THE MEDIATING EFFECT OF BEHAVIORAL INTENTION ON CONSUMER ADOPTION OF ALIPAY: A CASE IN MALAYSIA

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DECLARATION

We hereby declare that:

1) This undergraduate research project is the end result of our own effort and the acknowledgement has been given in the references to ALL sources information printed, electronic, or personal.
2) No section of this research project has been submitted to support any application for any other qualification or degree of this or any other universities and institute of learning.
3) Equal contribution has been made by each group member in completing the research project.
4) The word count of this research report is 20513 words.

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DEDICATION

This dissertation is dedicated to:

Dr. Yii Kwang Jing

Who lead us all the way throughout this

research project and

Families and friends,

Thanks for being with us and providing all the supports we need.

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LIST OF ABBREVIATIONS

AIDM	Affect Integrated Model of Decision-making
AVE	Average variance extracted
BI	Behavioral intention
CA	Consumer adoption
CFA	Confirmatory factor analysis
ECM-IT	Expectation-Confirmation Model in IT Domain
ECT	Expectation-confirmation theory
EFA	Exploratory factor analysis
FC	Facilitating condition
GDP	Gross domestic product
HTMT	Heterotrait-Monotrait Ratio
NFC	Near field communication
OBD	Online banking division
PEOU	perceived ease of use
PLS	Partial Least Square
SAC	Sustainability and credibility
SB	Switching barrier
SEM	Structured equation modeling
SI	Social influence
SMARTPLS 3.0	Smart program version 3.0
SPSS	Statistical Package for the Social Sciences
TAM	Technology Acceptance Model
TRA	Theory of Reasoned Action
UTAUT	Unified theory of acceptance and use of technology
VAF	Variance Accounted For
WOM	Word of mouth

PREFACE

This research is submitted for the purpose to fulfill the requirement in pursuing the course of Bachelor of Economics (Hons) Financial Economics in Universiti Tunku Abdul Rahman under supervision of Dr. Yii Kwang Jing. Cashless transaction is starting to take its step into Malaysian financial system as a new way of payment method. Mobile payments within Malaysia now is having a trend of dealing cashless transaction where the largest area of spending in apparel and fashion. This research targets on Malaysian consumer to understand their demand when transforming spending behavior to cashless society.

In order to achieve the purpose, we have selected five independent variables which are social influence, sustainability and credibility, perceived ease of use, facilitating condition and switching barrier. The research also includes a mediating variable of behavioral intention to examine its effect on the relationship between the independent variable and dependent variable, which is the consumer adoption of Alipay.

ABSTRACT

Recently, the rise of mobile payment services has changed the way people to make payment. In Malaysia, the newly launched Alipay mobile payment at Kuala Lumpur (KL) revolutionizes the retail and banking culture. This study mainly investigates the mediating effect of behavioral intention between the determinants such as social influence, sustainability and credibility, perceived ease of use, facilitating condition, and switching barrier with consumer adoption towards Alipay in Malaysia. This study aims to fill up the gap by exploring the importance of switching barrier's dimensions, interpersonal relationship in affecting behavioral intention of consumers to adopt Alipay. The proposed theoretical frameworks are

UTAUT model, Theory of Reasoned Action (TRA) and Technology Acceptance Model (TAM) which explain the usage behavior and intention to use an information system. This study uses primary data by collecting questionnaire from consumers in Malaysia in order to better understand their perspectives in the adoption of Alipay. The result is analyzed using Partial Least Square (PLS) Smart program based on the collected 394 sets of questionnaire. The construct reliability, convergent validity, and discriminant validity are tested to prove the adequacy of measurement model. The results conclude that social influence and facilitating condition have direct relationship with consumer adoption. Besides, there are mediating effect of behavioral intention exist in facilitating condition, sustainability and credibility and switching barriers to consumer adoption. Moreover, perceived ease of use does not have both direct and indirect relationship to consumer adoption. Based on the VAF analysis, switching barrier is found to have the full mediation, but social influence has suppressor effect, while the others such as sustainability and credibility, and facilitating condition possess partial mediating effect. Several policy implications are suggested within this paper to improve the adoption of Alipay in Malaysia. Government should subsidize business owners with infrastructures and facilities of Alipay and supervise the operation of Alipay to prevent leakage of user's private information. On the other hand, Alipay can introduce more user-friendly interface or user guideline, increase processing speed, and organize social network marketing to boost the usage.

CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

Malaysia is moving towards a cashless country by 2050 following by the revolutionizing of the mobile payment in the world. Countries that top cashless are China and Singapore in Asia, induce Malaysian to adopt mobile payment during purchase (Joifin,2017). Applying third mobile payment services has become a part of lifestyle, many signs prove that mobile payment is reaching a peak now. The total sales of the 2017 online transactions amounted to RM6.6 billion, more than double from RM3.0 billion in 2016 ("Mobile payments favoured by 70% of Malaysians," 2017). Nowadays, Visa Checkout, Masterpass, CIMB pay, MOI pay, Samsung Pay and Alipay exist in Malaysia.

Alipay is a digital payment method, a secure platform for consumers to store money and pay for service and products through online, create a cashless payment service for consumers. Alipay is launched in China by Alibaba Group and Jack Ma in 2004 with currently having 450 million active users. Group Chief Executive of CIMB Group ascertains that the entry of Alipay accelerates the growth of mobile wallet payment services in Malaysia. They cooperate with Alipay to provide Chinese tourists a convenient and secure payment method in Malaysia. The entrance of Alipay is believed to boost up Malaysia economic especially in the tourism sector as it is targeting on massive amount of China tourist to Malaysia every year.

Our study will go to determinants of affecting consumer adoption of Alipay in Kuala Lumpur which entered Malaysia market in 2017. This chapter aims to provide a clear description about the purpose of the research by explaining the background of the investigation. The problem statement is to guide the research for best solutions. Besides, research questions and research objective are to maintain the focus of the study in answering the research question and reach a conclusion in respect to the

research objectives. The significance of the study is identified to show the importance of this research to solve the issues stated.

1.1 Background of study

1.1.1 Mobile payment in Malaysia

Nowadays, the usage of mobile payment by global consumer is rising and not rely on using cash or the standard magnetic strip credit card as consumers change their spending behavior and improve their lifestyle rapidly. Hence, the market needs to enhance the mobile payment system for efficient financial transaction. Therefore, mobile payment system is slowly emerging in the market such as PayPal, Alipay and WechatPay. Besides, mobile payment is one of the important issues to improve a country's finance system. When consumer conducts the transaction, he or she can check bank balances, makes transfers and performs other account maintenance through a mobile phone. For instance, the developed country, United State has a mature mobile payment system thus it could facilitate the country finance system. The most vital element is it could reduce the required human resources and intellectualize their human capital. Especially in recent years, the processing power and memory of smartphones has grown significantly, creating the devices absolutely capable of managing information to method payments.

Malaysia is a developing country. Hence, Malaysia needs to apply the mobile payment system to enhance the country financial system and transaction between consumer to consumer or consumer to business. Consequently, Malaysia financial system will not be outdated and continue to develop. Moreover, cashless transaction is starting to take its step into Malaysian financial system as a new way of payment method. Mobile payments within Malaysia now is having a trend of dealing cashless transaction where the largest area of spending is on apparel and fashion. According to the Malaysia Payment statistic of Internet banking and

Mobile Banking Subscribers, the penetration of mobile payment users has grown from 9.8% in 2005 to 83.1% in March 2018. This shows that mobile payment has become an alternative of payment methods and has transformed the landscape of the financial system in Malaysia. Digital News Asia (2013) states that electronic payments products like mobile payment have increased the Malaysia GDP by USD 4.2 billion. The change in Malaysian perspective on using mobile payment is significant and this could boost the economic growth. Mobile payment can be viewed as a new and innovative tool to expand local business and the country in general.

1.1.2 Alipay in Malaysia

In 2004, Chinese online payment system, Alipay.com is launched by Alibaba Group and its founder Jack Ma. Thereafter, Alipay has assisted clients to purchase goods from Alibaba retailers. This enables clients to develop a genuine finance business on their own. Today, Alipay is a sort of e-wallet that is a clear leader of online third-party payment services in China and aims to attribute a secure and easy-to-use way for millions of consumers and merchants. Although Electronic wallets (e-wallets) are famous in countries like India and China, its presence is not obvious in Malaysia. And yet, a race has begun for e-wallet operators to gain a strong foothold in the market. Alipay entered Malaysia market on May 2017 through the collaboration with Maybank and CIMB. The following companies used to accept the Alipay mobile wallet application are 7-eleven, Resorts World Genting and Berjaya Group Merchants.

According to the Nanyang Siang Pau (2018), Alibaba retailers developed the third-party mobile and online payment flat which is Alipay. The record of Alipay has shown that Malaysia is one of the countries which has potential to expand the mobile payment system to the market. This is because Malaysia is a developing country and is more focus on service sector such as financial sector and tourisms sector. Therefore, Malaysia is the ninth largest market for tourists when they spend using Alipay. In May 2018, there is a record of huge amount of

usage of Alipay in Malaysia in conducting financial transaction, resulting an average per capita consumption of RMB1021 (RM635). In addition, 85% of Alipay's overseas usage is from consumers born in the 1980s and 1990s, and its consumption is mainly concentrated in consumer to business. Launching of Alipay in Malaysia is very convenient for the China tourists and local citizen because it is accepted by more than 18,000 merchants nationwide, including all merchants at Kuala Lumpur International Airport and Kuala Lumpur International Airport 2, 7-Eleven and Starbucks stores, as well as several businesses in Genting World. Hence, Malaysia is a potential country in developing mobile payment.

1.2 Problem Statement

In recent years, mobile payment has changed the way of people making payment. Its success in China and the United States has proved that many people are adopting and switching to this new kind of payment method. The operation of the mobile payment service utilizes the gadgets like smartphones, tablets and personal computer that are currently a common need of consumer. This has made consumer to have an easy access to experience this new way of payment. In Malaysia, the newly launched Alipay mobile payment is based in Kuala Lumpur and has revolutionize the retail and banking culture.

However, the facilitating condition and social influence is still not significant for Alipay. The consumer adoption mobile payment is still not satisficing upon its launching so far in Malaysia. Although with the collaboration between financial institutions such as Maybank, Public Bank and CIMB Bank to enable the acceptance of this new payment service within the nation, its presence is still small in Malaysia (The Star, 2017). Maybank collaborates with Alipay to mainly target on giving this payment option to the expected 3 million Chinese tourists who will spend around RM9 billion in Malaysia. This is the same for Public Bank as their collaboration with Alipay is to help local merchant to accommodate the 520 million Alipay active users, including China tourists.

Whereas for CIMB Bank that has teamed up with Ant Financial, the owner of Alipay is to improve Touch 'n Go service within Malaysia. However, Alipay only serves as a compliment service to the main Touch 'n Go service, resulting in less usage and exposure to the greater range of consumer.

Other than that, consumer uncertainty on Alipay's sustainability and credibility and the perceived ease of use leads to the less acceptance and adoption of Alipay in Malaysia. According to Nielsen Mobile Shopping (2016), Banking and Payment Report, when the mobile devices are not close at hand, 55% of Malaysian consumers will feel anxious. Malaysians' most common choice on cashless payment is debit card which is directly connected to their bank accounts. As Alipay may still require consumer to sign in or fill up private information upon registration, many Malaysian still prefer the same old way by swiping their debit cards. With the introduction of Paywave that works similar with Alipay, this sparks further concern on Alipay future development in the nation.

Therefore, the optimization of consumer adoption towards Alipay in Malaysia depends on certain crucial factors. Evaluation on consumer adoption is needed to accelerate this segment growth in creating cashless society. This study identifies the possible factors that affect consumer adoption, which are perceived ease of use, switching barrier, social influence, sustainability and credibility and facilitating condition. This provides a better comprehensive overview of the current state of consumer adoption of Alipay in Malaysia.

1.3 Research Question

1.3.1 General Research Question

What are the main determinants and the mediating effect from the influence of behavioral intention on the consumer adoption of Alipay in Malaysia?

1.3.2 Specific Research Question

i. Does behavioral intention mediate the effect between social influence and consumer adoption in using Alipay?
ii. Does behavioral intention mediate the effect between facilitating condition and the usage of Alipay?
iii. Does behavioral intention mediate the effect between perceived ease of use and consumer adoption in using Alipay?
iv. Does behavioral intention mediate the effect between sustainability and credibility of mobile payment service and confidence of consumer before using it?
v. Does behavioral intention mediate the effect between switching barrier of mobile payment service and consumer adoption of Alipay?
vi. Does behavioral intention have mediating effect between the determinant and consumer adoption of Alipay?

1.4 Research Objective

1.4.1 General Objective

The general objective of this study is to investigate the determinants and the mediating effect of behavioral intention on the consumer adoption for Alipay in Malaysia.

1.4.2 Specific Objectives

i. To investigate the mediating effect of behavioral intention on the social influence and consumer adoption of Alipay.
ii. To investigate the mediating effect of behavioral intention on the facilitating condition and consumer adoption of Alipay.
iii. To investigate the mediating effect of behavioral intention on the perceived ease of use and consumer adoption of Alipay.
iv. To investigate the mediating effect of behavioral intention on the sustainability and credibility of mobile payment service and consumer adoption of Alipay.
v. To investigate the mediating effect of behavioral intention on the switching barrier of mobile payment service and consumer adoption of Alipay.

