p-value is 0.001 to pass the minimum score of the p-value being less than 0.05 ($p<0.05$). Thus, there is a significant impact from switching cost towards switching intention. This aligns with past studies conducted by Ghasrodashti (2017) that show a noticeable influence of switching cost on switching intention. There was also a study conducted by I-Cheng *et al.* (2014) which shows that switching cost has a significant impact on switching intention.

The third hypothesis of “Personal experience influences switching intention” is rejected since the score of the p-value being 0.511 does not meet the minimum score of the p-value being less than 0.05 ($p<0.05$). The result of the study is the complete opposite of a past study by Li (2017) that showed “Personal experience has a significant impact on switching intention”. Another study conducted by Hsieh *et al.* (2012) also revealed that there is a positive relation between personal experience as a mooring factor and switching intention.

To explore why there is no significant influence from personal experience towards switching intention, this research conducted a focus group discussion with six respondents. Each of the respondents gave their own opinions on the question regarding their past experiences in using a debit/ credit card. The first respondent stated: “I believe that my past experience using a debit/ credit card will not determine my intention to use E-wallet”. It was followed by the second respondent who stated: “I will still use a debit/ credit card even though there’s a new alternative”. The 3$^{rd}$ and 4$^{th}$ respondents agreed with the statement of respondent 1. The last 2 appeared to have the same opinion that: “Their past experiences lead to a strong loyalty to debit/ credit card usage”. It appears that all of the respondents agreed that even though they are using E-wallet, it is not because they have had a bad experience in using a debit/ credit card. They believe there are other factors that led to their decisions to switch, and even though they are using E-wallet, they will still use a debit/ credit card if it is necessary. Overall, personal experience will not affect users’ decisions to switch from a debit/ credit card to E-wallet.

The fourth hypothesis of “Social image influences switching intention” is accepted since the score of the p-value is 0.000, which is considered satisfactory since the minimum score of the p-value is less than 0.05 ($p<0.05$). These findings align with a study conducted by Francisco *et al.* (2014) that demonstrated there is a positive relation between social image and switching intention based on the study. It is in contrast to a study by Han and Hyun (2012), which shows that there are no significant influences of social image towards switching intention.

The fifth hypothesis of “Perceived security influences switching intention” is accepted since the score of the p-value is 0.000. Thus, with the minimum score of the p-value less than 0.05 ($p<0.05$) being met, the result can

be perceived as being significant. These findings are aligned with a study conducted by Lai (2015), who showed that there is a positive relation between security and switching intention.

The sixth hypothesis of "Alternative attractiveness influences switching intention" is accepted since the score of the p-value is 0.000. Thus, the minimum requirement for the score of the p-value being less than 0.05 ($p<0.05$) is met and the result can be perceived as significant. These findings align past research conducted by Ghasrodashti (2017), who revealed that there is a significant influence on alternative attractiveness towards switching intention. Another study by I-Cheng *et al.* (2014) also showed that there is a significant influence on alternative attractiveness towards switching intention.

"Switching intention influences actual behavior" is also accepted with the p-value being 0.000. Thus, the minimum requirement for the score of the p-value being less than 0.05 ($p<0.05$) is met and the result can be perceived as significant. These findings align with a study conducted by Li (2018), in that switching intention and actual behavior have a positive relationship. Another study conducted by Bansal *et al.* (2005) also proved that there is a positive relation between switching intention and actual behavior.

## SOLUTIONS AND RECOMMENDATIONS

Switching cost has a significant influence on switching intention. It shows that the provider should make sure that it is worth it to leave past services for a new one, even though they might lose some future benefits. Not only that, but the provider also needs to consider the cost to switch from past services. For example, in order to use T-cash, we need to buy the NFC chip first, which leads to a surprising high switching cost in terms of cost, effort, and time.

Social image also has a significant influence on switching intention. In this era, social image is one of the important variables to be taken into account since society has a strong impact on one's behavioral intention, and the provider should consider creating a good image both for society and peer influences. Security also needs to be considered, and the provider should advance and upgrade the line of security to make sure that consumers will continue to use the services and feel safe to use them.

Alternative attractiveness is one of the major variables that act as a pull factor on consumers' switching intention from a debit/ credit card to E-wallet. There are promotions, easy to use aspects, useful aspects, and others included in alternative attractiveness. As being the only pull factors in this research, attractiveness should be considered to be done accordingly to the extent of customers' needs. For example, providers do promotions of clothing merchants for Christmas, grocery promotions for Thanksgiving, etc.

## SUGGESTIONS FOR FUTURE RESEARCH

With this research, there are several findings which can be useful for future research. It shows what factors influence users' intention to switch from a debit/ credit card towards E-wallet.

It also shows that the additional factors, which are security and social image, affect users' decisions to switch in a payment system context.

1. For researchers, the study provides evidence on what elements have been demonstrated to have significant effects on switching intention and actual behavior.
2. Businesses can apply the results of this study to rearrange their strategies to be more efficient and attractive.
3. The government can also get insights into how people react towards E-wallet as a new payment method. Last but not least, the PPM method has been recognized to be significant in terms of measuring the willingness of users' switching behavior and their actual usage of post switching.

## CONCLUSION

The results of this research show that:

1) Low efficiency has no significant influence on switching intention.
2) Switching cost has a significant influence towards switching intention.

3) Personal experience has no significant influence towards switching intention.
4) Social image has a significant influence towards switching intention.
5) Security has a significant influence towards switching intention.
6) Alternative attractiveness has no significant influence towards switching intention.
7) Switching intention has a significant influence towards actual behavior.

Research on E-wallet as an alternative payment method is considered to be still in the early stages (Oliveira, Thomas, Baptista, & Campos, 2016). There are still a lot of elements to be explored. The variables in this framework only explain 73% of switching intention and 63% of actual behavior. This leads to a recommendation that future research needs to add more variables into the framework such as trust and satisfaction, as well as moderating variables like age, job, income level, and others in order to explain more of the users' intention to switch and their actual behavior.

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