1.5 Significant of study

The primary objective of this study is to examine the relationship between consumer adoption of Alipay with other variables such as social influence, sustainability and credibility, perceived ease of use, facilitating condition, switching barrier and behavioral intention. Switching barrier is separated into three dimension which include switching cost, attractiveness of alternatives and interpersonal relationship. All the constructs are tested by using primary data survey questionnaire method to collect data from consumers in Malaysia.

Firstly, there is less researchers who include interpersonal relationship as one of the factors under switching barrier to study the consumer adoption towards using third party mobile payment. However, the previous researcher has just used this determinant as descriptive factor. A sense of mutual love and mutual trust that give rise from interpersonal relationship between families, intimates and friends can affect consumer decision to adopt third party mobile payment service. Since previous research does not incorporate interpersonal relationship under switching barrier, this study aims will include interpersonal relationship to fully adequate the aspects of switching barrier. This contributes to market researcher, as well as companies to understand more about how interpersonal relationship can affect switching barrier. Thus, this novelty of the study may bring fresh understanding to market researchers and companies and will eventually help them to explore more consumers.

Secondly, this study includes behavioral intention as mediating variable for all determinants to study consumer adoption of Alipay. Behavioral intention reflects how hard a person willing to try, and how motivated a person is to perform behavior. By including this mediating variable, the study aims to help future researchers to understand more about how a person's behavior will influence his or her adoption towards using third party mobile payment services. Hence, this study may bring new ideas about consumer behavior, and provide guideline to future researchers.

Last but not least, the finding of this study will benefit the economy since Alipay plays an important role in transforming the payment method of Malaysia. The demand of consumer towards mobile payment will determine the need for more effective Alipay transaction. Therefore, merchants that implement Alipay based from the finding of this research able to expand their market. Managers can implement their business decision and planning based on this research to improve their mobile payment service performance. Since there is still scarce information of third party mobile payment services in Malaysia, this study aims to provide a better understanding on the determinants of consumer adoption towards using Alipay for future researchers to conduct new research in the future.

1.6 Chapter Layout

This study consists of 5 chapters. Chapter 2 proceeds with the literature review on determinants that affect the adoption of Alipay and the gap of literature. Then, data, sampling design, and methodology will be presented in Chapter 3. Chapter 4 will discuss the data analysis, interpretation of results and major findings. Finally, Chapter 5 will present the implication, limitations, and recommendation of this study.

1.7 Conclusion

As a conclusion, this chapter has justified the reason of Alipay consumer adoption is worth studying. The introduction of Alipay in Kuala Lumpur which represents Malaysia is expected to expose to the greater range of consumer which will be affected by several factors. The main objective is to investigate the mediating effect of behavioral intention and determinants that affect consumer adoption of Alipay in Malaysia. Besides, this research includes interpersonal relationship into the dimension of switching barrier since it might become relationship-specific asset for competitors. This research also applies SmartPLS to analyze the data. Besides, interpersonal relationship has always been neglected by previous researchers in investigating switching barrier. We hope that this research could be a foundation toward future study research on Alipay. The next chapter is the literature review and what previous research on variables that this study has chosen.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

This chapter shows the overview of the dependent variable which is the consumer adoption of Alipay. The relationship between the dependent variables and the independent variables (social influence, sustainability and credibility, perceived ease of use facilitating condition and switching barrier) are shown with proof and evidence based on various research. Past researches regarding the mediating variable which is the behavioral intention of consumer using Alipay is explained in this chapter as well. The review of literature is followed by the hypothesis of each variable. The theoretical framework and proposed framework are included in this chapter.

2.1 Literature Review

2.1.1 Social Influence and Consumer Adoption

Based on the past studies, social influence has been proved as a vital determinant in affecting consumer adoption. According to research of Kelman (1958), social influence consists of three stages. Those three stages are compliance, internalization, and identification. Individuals tend to seek for acceptance and approval from social group as they want to receive favorable reactions, align common values with their own group and gain positive relationship (Shen, Laffey, Lin & Huang, 2006).

Some authors highlight that only those significant others possess the power to emanate influences towards individuals. For instance, Mun, Khalid and Nadarajah (2017) justify social influence as a person's perception that the people who are significant to an individual is able to influence the individual's action. The Extended Technology Acceptance Model (TAM) Model and self-administrated questionnaire is being used by the authors during their research. Thus, assumptions on those who are not close to an individual will not possess significant social influence towards that individual has been made.

However, White et al. (2009), state that social influence also reflects perceptions through the construction of internalized moral principles. The authors carry out their studies by using questionnaire with snowballing technique. Based on the study, researchers claim that it does not only rely on reflecting perceived pressure from significant others. Although same method is being used, different authors have different justifications on social influence. Facing with different context of social influence, this study will firm its belief to the latter one as human's social interactions do not occur only with those significant ones, but also constantly interact with the society as a whole.

Social influence is proven to have significant effect on one's decision making. By extending UTAUT Model, Chong (2013) examines the determinants of adopting m-commerce. The study incorporates other variables such as perceived value and trust. A total of 140 surveys are collected in China to understand the model. The results show that social influence can shape one's decision in adopting m-commerce. Similar to Cheah, Teo, Ooi and Wong (2013), the researchers prove that there is a positive relationship between social influence and user adoption in using mobile payment application. This is due to the social pressures that urge them to adopt this mobile payment. This is supported by Khalifa and Shen (2008), who reveal that consumer adoption of mobile commerce is highly dependent on social influence. Significant results between social influence and consumer adoption has been proved by cross-sectional survey study. Social influence also affects individuals' emotion. Besides, Lerner, Valdesolo and Kassan (2014) argue that emotions can affect one's decision making. The existence of social influence itself affects consumers' decision to adopt Alipay, as emotions form powerful and predictable drivers of decision making (Lerner et al.,

2014). Unlike most of the journals that use UTAUT Model, The Affect Integrated Model of Decision-making (AIMD) is being used in this research.

On the other hand, Toh, Marthandan, Chong, Ooi and Arumugam (2008) suggest that social influence does not influence on consumer adoption. By using survey technique, surveys results are collected in Saudi Arabia and the results prove that social influence has insignificant relationship with consumers adoption.

Based on prior studies, social influence has been incorporated as one of the prominent factors that determine consumer adoption of mobile payments. Hence, social influence is incorporated as one of the constructs in this study.

2.1.2 Social Influence, Behavioral Intention and Consumer Adoption

Social influence is widely discussed under several theories including in Theory of Planned Behavior, Theory of Reasoned Action and Technology Acceptance Model. It plays an important role as a key construct in this study. AbuShanab and Pearson (2007) claim that social influence consists of social determinants, image and subjective norms.

According to Yau and Ho (2015), social influence is proved to have positive significant relationship with consumers' behavior intentions. The study is conducted through questionnaires survey and 153 questionnaires are gathered. In addition, consumers can easily shape their behavioral intentions to conform with the expectations of significant others (Shen, Cheung, Lee & Chen, 2006). Moreover, Trafimow and Fishbein (1994) find out that by including behavior-specific referents, only those having greater influence on specific behaviors may be more effective. Apart from that, Venkatash and Morris (2000) also identify that women tend to be more affected by subjective norms, compared to men.

Based on the theoretical framework, social influence will affect ones' behavioral intentions, and thus changing one's use behavior. This can be proved

by the study of Rivis and Sheeran (2003). In their study, they describe that consumers' behavior can be shaped as long as social influence is able to impact one's intentions.

Moreover, under the Theory of Planned Behavior, Fang, Ng, Wang and Hsu (2017) state that social influence will give strong positive impact towards behavioral intentions and lead to consumer actual behavior. Furthermore, Zhou, Lu and Wang (2010) also suggest that social influence has positive impact on consumers' behavioral intentions.

2.1.3 Sustainability and Credibility and Consumer Adoption

In general, service quality of mobile payment represents the sustainability of it and degree of consumer adoption of Alipay. Bhattacherjee (2001) who applies Expectation-confirmation theory (ECT) propose that the sustainability of third party should not be judged on momentary intention in short term only, but on customer satisfaction in long run period. Customers tend to request reliable service quality in their shopping experience in order to further facilitate mobile payment usage. This study is collected through cross-sectional field survey from customers of the online banking division (OBD) which is the one of the greatest national banks in United States.

Lee and Chung (2009) say that system quality, information quality and interface design quality can attract user and enhance sustainability of mobile payment in a direct way. 276 questionnaires are collected from mobile banking consumers, and then made analysis using structural equation modeling. This is supported by Chandra, Srivastava and Theng (2010) who use "trust-theoretic m-payment adoption model" and suggest that credibility of mobile technology will determine the degree of consumer adoption. This theory concludes that a user's adoption of a new information system is determined by how much users trust on the new launched system. Researchers like Song and Zahedi (2007), Kim, Xu and Koh (2004), Chen and Cheng (2009) study the impacts of system quality and

information quality on consumers' perceived credibility. They also apply information system success model to evaluate initial trust and intention of consumers. High system quality raise mobile payment sustainability and credibility then is more persuasive for users to adopt it.

Other than system quality, service quality is proposed into Delone-Mclean Success Model to measure user satisfaction model which lead to individual impact (DeLone & McLean, 1992). However, Morgeson and Petrescu (2011) argue that service quality may not similar as it depends on users' perceived results and not draw purchase intention. In their study, conceptual model of government performance is sketched based on the "performance-satisfaction trust" linkage and analyzed it by using structural equation modeling (SEM) techniques. This study are supported by Liao and Cheung (2002) who limit the respondents to 1000 Internet users in Singapore, also find that good service quality not necessary lead to high credibility and consumer adoption due to inter-relationship with other variables.

2.1.4 Sustainability and Credibility, Behavioral Intention and Consumer Adoption

Sustainability and credibility of Alipay determines the customer behavioral intention which then affects the consumer adoption in Alipay. In general, mobile payments may be accompanied by some shortcomings. For instance, lack of credit, technical vulnerability, and weak management. These flaws are worrying consumer for its sustainable issues (Parasuraman, Zeithaml, & Malhotra, 2005). This study uses means-end-chain approach as theoretical foundation to study customers' cognitive structures. Customer worries will directly influence their loyalty and satisfaction to the mobile payment service. In order to enhance sustainability of Alipay, Alibaba apply a set of multi-channel guarantee systems, for example escrow guarantees system. In 2002, "Trustpass" is launched to manage credibility risk and thus provide transparency in online transactions (Choi & Sun, 2016). In fact, Spears and Singh (2004) claim that Alipay has cooperated

with many domestic commercial banks, ChinaPost, VISA and other big entities to stabilize its market position. It has become one of the most famous third-party payment partners in Malaysia.

Alipay aims to grab consumers' loyalty and trust by providing the most satisfying service quality in Malaysia. This will raise the consumers' readiness and subsequently encourage the adoption of Alipay. Service quality is fundamentally a psychological judgment and satisfaction is an affect-laden evaluation. Based on cognition, affect and conation model, customers cultivate positive behavioral intention from their satisfaction (Cronin, Brady, & Hult, 2000). Satisfaction comes from outstanding service quality, then lead to increase in consumer adoption.

In addition, users' behavioral intention is result of their consideration on the possible security consequences. Mobile networks are vulnerable to hacker attack nowadays as mobile terminals may be hacked by viruses and Trojan Horse. Consumers are concerned with their private information. Alipay needs to further develop trust among consumers, since "trust" has been recognized as one of the vital factors to measure the consumer behavioral intention (Beldad, De Jong, & Steehouder, 2010). Their study provides comprehensive overview of the factors determining online trust by looking at some identified empirical studies about e-commerce, e-government and e-health. However, these studies on credibility neglect the influence on risk perception which intermingles trust of consumers all the time. During the transactions, it is possible that consumers will loss online privacy and affect its online credibility. Therefore, in investigating the sustainability and credibility of Alipay, this study concerns on the risk perception that directly determines the online trust and thus make our variable in theoretical framework stronger and more persuasiveness.

2.1.5 Perceived Ease of Use and Consumer Adoption

The perceived ease of use has been an important piece in determining the relationship of third party mobile payment and consumer adoption of it. Past researches have shown the tendency of a high perceived ease of use motivates and encourage the consumer on choosing third party mobile payment application such as Alipay. By web marketing mix theory, the result shown that one of Alipay's ability which is providing information about the wealth status of its user exhibits its ease of use which is considered a vital factor that consumer might choose to use it (Choi & Sun, 2015). Questionnaires are then analyzed with the structural equation modelling. This is supported by Pham and Ho (2015) where their integration of perceived ease of use in the application of Technology Acceptance Theory (TAM) and methodology of Statistical Package for the Social Science (SPSS) has shown the fact that it has a role in the consumer adopting mobile payment. These state that how the perceived ease of use is also present within the theory that they wish to apply.

The perceived ease of use is strongly associated with the complexity of the interface and convenience of the third-party mobile payment services. Complex procedure or maneuver needed will hinder the user to have intention to use and reuse the services. Therefore, past researchers have always prioritised on inquiring consumer and respondents' thoughts on the complexity of third party mobile payment service. When a high perceived ease of use is present within a service, this will improve the usability as it will reduce the chance of error to appear which attract the user to reuse the service more (Teoh, Chong, Lin & Chua 2012). The result from their self-administrated questionnaire and multiple linear regressions reveals that ease of use is important in consumer perception of adopting mobile payment.

The intention of consumer using mobile payment service relates to how fast the user can grab hold on the flow and operation of the application. Surveys and interviews have shown that consumer will take into account on their experience with mobile payment service before devoting entirely in applying the

technology in their life. This further explain that how easy the service is to be understood by the targeted consumer to affect the usability Alipay service and their attitudes toward the adoption of mobile service and technologies (Arvidsson, 2013). The more efficient a mobile payment services, the more frequent it will be chosen by consumer especially for those that will need to make multiple transaction at different location and time (Zhao & Kurnia, 2014).

However, the perceived ease of use of mobile payment is also defined as a relationship between the consumer and merchants. One of the factors that affect merchant intention to use mobile payment service would be the perceived ease of use in terms of consumer and the merchant themselves (Cabanillas & Rubio, 2017). Furthermore, the scenario is more contrast where the operation of Alipay in shops and shopping malls by merchants will also be considered as a kind of perceived ease of use. An example of an untrained employee conducting the mobile payment service will only complicate the process and hence causing the consumer to refuse reusing the service (Heijden, 2002).

2.1.6 Perceived Ease of Use, Behavioral Intention and Consumer Adoption

Consumer's behavioral intention in using Alipay services is affected by the perceived ease of use. The consumer may neglect the service if the procedure is tedious and complex.

Satisfaction from the ease of using the service may stimulate the consumer behavior in adopting Alipay services. In an interview carry out by Schierz, Schilke and Wirtz (2010), the participants respond that one of the important factors for them to accept adopting mobile payment is the perceived ease of use. Xie and Lin (2014) have decided to include the perceived ease of use in their own research to show the user intention and behavior to adopt third party mobile payment services. The empirical result from the Unified Theory of acceptance and use of technology (UTAUT) and further statistical analysis support that perceived ease of use

determine the behavior in consumer adoption of online transaction in Singapore. However, in the research conduct by Dastan and Gurler (2016), their result of using the confirmatory factor analysis have shown that the behavioral intention and the perceived ease of use does not have significant relationship. They further elaborate that the technology literacy level affects the perceived ease of use mobile payment while mediated by behavioral intention. An individual lack of interest and knowledge of communicating and utilizing technology service on platform such as mobile phone, tablets and personal computer will have lower technology literacy. This would eventually cause the user to deter using technology service such as making payment using mobile service.

Introduction of Alipay in Malaysia is still at the early stage, hence the consumer and the whole business society need times to adjust their behavior in adopting Alipay. With the perceived ease of use in mind while designing and forming the service, Alipay will be able to attract more users on applying the cashless paying system. As stated by Yeow, Haliyana and Devika (2017) who use the Extended Technology Acceptance Model (TAM) a high perceived ease of use mobile service will increase the usage of consumer. Hence, an individual behavior will tends to adopt a mobile payment service.

2.1.7 Facilitating Condition and Consumer Adoption

Facilitating condition is one of the vital elements that influences the consumer adoption of mobile payment (Hossain, Hasan, Chan &Ahmed, 2017). Facilitating condition can be known as the degree to which technical and infrastructural resources and it is one of the support tools and guidance availability to overcome technology difficulties.

The literatures reveal that facilitating condition focuses on the area of technological environment in eliminating barriers of technology use. According to Venkatesh, Morris, Gordon and Davis (2003), improved facilitating condition can bring convenience to consumers. The methods used are online survey and face to

face interview which are conducted in shopping malls of different suburbs. After that, the data is analyzed using the structured equation modeling (SEM).

Based on the study of Yang and Forney (2013), an advanced technology and well-designed interface can play an important role in facilitating mobile payment, since using online mobile payment is a voluntary activity for obtaining specific benefits or services. Other than that, advancement in facilitating condition will increase the consumer willingness to use online mobile payment rather than cash transaction (Yang and Forney 2013). Hence, consumer knowledge of using the technology would be relevant in measuring the facilitating condition construct. Mobile device with better interface and data processing capabilities will improve facilitating condition. The consumer knowledge of using mobile payment functions and features can lead to a minimal technological infrastructure barrier.

Moreover, businesses can attract consumers by improving their facilitating condition (Maimbo, Saranga & Strychacz, 2010). Facilitating condition is a motivating factor that results in consumer ease of use of technology (Triandis, 1980). PLS-SEM is used and the result shows good facilitating condition can increase the performance expectancies when using mobile payment services. Therefore, facilitating condition can bring positive impact on consumer adoption of Alipay due to the existence of operational infrastructure system and online mobile payment system. Besides, Oliveira, Thomas, Baptista and Campos (2016) prove that advance technology specific characteristics and environmental characteristics will have positive relationship with consumer adoption.

According to Khalilzadeh, Ozturk and Bilgihan (2017), Guo, Huang and Craig (2015), facilitating condition has direct positive relationship with consumer adoption at the beginning of implementation and development of mobile payment. Seven-point Likert scale questionnaire is used in both studies. Apart from that, this is also supported by Jeong and Yoon (2013), who claim that advanced facilitating condition can save consumers' time and bring both convenience and effectiveness to consumers and sellers.

2.1.8 Facilitating Condition, Behavioral Intention and Consumer Adoption

According to Jeong et.al (2013), the unified theory of acceptance and use of technology (UTAUT) model, facilitating condition is introduced as determinant of key constructs as it has different types of relationship (positive or negative relationship) on the behavioral intention to use mobile payment. On the other hand, Venkatesh et al. (2003) argue that the facilitating condition would not bring impact on behavioral intention. However, this is only applied to countries such as Japan and America that are fully equipped with advanced facilitating condition. Therefore, facilitating condition in online mobile payment would not have any impact on attitude and behavioral intention to use.

Based on Venkatesh, Thong and Xu (2012), facilitating condition can be served as the proxy for actual behavioral control and influences behavior intention directly. Facilitating condition is freely available within an organization and fairly invariant across user. Moreover, facilitating condition varies significantly across technology generation, application developer, mobile gadgets and other factors. Therefore, the role of facilitating condition is more like perceived behavioral control in the theory of planned behavior (TPB) and it will influence behavioral intention (Ajzen, 1991).

Venkatesh et al. (2012) claim that consumer who access to a favorable set of facilitating condition is more likely to have higher behavioral intention to use a technology. For example, consumers' behavioral intention is affected by the amount of information they have toward the certain online mobile payment. In general, a consumer with low facilitating condition has lower intention to use online mobile payment. Consumers' experience towards facilitating condition may affect the behavioral intention due to different rate of data transfer. The researcher uses survey method to collect data from 165 respondents to run the test. The result of regression analysis shows that facilitating condition is positively related to the behavioral intention to use mobile payment (Jeong & Yoon, 2013).

Behavioral intention is also moderated by age, gender, and experience. According to Morris, Venkatesh and Ackerman (2005), older consumer will face difficulty in learning new technology or complex information. Therefore, older consumers need greater importance on the availability of adequate support while comparing with younger consumer (Hall & Mansfield 1975). In addition, men are willing to spend more effort to understand and overcome different constraints and difficulties to pursue their goals, but women will only concern about how the facilitating condition is convenient to achieve their objectives (Venkatesh & Morris, 2000). This is supported by Lynott and McCandless (2000), who claim that men tend to rely less on facilitating condition while compared to women. It is also explained partly by the cognitions related to gender roles in the society, which is men tend to be more task-oriented than women.

Experience also plays an important role between facilitating condition and behavioral intention. Based on Alba and Hutchinson (1987), greater experience can lead to higher intention to use Alipay as consumers are familiar with the technology. In fact, the intention to use Alipay is higher with technological-literated and experienced consumers, as they depend less on external support (Notani, 1998).

In short, facilitating condition which brings utilitarian performance expectancy might lead to hedonic performance expectancy in future. Moreover, behavioral intention has a joint impact between facilitating condition and consumer adoption. Thus, it can be concluded that advancement in facilitating condition will affect consumer behavioral intention (Yang, 2010).

2.1.9 Switching Barrier and Consumer Adoption

Switching barrier can be divided into three dimensions, which are switching cost, attractiveness of alternatives, and interpersonal relationship (Kim, Park & Park, 2007).

2.1.9.1 Switching Cost and Consumer Adoption

Switching cost has been found within the previous studies in the field such as economics, marketing and management literature (Kim, Gupta & Lee, 2013). Chen and Hitt (2002) define switching cost as perceived disutility faced by individual due to switching of service providers. Dzhain (2014) states that switching cost include search cost, cost of transaction, learning cost, complementary investment and brand relationship cost.

High switching cost is one of the main problems that exist in mobile payment, especially when consumers want to change from credit card to mobile payment (Sihaloho, 2009). Mackensen (2015) states that switching cost may have negative influence for consumer to adopt and diffuse into mobile payment services. This statement can be supported by Liu, Zhuo, Soman and Zhao (2012), who state that the purchasing cost, as well as upgrading cost will be very high for those who do not own a smartphone or have the smartphone that cannot utilize the mobile payment application. The researchers conduct qualitative interview regarding the issues of consumer adoption with three experts in payment industry through conference calls.

However, Hayashi (2012) refutes by stating that there is no direct relationship of switching cost towards the adoption of mobile payment services. Switching cost of upgrading smartphone is not viewed as a major cost of making mobile payments because the consumers would derive other benefits from upgrading their smartphones too. The researcher also mentions that the ongoing cost by using mobile payment services is likely to be the same or lower than traditional paying method such as debit and credit card. The common cost incurred to use mobile payment is data plan subscription fee. Since the amount of data communication used for mobile payment is very small compared to accessing a social networking site or sending and receiving text message, the consumers may see no difference in the cost when they switch to mobile payments (Hayashi, 2012).

2.1.9.2 Attractiveness of Alternatives and Consumer Adoption

If alternatives have less comparative advantage, near field communication (NFC) mobile payment will fill in the gap, which is similar with the case of Alipay in Malaysia. According to the report from VeriFone (2010), consumers are able to save times roughly of 10^{15} seconds through contactless payment. This speed is captivating enough in busy retail markets. Customers will choose and stick with the attractive service which shows their readiness to adopt Alipay mobile payment. The alternatives like credit card and debit card payment are also convenient to consumers since they are faster than traditional cash, so Alipay needs to surpass these two options in order to substitute them in market. According to Pham and Ho (2015), when customers realize that mobile payment provides more values that others cannot do, they may develop positive intention or high readiness to adopt it. The researchers distribute survey questionnaire among Taiwanese respondents through online. Besides, they apply sampling method in their study. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) are conducted for proposed model.

2.1.9.3 Interpersonal Relationship and Consumer Adoption

According to Hogg (1994), individuals prefer to remain in group when there is presence of strong relationship among each other's. Communication is the basis of every interpersonal relationship, and with effective communication, the relationship between individuals would be further strengthening (Babonea, 2012).

Alternative payment system, including mobile payment is growing with rapid movement, which brings to the issue regarding adoption of innovation (Karsikko, 2015). Previous research has stated that adoption of innovation always starts with diffusion of innovation, and communication is the significant source to encourage the diffusion of innovation (Lin, 2014). Thus, interpersonal relationship will have effect on consumer adoption towards using mobile payment services. For instance, Derbaix and Vanhamme (2003) states that word of mouth (WOM)

has been accepted as the most important communication format between individual consumers for a long time. Arndt (1967) mentions in his article that WOM process as "seeking social support for adoption or non-adoption". According to Mazzarol, Sweeney, and Soutar (2007), positive WOM is under the category of social persuasion. Bandura (1977a) mentions that verbal persuasion is one of the sources of consumer self-efficacy. The researcher also states that there is positive relationship between self-efficacy and exposure to mobile payment. This statement is supported by social cognitive theory, which states that consumers' personal factor will be directly affected by the environment factor (Bandura, 1977b, 1986).

However, based on the finding above, previous researches only mention that interpersonal relationship will affect adoption towards using mobile payment and their study of interpersonal relationship is only secondary research. Hence, this study tends to fill in this gap by conducting survey to come out with actual result.

2.1.10 Switching Barrier, Behavioral Intention and Consumer Adoption

2.1.10.1 Switching Cost, Behavioral Intention and Consumer Adoption

Switching cost can be understood as the cost that consumer will face when they want to change between substitute products (Avgeropoulos & Sammut-Bonnici, 2015). All impacts that a substitute can have on the purchaser's value chain, including linkages with provider's value chain will lead to arising in switching cost.

According to United States Postal Service (2018), one of the switching costs is financial cost. Luarn and Lin (2005) introduce two new constructs from perceived behavioral control in the theory of planned behavior (TPB), to the original TAM, which are "perceived self-efficacy'' and ''perceived financial cost''. They want to further examine individual's behavior in accepting mobile

banking in the context of wireless commerce. The researchers conduct qualitative interview with 394 approaches and successfully obtain 180 complete surveys in an e-commerce exposition and symposium held in Taiwan. They conduct a confirmatory factor analysis by using LISREL 8.3 to test the measurement model and find out that financial cost considerations might influence behavioral intention to use mobile banking. The researchers conclude by stating that perceived financial cost will have a negative effect on behavioral intention to use mobile banking. This is also supported by Peng, Xu and Liu (2011), in which the researchers mention that consumer will conduct cost-benefits evaluation before making decision. The researchers also state that while comparing to traditional payment, mobile payment incurs high costs, including direct transaction fee, access cost of usage and equipment cost, which are not favorable to consumer. It can be supported by theory of planned behavior, at which situations or factors limit influence of attitude on behavior (Fishbein & Ajzen, 1975). In this case, high cost of using mobile payment will limit the behavioral intention to adopt mobile payment services.

2.1.10.2 Attractiveness of Alternatives, Behavioral Intention and Consumer Adoption

Attractiveness of alternatives is determined by several contexts like reputation, image and service quality that competitors in market compete with to draw consumers' intention. Since Alipay in Malaysia is at the infancy stage, few alternatives exist and act as obstacles for Alipay to penetrate local market. According to Kim, Gupta and Jeon (2013), attractiveness of alternatives increases as the value of alternatives increases. It will affect consumer intention to adopt the particular service. Similarly, when Alipay fulfills the entire requirement that the consumer is looking for, they may perceive high satisfaction towards Alipay and lower satisfaction to other payment method. The researchers apply IS continuance model and collect the data through questionnaire by interviewing 20 WiMAX users and 2 industry experts. Besides, Thong, Hong and Tam (2006) mention that consumers are value-driven and they will make a choice on higher attractiveness

one, showing their behavioral intention. There are three models in this journal which are Expectation-Confirmation Model in IT Domain (ECM-IT), Technology Acceptance Model (TAM), and a hybrid model integrating TAM and ECM-IT (extended ECM-IT). The researchers collect the data from 1826 mobile Internet users and conduct LISREL analysis. The result shows that all models meet the various goodness-of-fit criteria.

2.1.10.3 Interpersonal Relationship, Behavioral Intention and Consumer Adoption

According to Sihaloho (2009), interpersonal relationship affects behavioral intention to use mobile payment. The researcher states that individuals who involve in a relationship and successfully develop into close friendship must want to maintain those relationships for a long period, due to a sense of mutual love, mutual trust and solidarity. This can be further demonstrated by interpersonal theory, which provides the explanation of human nature that people are not relationship subjective singular entities (Sihaloho, 2009).

Interpersonal relationship, in one extent refers to strength of bond tied between a service provider and consumer, can be developed through interaction such as a sense of caring, trust, communication, and closeness between both parties (Sihaloho, 2009). If there is a very strong relationship between a buyer and seller, people will tend to maintain that particular service (Silaloho, 2009). This can be linked to the construct, 'skill' within interpersonal relationship, which states that individual must obtain basic skills and personal competence to build up the relationship with others (Martin & Thomas, 2000). According to Berry (1995) and Peterson (1995), long term interpersonal relationship provides a lot of benefits to consumer, including social benefits such as personal recognition and fellowship, psychological benefits like reducing anxiety and credit, economics benefits such as discount and time-saving, and customization benefits such as customer management. All of these benefits will eventually become relationship-specific assets which acquire consumers to pay cost if they want to switch to other service providers (Kim, Park & Park, 2007). Furthermore, Cheong, Park and Hwang

(2003) find out that if a service company has successfully developed a good personal relationship with consumers, the consumers will have negative perception towards switching to other service providers.

2.2 Review of theoretical framework and model development

2.2.1 Unified Theory of Acceptance and Use of Technology (UTAUT) Model

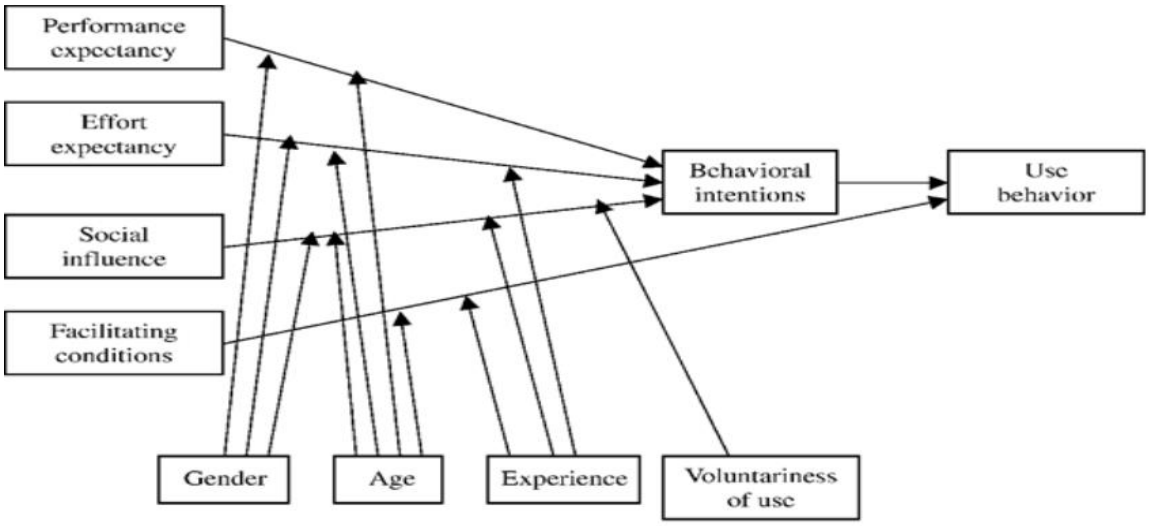
This study describes how users' behavior will affect usage of information system. UTAUT Model (Unified Theory of Acceptance and Use of Technology) is a technology acceptance model that explains usage behavior and intention to use an information system (Venkatesh, 1999). UTAUT Model is developed through a combination and review of 8 other models including theory of reasoned action, technology acceptance model, motivational model, theory of planned behavior, a combined theory of planned behaviour and technology acceptance model, model of personal computer use, diffusion of innovations theory, and social cognitive theory. It consists of 4 constructs which are performance expectancy, effort expectancy, social influence, and facilitating condition.

UTAUT Model is widely applied in technological field. Eckhardt, Laurner & Weitzel (2009) has applied UTAUT model in their study to analyze the relationship of social influence and workplace referent. Other than workplace, Verhoeven, Heerwegh and Wit (2010) also adopt this model to study the behavior of university students towards the use of computers. UTAUT Model is also used by Curtis, Edwards, Fraser, Gudelsky, Holmquist and Thornton (2010) for their studies. Their results prove that different gender will have different rate of social media adoption.

Guo et al. (2015) state that social influence and facilitating condition show positive significant relationship between consumer adoption of technology by

using UTAUT Model. Similar with previous one, UTAUT is used to study the behavior of consumer adoption towards using mobile payments in the perspective of social influence. The results show that social influence has positive impact on users' behavioral intention to use Alipay, as customers believe that high influence from significant others will have high intention to use Alipay (Xie & Lin, 2004).

Figure 2.1 UTAUT Model

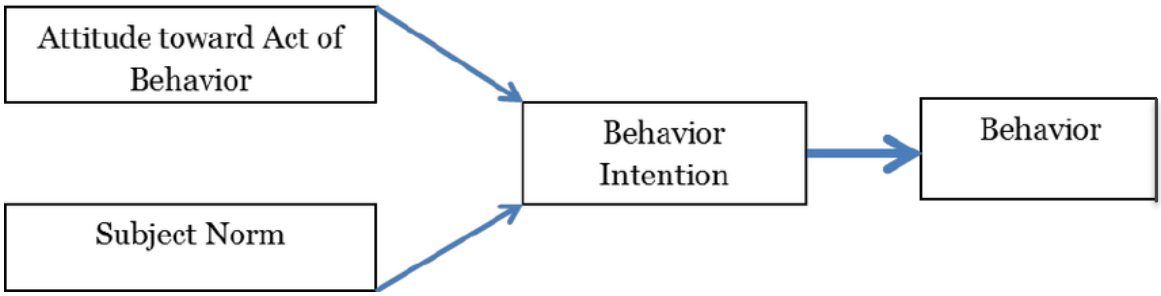


Source: Venkatesh (1999)

2.2.2 Theory of Reasoned Action

Theory of Reasoned Action （TRA） is used to examine intentions of consumers (Fishbein & Ajzen, 1975). The intention to do will motivate an individual to perform an actual behavior. TRA suggests that stronger intention will lead to increased effort to perform the behavior, and thus this will increase the likelihood to perform the action. Both models suggest the same theory which constructs lead to behavioral intention and behavioral intention will affect the use of mobile payments by consumers. According to Leong and Wang (2006), switching barrier has negative relationship with behavioral intention, and behavioral intention has significant positive relationship with consumer intention to use.

Figure 2.2 Theory of Reasoned Action Model

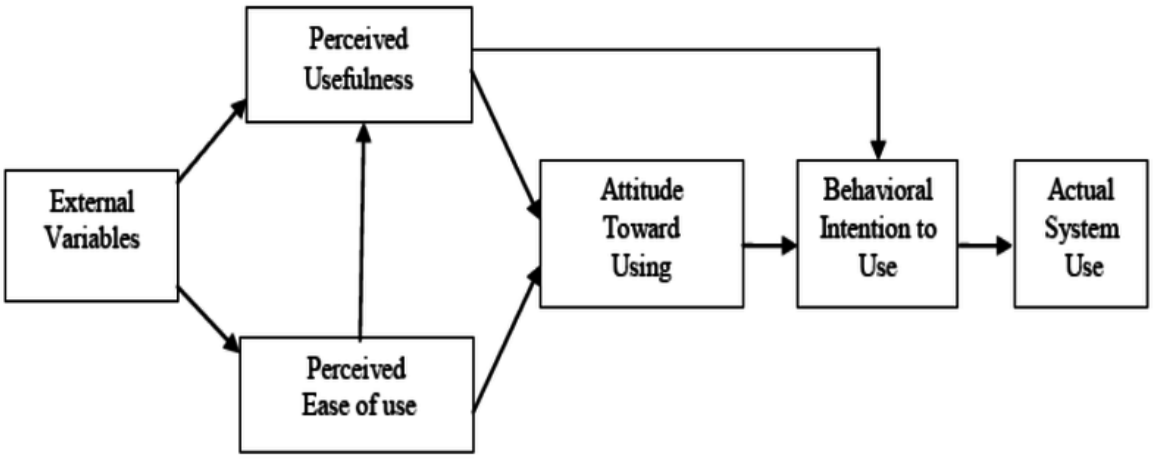


Source: Fishbein and Ajzen (1975)

2.2.3 Technology Acceptance Model

This model is proposed by Davis (1989) to explain computer usage behavior. It is one of the most influential extensions of Ajzen and Fishbein's Theory of Reasoned Action (TRA). It consists of two keys constructs, which is perceived ease of use and perceived usefulness. Schierz et al. (2010) claim that perceived ease of use has positive relationship with attitude towards adoption using Alipay. According to Schierz et al. (2010), the original model is extended by including sustainability and credibility into their research. Moreover, the traditional Technology Acceptance Model (TAM) factor includes additional factor which is switching barrier (Jeong & Yoon, 2013). The results show that there is a positive relationship between perceived security and the attitude towards using Alipay.

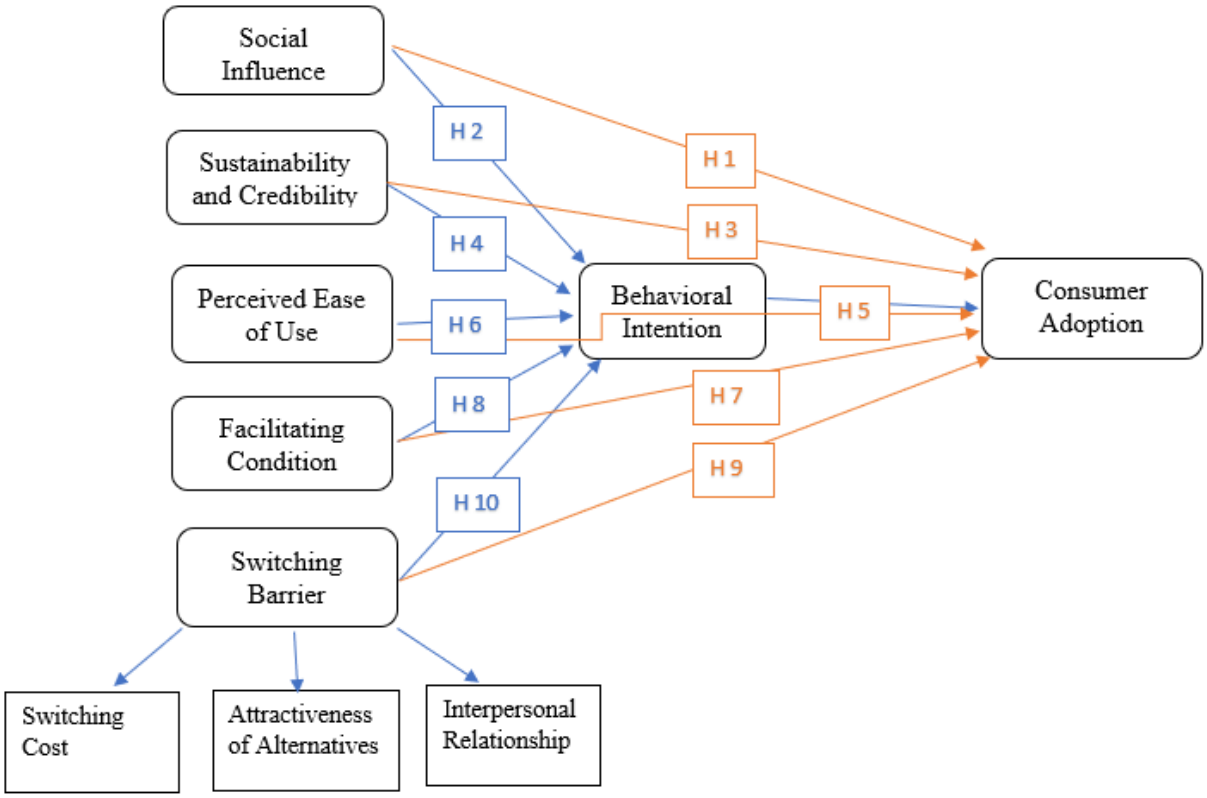
Figure 2.3 Technology Acceptance Model



Source: Davis (1989)

2.3 Proposed conceptual framework

Figure 2.4: Proposed model of UTAUT Model on consumer adoption to use Alipay in Kuala Lumpur.



Source: Developed for research

This proposed conceptual framework for the UTAUT Model on consumer adoption to use Alipay in Malaysia is shown in Figure 2.4. It would serve as a basis for the whole research. It consists of one dependent variables, one mediating variable and five independent variables as well as three sub-variables towards consumer adoption to use Alipay in Kuala Lumpur.

2.4 Hypothesis Development

2.4.1 Social Influence and Consumer Adoption

Majority of the studies state that social influence is positively related to consumer adoption (Chong, 2013; Cheah et al., 2013; Khalifa & Shen, 2008; Lerner et al., 2014). Social influence affects consumers emotion and readiness in using mobile payment due to the social pressures around them. Emotion is a powerful and predictable driver of decision to adopt Alipay. Thus, the hypothesis testing is made below.

H_1: Social influence is positively related to consumer adoption of Alipay.

2.4.2 Social Influence, Behavioral Intention and Consumer Adoption

Previous studies say that social influence is mediated by behavioral intention towards consumer adoption (Yau & Ho ,2015; Shen et al.,2006; Rivis & Sheeran, 2003; Fang et al., 2017; Zhou et al., 2010). Consumers behavior can be shaped as long as social influence is able to impact one's intentions. Their behavioral intention can be determined by the expectations of significant others. Thus, the hypothesis testing is made below.

H_2: Social Influence is mediated by behavioral intention towards consumer adoption of Alipay.

2.4.3 Sustainability and Credibility and Consumer Adoption

Majority of the studies claim that sustainability and credibility have positive relationship to consumer adoption (Lee & Chung, 2009; Chandra, Srivastava & Theng, 2010; Song & Zahedi, 2007; Kim, Xu & Koh, 2004; Chen & Cheng, 2009). Good information quality, system quality, service quality and security are the main things to attract consumers to adopt mobile payment directly. Thus, the hypothesis testing is made below.

H_3: Sustainability and credibility of Alipay is positively related to consumer adoption of Alipay.

2.4.4 Sustainability and Credibility, Behavioral Intention and Consumer Adoption

Previous studies state that sustainability and credibility is mediated by behavioral intention towards the consumer adoption of Alipay (Cronin, Brady & Hult, 2000; Beldad, De Jong & Steehouder, 2010). Customers cultivate positive behavioral intention from their satisfaction when they receive good service quality in terms of sustainability and credibility. This will induce them to adopt Alipay service. Thus, the hypothesis testing is made below.

H_4: Sustainability and Credibility is mediated by behavioral intention towards consumer adoption of Alipay.

2.4.5 Perceived Ease of Use and Consumer Adoption

There are many studies say that perceived ease of use is positively related to the consumer adoption of Alipay (Choi & Sun, 2015; Teoh et al., 2012; Arvidsson, 2013; Zhao & Kurnia, 2014). If consumers can rapidly grab and hold the flow of the application, it leads to high perceived ease of use. This can improve the usability and reduce chance of error and thus attract more users to adopt the service. Thus, the hypothesis testing is made below.

H_5: Perceived ease of use is positively related to the consumer adoption of Alipay.

2.4.6 Perceived Ease of Use, Behavioral Intention and Consumer Adoption

Majority of the studies claim that perceived ease of use is mediated by behavioral intention towards consumer adoption of Alipay (Xie & Lin, 2014; Yeow, Haliyana & Devika, 2017). A user-friendly application can influence a person's behavior and determine the frequency of the service usage. Thus, the hypothesis testing is made below.

H_6: Perceived ease of use is mediated by behavioral intention towards consumer adoption of Alipay.

2.4.7 Facilitating Condition and Consumer Adoption

There are many studies state that facilitating condition have positive relationship with consumer adoption (Yang & Forney, 2013; Yang, Md-Nor & Abu-Shanab, 2009; Maimbo, Saranga & Strychacz, 2010; Oliveira, Thomas, Baptista & Campos, 2016; Khalilzadeh et al. 2017; Guo, Huang & Craig, 2015).

Advanced facilitating condition brings convenience and increase consumer willingness to adopt Alipay. Thus, the hypothesis testing is made below.

H_7: Facilitating condition of Alipay is positively related to consumer adoption of Alipay.

2.4.8 Facilitating Condition, Behavioral Intention and Consumer Adoption

Majority studies claim that facilitating condition is mediated by behavioral intention towards consumer adoption of Alipay (Venkatesh et al. 2012; Ajzen, 1991; Jeong & Yoon, 2013; Alba & Hutchinson, 1987; Yang, 2010). Consumers will have more intention to adopt Alipay when they receive great amount of information and experience with the technology. Thus, the hypothesis testing is made below.

H_8: Facilitating condition is mediated by behavioral intention towards consumer adoption of Alipay.

2.4.9 Switching Barrier and Consumer Adoption

Previous studies say that switching cost has negative relationship with consumer adoption of Alipay (Sihaloho, 2009; Mackensen, 2015; Liu, Zhuo, Soman & Zhao, 2012). Besides, some researchers say that attractiveness of alternatives is positively related to consumer adoption of Alipay (VeriFone, 2010; Pham & Ho, 2015). Furthermore, majority of studies state that interpersonal relationship is positively related to consumer adoption of Alipay (Lin, 2014; Derbaix & Vanhamme, 2003; Mazzarol, Sweeney & Soutar, 2007). Thus, the hypothesis testing is made below.

H_9: Switching barrier of Alipay is positively related to consumer adoption of Alipay.

2.4.10 Switching Barrier, Behavioral Intention and Consumer Adoption

Previous studies say that switching cost is mediated by behavioral intention towards consumer adoption of Alipay (Peng, Xu & Liu, 2011; Fishbein & Ajzen, 1975). Besides, attractiveness of alternatives is mediated by behavioral intention towards consumer adoption of Alipay (Kim,Gupta & Jeon, 2013; Thong, Hong & Tam, 2006). Furthermore, interpersonal relationship is mediated by behavioral intention towards consumer adoption of Alipay (Sihaloho, 2009; Berry & Peterson, 1995; Cheong, Park & Hwang, 2003). Thus, the hypothesis testing is made below.

H_{10}; Switching barrier is mediated by behavioral intention towards consumer adoption of Alipay.

2.5 Gap of Literature Review

Although many researchers have used switching barrier as an explanatory variable to determine consumer adoption towards using third party mobile payment including Alipay, they often omit one of the components under switching barrier, which is interpersonal relationship. Up to now, there has been limited work in exploring the importance of interpersonal relationship towards adoption of mobile payment. Kim, Park and Park (2007) state that interpersonal relationship between the company and the customer can be a significant factor as switching barrier. It is interesting to know that interpersonal relationship might become relationship-specific asset for competitors, by requiring consumer to pay cost from being switching to another service provider. However, many researchers do not focus on further studying to this component. Thus, this study will fill up the gap of literature by investigating the switching barrier, which includes the dimension of interpersonal relationship.

Other than that, this study addresses the knowledge gap of past studies. Many researches have been carried out in different countries, such as China and Singapore, but not Malaysia. There is limited knowledge about consumer adoption of Alipay in Malaysia. Thus, our study will provide understanding towards determinants of consumers' adoption of Alipay in Malaysia.

Last but not least, this study aims to fulfill the gap of past research on mediating variable. Behavioral intention is incorporated in this model to mediate the influence of social influence, sustainability and credibility, perceived ease of use, facilitating condition and switching barrier on consumer adoption of Alipay. Bagozzi and Dholaka (1999) argue that consumers usually consume with a certain goal in their mind before they enter into transaction. Hence, it is important to study the predominated goal-directed mind of consumers.

2.6 Conclusion

The literature review shows that social influence, sustainability and credibility, perceived ease of use, facilitating condition and switching barrier are the factors on affecting behavioral attention. Then, it influences directly on consumer adoption of Alipay. Our study creates the stronger base of independent variables so that it can explain the effects on consumer adoption in a comprehensive way. Besides, the proposed framework is constructed based on the research objectives and research questions. This can help to provide the new and different findings compared to the previous research.

CHAPTER 3: METHODOLOGY

3.0 Introduction

This chapter discusses the methodology used in this study. The purpose of this section is to make sure research techniques are appropriate to correctly collect and analyze data in this research.

3.1 Research design

According to Ghauri and Grønhaug (2005), research design constructs a plan or a framework for data collection and analysis. It is important to convey information about key features of the study which shows how major parts of the research project work together (Harwell, 2011).

This study is a quantitative research using cross sectional data based on correlation research design. Quantitative research using cross-sectional data based on correlation research design. With this type of research design, the relationship between the exogenous construct (social influence, sustainability and credibility, perceived ease of use, facilitating condition, switching barrier) and endogenous construct (consumer adoption) through mediator (behavioral intention) can be determined. The survey methods are also employed to collect the information using the face-to-face questionnaire distribution. The purpose of this study is to obtain an understanding of underlying reasons and provide insights for consumer adoption of Alipay.

3.2 Sampling Design

3.2.1 Target population

This study will focus survey respondents of all age groups of consumers in public area of Kuala Lumpur (KL) city. Diacon and Maha (2015) state that income is a principal determinant of consumption and with higher consumption will lead to increasing gross domestic product (GDP) within an area. According to Mohd (2017), Kuala Lumpur records the highest median monthly household income of RM9073 in 2016. Chan (2017) reveals that Kuala Lumpur has enjoyed the highest GDP per capita growth rate of 123% within 10 years. Thus, it is believed that Kuala Lumpur is the most suitable city to conduct this survey. Besides, Kuala Lumpur is also ranked as alpha world city, and it is the economic and financial city of the country (Kuala Lumpur Population, 2017). The consumers in these areas consist of working adults, teenagers, students and retirees.

3.2.2 Sampling size

Based on Krejcie and Morgan (1970), an area with the total of population size 100000 and above requires sample size at least of 384 to represent the respondents in the selected citizen. According to Malaysian Department of Statistic (2018), KL has an estimated population of 1.80 million as of 2017. To fulfil the sample size criteria, total of 394 sample size will be selected to represent the consumers in Kuala Lumpur. The targeting area to distribute the survey forms are Mid Valley mall, KTM and LRT station in KL Sentral, and Bukit Bintang.

3.2.3 Sampling technique

The sampling technique used in this study is simple random sampling techniques. Simple random sample is referred to a subset of a statistical population, in which each people in the subset group has equal probability of being chosen. In other words, this sampling technique picks a smaller sample size from the targeted area population and use it to represent the total population of that particular area. By using this method, the surveys will be distributed randomly to any people within the targeted location without any restrictions. Benefits of random sampling are avoidance of large sample population disruption, and it may guarantee the results to be estimated nearly accurate and will not deviate too far from actual result.

3.3 Research Instrument

The research instrument used in this study is a self-administrated questionnaire. The questionnaire is divided into two sections, which are section A and section B. Section A consists of items for variables while Section B consists of demographic variables. Items in Section A are constructed based on the five independent variables, mediating variable and dependent variable.

Likert scale is adopted to analyze all observed variables. A 5-point rating scale range from 1 (strongly disagree) to 5 (strongly agree) will be incorporated within the questionnaire to collect respondents' feedback. The sources of items for each construct are presented in Table 3.1.

Table 3.1 Source of Items

	Construct 1: Social Influence (SI)
SI 1	Xie & Lin (2014)
SI 2	Xie & Lin (2014)
SI 3	Guo, Huang & Craig, 2015)
SI 4	Yang, He & Lee (2007)
SI 5	Yang, He & Lee (2007)
	Construct 2: Sustainability and Credibility (SAC)
SAC 1	Yeow, Khalid & Nadarajah (2017)
SAC 2	Yeow, Khalid & Nadarajah (2017)
SAC 3	Tan & Teo (2000)
SAC 4	Tan & Teo (2000)
SAC 5	Parasuraman et al. (2005)
SAC 6	Xie & Lin (2014)
SAC 7	Xie & Lin (2014)
	Construct 3: Perceived Ease of Use (PEOU)
PEOU 1	Venkatesh and Davis (2000)
PEOU 2	Venkatesh and Davis (2000)
PEOU 3	Taylor and Todd (1995);
PEOU 4	Taylor and Todd (1995);
PEOU 5	Taylor and Todd (1995);
PEOU 6	Bhattacherjee (2001);
	Construct 4: Facilitating Condition (FC)
FC 1	Xie and Lin (2014)
FC 2	Xie and Lin (2014)
FC 3	Xie and Lin (2014)
FC 4	Xie and Lin (2014)
FC 5	Chen, Salmanian and Akram (2017)
FC 6	Fuksa (2013)
FC 7	Fuksa (2013)
FC 8	Fuksa (2013)
FC 9	Fuksa (2013)
	Construct 5: Switching Barrier (SB) **a. Switching Cost (SC)**
SC 1	Magalhães (2009)
SC 2	Magalhães (2009)
SC 3	Magalhães (2009)
SC 4	Magalhães (2009)
	b. Attractiveness of Alternatives (AOA)
AOA 1	Jones et al. (2000)
AOA 2	Jones et al. (2000)
AOA 3	Jones et al. (2000)
AOA 4	Jones et al. (2000)

	c. Interpersonal relationship (IR)
IR 1	Zolait & Sulaiman (2009)
IR 2	Zolait & Sulaiman (2009)
IR 3	Zolait & Sulaiman (2009)
IR 4	Zolait & Sulaiman (2009)
	Construct 6: Behavioral Intention (BI)
BI 1	Peng, Xu & Liu (2011)
BI 2	Peng, Xu & Liu (2011)
BI 3	Peng, Xu & Liu (2011)
BI 4	Venkatesh et al. (2003)
BI 5	Venkatesh et al. (2003)
BI 6	Venkatesh et al. (2003)
	Construct 7: Consumer Adoption (CA)
CA 1	Venkatesh & Davis (2000)
CA 2	Venkatesh & Davis (2000)
CA 3	Venkatesh & Davis (2000)
CA 4	Tan & Teo (2000)
CA 5	Tan & Teo (2000)

3.4 Definition of variable

Table 3.2 explains the description of each variable. The description of variables is written according to the sequence of dependent variable, independent variables and mediating variable. The dimensions of switching barrier include switching cost, attractiveness of alternatives and interpersonal relationship.

Table 3.2 Description of Variable

Variable	**Description**
Consumer Adoption	Consumer adoption is shown as an action and process (Rogers, 1976), conservative conceptualized as a sequence of steps in which the consumer passes from initial knowledge of an invention, to establishment an approach towards it, to achieve an adoption decision (Rogers, 1962).

Social Influence	Social influence is the degree to which a person perceives that others believe he or she would use the new and innovative system (Venkatesh et al., 2003). Social influence, speculated to medium the influence or effect on behavioral intention by gender and age, skill, and volunteers of system.
Sustainability and Credibility	According to Choi and Sun (2016), perceived credibility is explained as the consumers' determination on the secrecy and security problem of exercising mobile payment services. Sustainability measures that meeting our own needs and wants without compromising the capability of new generations to meet their own needs and wants.
Perceived Ease of Use	Perceived ease of use can be explained as the degree to which an individual trust that the use of the system would be free of effort (Davis, 1993).
Facilitating Condition	Facilitating condition is shown to the degree to which a human think that an organizational or a company as well as technological infrastructure appear to support use of the system (Venkatesh et al., 2003).
Switching Barrier	Switching barrier can be divided into three constructs, which are switching cost, attractiveness of alternatives, and interpersonal relationship (Kim, Park & Park, 2007).
	i. Switching Cost: Switching cost can be understood as the cost that consumer will confront when they chose to adopt between substitute products (Avgeropoulos & Sammut-Bonnici, 2015).

	ii. Attractiveness of Alternatives: Attractiveness of alternatives refers to people perceptions regarding the extent to which viable competing alternatives are available in the marketplace. It is conceptualized as the client's estimate or forecast of the likely contentment available in an alternative (Jones, Mothersbaugh & Beatty, 2000).
	iii. Interpersonal Relationship Interpersonal relationship is interpreted as a psychological and social relationship that manifests itself as concern, believe, intimacy, relationship and communication (Gremler, 1995).
Behavioral Intention	Behavioral intention is expressed as a people's perceived likelihood or subjective probability that he or she will embark in every behavior. Behavioral intention responded how difficult an individual is willing to use or try, and how motivated he or she is to execute the behavior (Khalilzadeh et al., 2017).

3.5 Data Collection Method

This study is conducted to investigate the mediating effect of consumer adoption on Alipay as a new payment method using primary data. To collect data for this study, the personal distribution of self-administrated questionnaire is conducted. Approval letter to conduct the survey is obtained from Faculty of Business and Finance General Office, Universiti Tunku Abdul Rahman.

Questionnaire will be distributed face-to-face to the consumers at Kuala Lumpur. A small brief on the topic will be done to each consumer before they fill up the questionnaire. This is to prevent any misleading or misunderstanding towards the topic.

3.6 Empirical Testing Procedure

To test the results, this research will be carried out by using Partial Least Square (PLS) Smart program version 3.0. SMARTPLS 3.0 is the statistical software used to perform the statistical analysis in this research to achieve the research objectives. It combines state of the art methods such as complex bootstrapping routines with an easy to use and intuitive graphical user interface (Hair, 2018). The bootstrapping procedure will be able to approximate the T-test statistic for significance testing. Other than that, normality of the data could also be shown through bootstrapping. This section will describe the statistical analysis perform. All the tests that carry out are used to confirm that there will be no error in the regression model.

3.6.1 Descriptive Analysis

Descriptive analysis refers to the procedure that converts the raw data into a form that is easier to characterize, summarize, interpret and understand for both the authors and readers. The data will be analyzed by using two way. First, the data demographic characteristics will be shown in percentage within the same class. Demographic characteristics are gender, age group, race, marital status, educational level, occupation and personal income level. Second, the feedbacks from the respondents will be analyzed by using central tendency method. The feedback from the respondent is deduced into mean according to the items of the questionnaire.

3.6.2 Reliability Analysis

The reliability of the variables is important to ensure the examination of structural model. SMARTPLS 3.0 can provide internal consistency and reliability of the variables with several measurement tests. Outer loading is applied to measure each regression of every single indicator variable on its corresponding construct (Garson, 2016). Besides, Hair, Hult, Ringle and Sarstedt (2017) have suggested that composite reliability will be a better alternative as it is less sensitive towards the number of items in the scale and generally miscalculate the internal consistency reliability. Cronbach's alpha is also used to measure the internal consistency of the test, as it is connected to the inter-relatedness of the items to ensure the validity (Rodriguez & Maeda, 2006). In addition, Average Variance Extracted (AVE) measures the convergent validity in indicator variables (Akkucuk, 2015). Fornell-Lacker under discriminant validity test compares the square root of the average variance extracted (AVE) with the correlation of latent constructs. Furthermore, cross loading measures the impact of an indicator when compared to all other indicators (Hair et al., 2017). Lastly, Heterotrait-Monotrait ratio (HTMT) evaluates discriminant validity in PLS structural equation model and outperform Fornell-Larcker criterion and cross loading (Ab Hamid, M.R., & Mohmad Sidek, 2017).

3.6.3 Inferential Analysis

The result of the study will be analyzed by using bootstrapping in SMARTPLS 3.0. The study tests the direct effect of the independent variables toward the consumer adoption of Alipay using path coefficient analysis. If the direct effect exists, it can be concluded that there is relationship between independent variable and the consumer adoption of Alipay. The significance level will be set at α=0.05. When the p value of one of the independent variables exceed 0.05, the hypothesis will be rejected.

The result will also be analyzed through two-stage mediation relationship and mediating effect analysis. First, the mediation relationship test will be

conducted to determine the mediation relationship between each independent variable and dependent variable. The mediation relationship exists when p value of the indirect effect of the independent variable is less than the significance level of α=0.05. Second, the test will identify the strength of mediation effect of behavioral intention on the relationship between each independents variable and dependent variable using Variance Accounted For (VAF) analysis. To calculate the VAF, coefficient of total effect of variables will be divided with the coefficient of indirect effect of the variables. If VAF is lower than 20%, it means that mediation of behavioral intention does not exist, if VAF is between 20% and 80%, it indicates that there is a partial mediation of behavioral intention and if VAF is more than 80%, the independent variables is fully mediated by the behavioral intention.

3.7 Pilot Study

A pilot study is conducted to investigate the feasibility of variables and questionnaire. The pilot study will involve a smaller-scale of respondents in attempt to prove the reliability of the questionnaire. Data is collected by distributing questionnaire at Kampar, Malaysia. The 30 respondents are selected by using convenience sampling techniques. A short explanation will be given to the respondents before the distribution in order to avoid the misinterpretation of the questionnaire.

The collected data is then analyzed by using the Statistical Package Social Sciences (SPSS). The reliability of each construct must reach 0.8 or higher. If the reliability of the construct does not reach 0.8, the questionnaire has to be amended. This is to ensure that the research data collection does not have any problem.

Table 3.3 Reliability Statistics

Cronbach's Alpha	Number of Items
0.918	50

From table 3.3, the value of Cronbach's Alpha is estimated as 0.918 with the 50 items in the questionnaire. Besides, the values of Cronbach's Alpha for each item are recorded above 0.8 (as shown in Appendix B). This indicates that the questionnaire is considered as reliable as it has met the requirement of the reliability level. Therefore, data collection in Kuala Lumpur can be conducted.

3.8 Conclusion

In this chapter, self-administrated questionnaire is conducted for data collection. Targeted population, sampling location, and sample size are determined too. Besides, a pilot study has been conducted to ensure the feasibility of the study. SMARTPLS 3.0 is the software used to process the collected data. The following chapter will further discuss about the empirical result and output of each methodology.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

This chapter discusses the results obtained by using SmartPLS 3.0. The descriptive and inferential analysis are conducted in this chapter to study consumer adoption of Alipay in Malaysia. In addition, demographic characteristics have also been explained under descriptive data analysis based on several dimensions.

Furthermore, the results analysis obtained from SmartPLS 3.0 are discussed in inferential data analysis. Moreover, summary and discussions have been done to examine the relationships between consumer adoption of Alipay, behavioral intention, social influence, sustainability and credibility, perceived ease of use, facilitating condition, and switching barrier. Last but not least, justification will also be made by referring to results obtained.

4.1 Descriptive Analysis

4.1.1 Respondent Demographic Profile

Table 4.1 Descriptive Data

Demographic Characteristics		Number	Percentage (%)
Gender	Male	212	54.09
	Female	180	45.91
Age Group	Below 21	74	18.87
	Between 21-30	237	60.46
	Between 31-40	42	10.71
	Between 41-50	20	5.1
	Between 51-60	11	2.81
	61 and Above	8	2.04
Race	Malay	62	15.82
	Chinese	280	71.43
	Indian	38	9.69
	Others	12	3.06
Marital Status	Single	311	79.34
	Married	73	18.62
	Divorced	6	1.53
	Widow	2	0.51
Educational Level	Primary or below	8	2.04
	High School or Secondary level	65	16.46
	College Diploma	50	12.76
	Bachelor Degree	235	59.95
	Master Degree	32	8.16
	Doctorate Degree or higher	2	0.51
Occupation	Student	238	60.71
	Self-employed	85	21.68
	Professional	54	13.77
	Unemployed	15	3.83
Personal Income Level	Below RM1500	241	61.48
	RM1501-RM3000	53	13.52
	RM3001-RM4500	23	5.87
	RM4501-RM6000	27	6.89
	More than RM6000	46	11.73

The questionnaire studies respondents' demographic profile based on several characteristics, such as gender, age group, race, marital status, educational level, occupation and personal income level.

According to Table 4.1, the male consumers (54.09%) are found to have higher intention to use Alipay, compared to female consumers (45.91%). Based on Appianing and Van Eck (2015), female gender places less significant and personal interest in technological field. Thus, male respondents are able and willing to master the application better than female respondents.

Looking into the perspective of age group, those who aged between 21 to 30 years old (60.46%) are the one that are most likely to adopt Alipay compare to other age group. Respondents with age group between 21 to 30 years old are known as young adults. This age group tends to adopt Alipay because they are more familiar with technologies. On the other hand, the age group with 61 years old and above has the least intention to use Alipay. According to Tacken, Marcellini, Mollenkopf, Ruoppila and Szeman (2005), modern technologies are still complicated for the elders as they feel difficult to start using new technologies. Besides, the other types of typical respondents are Chinese consumers (71.43%) and those consumers who have single status (79.34%).

In educational level wise, those who intend to use Alipay as their daily payment method are those who have completed Bachelor Degree (59.95%). Tacken et al. (2005) prove that for those who possess higher educational level will offer good conditions in mastering new technologies and overcome these barriers to start new technologies.

Furthermore, the most typical respondent is students (60.71%). It is not surprising as this group of consumers spend most of their time browsing Internet and is used to deal with modern technologies. Last but not least, the other groups that have intention to adopt Alipay as their payment method are those who usually have income level below RM1500 (61.48%).

In short, Alipay may design their marketing strategy based on those demographics, such as male consumers, Chinese consumers, consumer who aged between 21 to 30 years old, or consumers who are single. Apart from that, Alipay can tackle students' market when promoting their services or focus their advertising on those who own Bachelor Degree. In addition, consumers who have income level less than RM1500 are also the potential consumer for Alipay. By setting their target market accurately, Alipay will be able to conquer the e-payment market and market their product more effectively.

4.1.2 Central Tendency Measurements of Constructs

Table 4.2 Central Tendency

	Mean	Max	Min	Excess Kurtosis	Skewness
Social Influence (SI)	3.597	3.839	3.179	0.451	-0.6
Sustainability and Credibility (SAC)	3.409	3.758	3.079	-0.181	-0.235
Perceived ease of use (PEOU)	3.621	3.883	3.265	0.217	-0.466
Facilitating Condition (FC)	3.465	3.704	3.176	0.007	-0.311
Switching Barrier (SB)	3.39	3.804	2.204	0.147	-0.406
Behavioral Intention (BI)	3.89	3.89	3.503	0.350	-0.535
Consumer Adoption (CA)	3.549	3.814	3.278	-0.132	-0.535

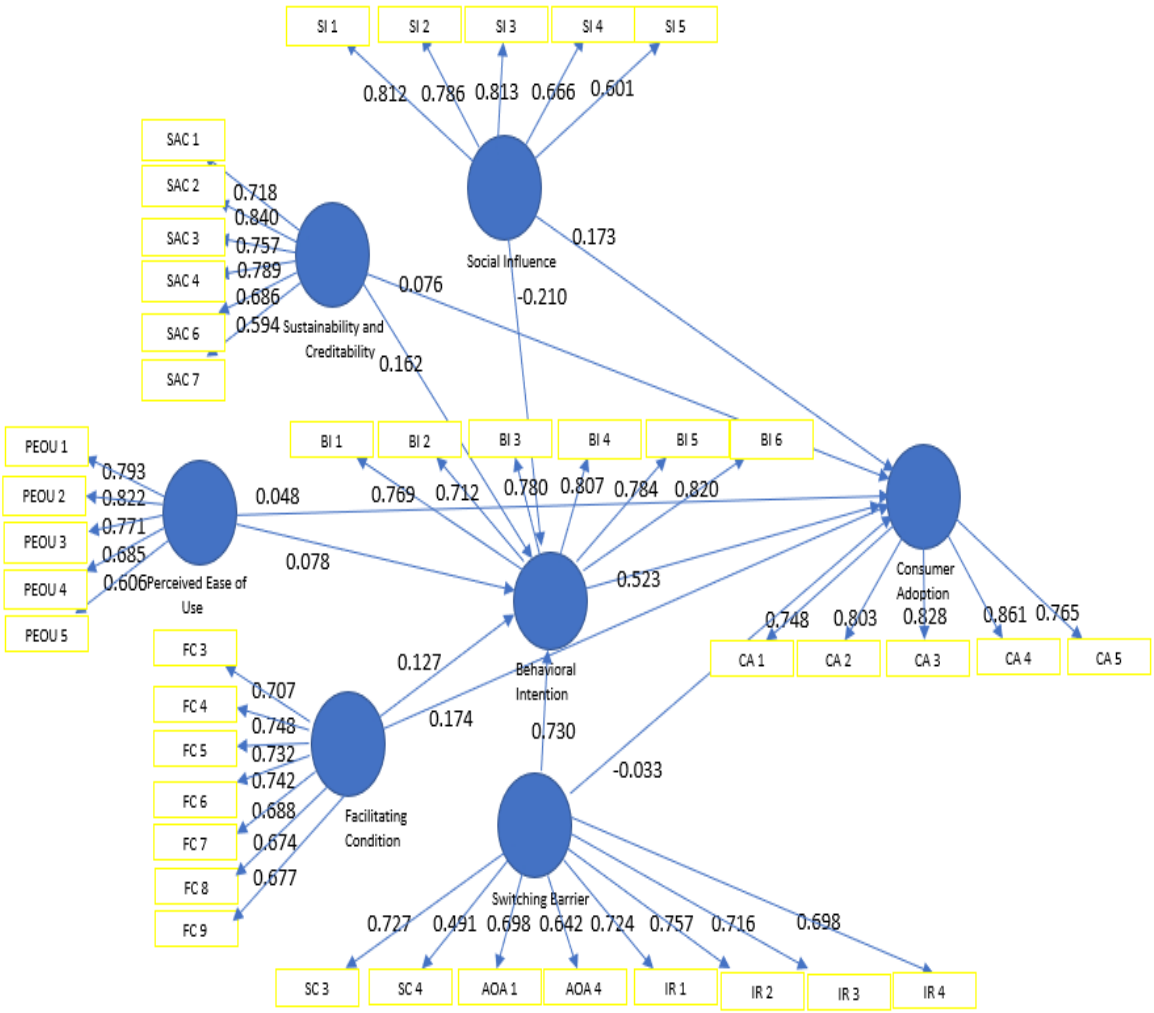
Based on results shown in Table 4.2, the highest mean of item responses for behavioral intention is amounted to 3.89. This indicates that most of the respondents positively respond with the items stated under behavioral intention. In contrast, the average of item responses for switching barrier is amounted to 3.39, where the consumers show a neutral response towards these items.

Besides, responses for social influence, perceived ease of use and consumer adoption tend to strongly agree with the item responses, with the mean of 3.597, 3.621 and 3.549 respectively. In addition, with the mean of 3.409 and 3.465, sustainability and credibility and facilitating condition show a rather neutral response from the respondents.

In the terms of skewness, all independent variables are skewed to the left as all of them have negative value of skewness, whereby social influence (-0.6), sustainability and credibility (-0.235), perceived ease of use (-0.466), facilitating condition (-0.311), switching barrier (-0.406), behavioral intention (-0.535), consumer adoption (-0.535). It means that most of the mean values are less than median values. Furthermore, the kurtosis levels for all the variables are between ±1.0. This indicates that the results are normal univariate distribution (George & Mallery, 2010).

4.2 Scale Measurement

Figure 4.1 PLS-SEM measurement model with outer loadings and path coefficients



Source: Develop from SMARTPLS 3.0

4.2.1 Outer Loading

Table 4.3 Outer Loading

	Behavioral Intention	Consumer Adoption	Facilitating Condition	Perceived Ease of Use	Social Influence	Sustainability and Credibility	Switching Barrier
AOA1							0.698
AOA4							0.642
BI1	0.769						
BI2	0.712						
BI3	0.780						
BI4	0.807						
BI5	0.784						
BI6	0.820						
CA1		0.748					
CA2		0.803					
CA3		0.828					
CA4		0.861					
CA5		0.765					
FC3			0.707				
FC4			0.748				
FC5			0.732				
FC6			0.742				
FC7			0.688				
FC8			0.674				
FC9			0.677				
IR1							0.724
IR2							0.757
IR3							0.706
IR4							0.716
PEOU1				0.793			
PEOU2				0.771			
PEOU3				0.822			
PEOU4				0.685			
PEOU5				0.606			
SAC1						0.718	
SAC2						0.840	
SAC3						0.757	
SAC4						0.789	
SAC6						0.686	

SAC7						**0.594**	
SC3							**0.727**
SC4							**0.491**
SI1					**0.812**		
SI2					**0.786**		
SI3					**0.813**		
SI4					**0.666**		
SI5					**0.601**		

According to Garson (2016), outer loading is more concerned and focused in reflective models. They represent the path form a requirement to its representative indicator variables. The relationships between the measured indicator variables and reflective construct are known as outer loadings. The outer loading is measured through each regression of every single indicator variable on its corresponding construct. Besides, outer loading also shows an absolute contribution of the indicator to describe of its hidden variable. Based on Olalera (2013) and Nascimento and Macedo (2016), an indicator's standardized outer loadings on a construct should be superior to 0.70. However, some of researchers argue that 0.4 should be the acceptable value (Hulland, 1999; Henseler, Ringle & Sinkovics 2009). This is because an indicator's reliability is low and eliminating this indicator goes along with a substantial increase of composite reliability. Hence it is making sense to give up some of the indicators, but we should be careful during eliminating indicators. Therefore, we can conclude that the loadings and significance of the outer model are superior from 0.4 to 0.7 above.

From Table 4.3, it shows the outer loading value of behavioural intention (BI) is above the superior threshold value of 0.708 (Choong, 2017). The result of each behavioral intention item values are estimated as BI1 (0.769), BI2 (0.712), BI3 (0.780), BI4 (0.817), BI5 (0.784) and BI6 (0.820) respectively. Furthermore, the outer loading of consumer adoption (CA) results are above the superior threshold value of 0.708. The result of items for consumer adoption values are recorded as CA1 (0.748), CA2 (0.803), CA3 (0.828), CA4 (0.861) and CA5 (0.765) respectively.

Besides, the outer loading of facilitating condition (FC) is not above the superior threshold value of 0.708. However, the result from Table 4.3 shows that the outer loading is above the minimum threshold value of 0.40. Hence, some of the items are dropped from facilitating condition due to FC1 and FC2 are smaller than 0.40. The result of each facilitating condition item values is stated as FC3 (0.707), FC4 (0.748), FC5 (0.732), FC6 (0.742), FC7 (0.688), FC8 (0.674) and FC9 (0.677) respectively. The outer loading of perceived ease of use (PEOU) is above the minimum threshold value of 0.40. Hence, PEOU6 is dropped from perceived ease of use due to its value is smaller than 0.40. The result of each perceived ease of use item values are stated as PEOU1 (0.793), PEOU2 (0.771), PEOU3 (0.822), PEOU4 (0.685) and PEOU5 (0.606) respectively.

The outer loading of sustainability and creditability (SAC) is above the minimum threshold value of 0.40. Hence, SAC5 is dropped from sustainability and creditability because its value is smaller than 0.40. The result of each sustainability and creditability item values are stated as SAC1 (0.718), SAC2 (0.840), SAC3 (0.757), SAC4 (0.789), SAC6 (0.686) and SAC7 (0.594) respectively. The outer loading of social influence (SI) is above the minimum threshold value of 0.40. The result of each social influence item values is shown as SI1 (0.812), SI2 (0.786), SI3 (0.813), SI4 (0.666) and SI5 (0.601) respectively.

Switching barrier is categorized into three dimension which are switching cost (SC), attractiveness of alternatives (AOA) and interpersonal relationship (IR). Besides, the outer loading of interpersonal relationship is above the superior threshold value of 0.708. Consequently, the result from interpersonal relationship values is stated accordingly as IR1 (0.724), IR2 (0.757), IR3 (0.706) and IR4 (0.716). The outer loading of switching cost as well as attractiveness of alternatives are only above the minimum threshold value of 0.4. Hence, some of the items are dropped from switching cost and attractiveness of alternatives because SC1, SC2, AOA2 and AOA3 are smaller than 0.40. The result of each switching cost as well as attractiveness of alternatives item values are stated as SC3 (0.727), SC4 (0.491) AOA1 (0.698) and AOA4 (0.642) respectively.

4.2.2 Construct Reliability and Validity Test

Table 4.4 Convergent Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Behavioral Intention	**0.871**	**0.873**	**0.903**	**0.608**
Consumer Adoption	**0.861**	**0.863**	**0.900**	**0.644**
Facilitating Condition	**0.838**	**0.842**	**0.877**	**0.505**
Perceived Ease of Use	**0.792**	**0.814**	**0.857**	**0.547**
Social Influence	**0.790**	**0.803**	**0.857**	**0.549**
Sustainability and Credibility	**0.827**	**0.833**	**0.874**	**0.540**
Switching Barrier	**0.841**	**0.857**	**0.876**	**0.472**

Smart PLS does not give goodness-of-fit statistics like what exactly in covariance-based structural models. It measures reliability to see the degree of fitness. There are composite reliability, convergent reliability and discriminant reliability to measure the internal consistency reliability of the model.

According to Hair, Hult, Ringle and Sarstedt (2014), composite reliability predicts the reliability based on the inter-correlations of the observed indicator variables. Composite reliability should be scored at least 0.60 then is only considered acceptable. Based on Table 4.4, the five variables such as facilitating condition (0.877), perceived ease of use (0.877), social influence (0.857), sustainability and credibility (0.874), switching barrier (0.876) score between the range of 0.80 and 0.90. On the other hand, there are two variables that score above 0.90 which are behavioral intention (0.903) and consumer adoption (0.90). This result shows a high level of internal consistency of this study as the constructs that have scored between 0.70 and 0.90 have strong composite reliability.

Cronbach's alpha measures the internal consistency of a test as it is connected to the inter-relatedness of the items to ensure validity (Lunneborg, 1979). The acceptable values of alpha range from 0.70 to 0.95. The alpha values of behavioral intention, consumer adoption, facilitating condition, perceived ease of use, social

influence, sustainability and credibility and switching barrier are estimated as 0.871, 0.861, 0.838, 0.792, 0.790, 0.827 and 0.841 respectively. All seven reflective constructs have high levels of interrelatedness between items where the reliabilities are above 0.70.

Average variance extracted (AVE) is the measure to assess convergent validity in indicator variables (Akkucuk, 2015). Hair et al. (2014) find that an AVE of 0.50 is considered acceptable and above 0.70 is very good since it can prove more than half of the variables are passed. However, Fornell and Larcker (1981) find that if AVE is less than 0.5, but composite reliability is greater than 0.6, the convergent validity of the construct is still adequate. From Table 4.4, the AVE results show that behavioral intention, consumer adoption, facilitating condition, perceived ease of use, social influence, sustainability and credibility and switching barrier are 0.608, 0.644, 0.505, 0.547, 0.549, 0.540 and 0.472 respectively. All seven reflective constructs have adequate levels of convergent validity where the reliabilities are above 0.4.

4.2.3 Discriminant Validity Test

Table 4.5 Fornell-Larcker

	Behavioral Intention	Consumer Adoption	Facilitating Condition	Perceived Ease of Use	Social Influence	Sustainability and Credibility	Switching Barrier
Behavioral Intention	0.779						
Consumer Adoption	0.759	0.802					
Facilitating Condition	0.613	0.618	0.710				
Perceived Ease of Use	0.590	0.599	0.673	0.740			
Social Influence	0.542	0.587	0.507	0.592	0.741		
Sustainability and Credibility	0.582	0.589	0.639	0.584	0.576	0.735	
Switching Barrier	0.790	0.671	0.562	0.624	0.743	0.551	0.687

Fornell-Lacker makes comparison on the square root of the average variance extracted (AVE) with the correlation of latent constructs. Latent constructs define better the variance of its own indicator rather than other latent constructs' variance. The square root of each construct's AVE supposes to have higher value than the correlations with other latent constructs (Hair et al., 2017). Based on Table 4.5, the values of the variables such as behavioral intention (0.779), consumer adoption (0.802), facilitating condition (0.710), perceived ease of use (0.740), social influence (0.741), sustainability and credibility (0.735) and switching barrier (0.687) achieve acceptable results. Results indicate there is discriminant validity between all the constructs. The diagonal values are greater than off diagonal interconstruct correlations values.

4.2.4 Cross Loading

Table 4.6 Cross Loading

	Behavioral Intention	Consumer Adoption	Facilitating Condition	Perceived Ease of Use	Social Influence	Sustainability and Credibility	Switching Barrier
AOA1	0.712	0.421	0.384	0.446	0.377	0.308	**0.698**
AOA4	0.784	0.679	0.530	0.477	0.427	0.413	**0.642**
BI1	**0.769**	0.494	0.380	0.480	0.438	0.347	0.670
BI2	**0.712**	0.421	0.384	0.446	0.377	0.308	0.698
BI3	**0.780**	0.606	0.518	0.427	0.396	0.564	0.576
BI4	**0.807**	0.653	0.569	0.453	0.416	0.567	0.531
BI5	**0.784**	0.679	0.530	0.477	0.427	0.413	0.642
BI6	**0.820**	0.667	0.468	0.480	0.479	0.501	0.597
CA1	0.574	**0.748**	0.396	0.508	0.506	0.437	0.555
CA2	0.584	**0.803**	0.532	0.414	0.351	0.448	0.473
CA3	0.613	**0.828**	0.589	0.472	0.477	0.478	0.496
CA4	0.686	**0.861**	0.449	0.509	0.505	0.451	0.575
CA5	0.582	**0.765**	0.515	0.498	0.509	0.549	0.591
FC3	0.460	0.458	**0.707**	0.525	0.393	0.445	0.431
FC4	0.488	0.433	**0.748**	0.480	0.407	0.504	0.416
FC5	0.492	0.501	**0.732**	0.471	0.358	0.507	0.435
FC6	0.453	0.510	**0.742**	0.529	0.374	0.440	0.439
FC7	0.445	0.451	**0.688**	0.405	0.343	0.439	0.414
FC8	0.288	0.301	**0.674**	0.449	0.284	0.399	0.304
FC9	0.361	0.358	**0.677**	0.488	0.338	0.429	0.307
IR1	0.480	0.411	0.361	0.412	0.491	0.376	**0.724**
IR2	0.489	0.407	0.363	0.362	0.465	0.379	**0.757**
IR3	0.403	0.415	0.315	0.363	0.503	0.400	**0.706**
IR4	0.389	0.375	0.305	0.382	0.461	0.302	**0.716**
PEOU1	0.439	0.441	0.496	**0.793**	0.486	0.431	0.455
PEOU2	0.488	0.473	0.564	**0.771**	0.525	0.537	0.493
PEOU3	0.551	0.524	0.493	**0.822**	0.509	0.490	0.598

PEOU4	0.354	0.428	0.521	**0.685**	0.292	0.379	0.359
PEOU5	0.298	0.318	0.418	**0.606**	0.334	0.274	0.355
SAC1	0.474	0.494	0.418	0.342	0.543	**0.718**	0.486
SAC2	0.430	0.436	0.521	0.422	0.415	**0.840**	0.397
SAC3	0.414	0.445	0.455	0.387	0.401	**0.757**	0.340
SAC4	0.447	0.503	0.479	0.467	0.418	**0.789**	0.427
SAC6	0.324	0.303	0.523	0.448	0.314	**0.686**	0.332
SAC7	0.441	0.364	0.441	0.529	0.404	**0.594**	0.413
SC3	0.480	0.486	0.407	0.516	0.813	0.473	**0.727**
SC4	0.293	0.299	0.279	0.413	0.666	0.349	**0.491**
SI1	0.450	0.459	0.391	0.475	**0.812**	0.459	0.566
SI2	0.391	0.415	0.370	0.432	**0.786**	0.361	0.512
SI3	0.480	0.486	0.407	0.516	**0.813**	0.473	0.727
SI4	0.293	0.299	0.279	0.413	**0.666**	0.349	0.491
SI5	0.351	0.472	0.402	0.341	**0.601**	0.465	0.416

Cross loading is a measure of the impact of an indicator when compared to all other indicators (Hair et al., 2014). For discriminant validity, if the loading value of an indicator is higher than all other indicators in the construct, it indicates there is strong representation of the latent variable it describes.

From Table 4.6, the highest cross loading for the behavioral intention is BI6 (0.820), other constructs which are BI1, BI2, BI3, BI4 and BI5 possess the value of 0.769, 0.712, 0.780, 0.807 and 0.784 respectively. While looking at the constructs of consumer adoption, the highest cross loading is CA4 (0.861). Other constructs which are CA1, CA2, CA3, and CA5 possess the value of 0.748, 0.803, 0.828 and 0.765 respectively. FC4 (0.748) is the highest cross loading for the facilitating condition, while the other constructs values are stated accordingly as FC3 (0.707), FC5 (0.732), FC6 (0.742), FC7 (0.688), FC8 (0.674) and FC9 (0.677). For perceived ease of use, PEOU3 possess the highest cross loading value of 0.822 while compared to the other constructs which are POU1 (0.793), POU2 (0.771), POU4 (0.685) and POU5 (0.606). The highest cross loading for social influence is SI3 (0.813), other constructs' values are stated respectively as SI1 (0.812), SI2 (0.786), SI4 (0.666) and SI5 (0.601).

Among the constructs of sustainability and credibility, SAC2 possesses the highest cross loading value of 0.840, other constructs which are SAC1, SAC3, SAC4, SAC6, SAC7 possess the values of 0.718, 0.757, 0.789, 0.686 and 0.594 respectively. Switching barrier consists of three dimensions, which are attractiveness of alternatives (AOA), interpersonal relationship (IR) and switching cost (SC). The highest cross loading among these three dimensions is IR2 (0.757), other constructs which are AOA1, AOA4, IR1, IR3, IR4, SC3 and SC4 possess the value of 0.698, 0.642, 0.724, 0.706, 0.716, 0.727 and 0.491 accordingly.

4.2.5 Heterotrait-Monotrait Ratio (HTMT)

Table 4.7 Heterotrait-Monotrait Ratio (HTMT)

	Behavioral Intention	**Consumer Adoption**	**Facilitating Condition**	**Perceived Ease of Use**	**Social Influence**	**Sustainability and Credibility**	**Switching Barrier**
Behavioral Intention							
Consumer Adoption	0.869						
Facilitating Condition	**0.698**	**0.713**					
Perceived Ease of Use	**0.695**	**0.717**	**0.828**				
Social Influence	**0.643**	**0.700**	**0.610**	**0.733**			
Sustainability and Credibility	**0.674**	**0.688**	**0.772**	**0.717**	**0.698**		
Switching Barrier	0.861	**0.745**	**0.624**	**0.736**	**0.931**	**0.647**	

According to Henseler, Ringer and Sarstedt (2015), HTMT is able to achieve higher specificity and sensitivity rates of around 97% to 99% while comparing to Fornell-Lacker (20.82%) and cross loading criterion (0.00%). There is lack of discriminate validity if HTMT values close to 1. Kline (2011) suggests that all HTMT values should be lower than 0.85 for constructs that are conceptually distinct. In addition, Gold and Arvind Malhotra (2011) argue with it and propose a value of 0.90.

According to Table 4.7, the highest HTMT value is 0.931, which falls between switching barrier and social influence. The HTMT values that exceed 0.85 are 0.869 and 0.861, which falls between consumer adoption and behavioral intention, and between switching barrier and behavioral intention respectively. Results from Table 4.7 also show that there is discriminant validity between all the other constructs.

4.3 Inferential Analysis

4.3.1 Direct effect analysis

Table 4.8 Path Coefficients

	Original Samples	**P-Values**
Social Influence → Consumer Adoption	0.173	0.002
Social Influence → Behavioral Intention	-0.210	0.001
Sustainability and Credibility → Consumer Adoption	0.076	0.078
Sustainability and Credibility → Behavioral Intention	0.162	0.001
Perceived Ease of Use → Consumer Adoption	0.078	0.116
Perceived Ease of Use → Behavioral Intention	0.048	0.245
Facilitating Condition → Consumer Adoption	0.127	0.016
Facilitating Condition → Behavioral Intention	0.174	0.000
Switching Barrier → Consumer Adoption	-0.033	0.649
Switching Barrier → Behavioral Intention	0.730	0.000
Behavioral Intention → Consumer Adoption	0.523	0.000

Table 4.9 Result of Hypothesis Testing for Direct Effect

Hypothesis	Path Coefficient(C)	P-Values(P)	Supported
H_1: Social influence is positively related to consumer adoption of Alipay.	0.173	0.002	Yes
H_3: Sustainability and credibility is positively related to the consumer adoption of Alipay.	0.076	0.078	No
H_5: Perceived ease of use of Alipay is positively related to the consumer adoption of Alipay.	0.078	0.116	No
H_7: Facilitating condition is positively related to the consumer adoption of Alipay.	0.127	0.016	Yes
H_9: Switching barrier is positively related to the consumer adoption of Alipay.	-0.033	0.649	No

Path coefficient analysis is used to examine the direct relationship between the independent variables and consumer adoption of Alipay. In this test, the significance level will be set at α=0.05 and the analysis will be made according to Table 4.9. First, the results show that social influence (C=0.173, P=0.002) is significant because its p value is smaller than 0.05. Moreover, the coefficient of 0.173 shows that social influence has the strongest direct effect compared to other independent variables. Hence, H_1 is supported. Second, the p value of sustainability and credibility (C=0.076, P=0.076) is higher than 0.05. Therefore, there is no significant relationship, H_2 is not supported. Third, the perceived ease of use of consumer (C=0.078, P=0.116) shows insignificant direct effect with consumer adoption of Alipay. Therefore, H_3 is also rejected, showing that there is no direct relationship. Fourth, the facilitating condition (C=0.127, P=0.016) shows significant direct effect with the consumer adoption of Alipay. Hence, H_4 is supported where facilitating condition is one of the factors for consumer to adopt Alipay. Fifth, the switching barrier (C=-0.033, P=0.649) for consumer adoption of Alipay is insignificant. Therefore, it can be concluded that switching barrier does not have relationship with consumer adoption of Alipay.

4.3.2 Mediation Effect Analysis

Table 4.10 Total Effect and Indirect Effect

	Total Effect		**Indirect Effect**	
	Coefficient	**P-Values**	**Coefficient**	**P-Values**
Social Influence→Consumer Adoption	0.063	0.334	-0.110	0.004
Social Influence→Behavioral Intention	-0.210	0.001	-	-
Sustainability and Credibility→Consumer Adoption	0.161	0.001	0.085	0.000
Sustainability and Credibility→Behavioral Intention	0.161	0.001	-	-
Perceived Ease of Use→Consumer Adoption	0.103	0.038	0.025	0.252
Perceived Ease of Use→Behavioral Intention	0.048	0.245	-	-
Facilitating Condition→Consumer Adoption	0.218	0.000	0.091	0.000
Facilitating Condition→Behavioral Intention	0.174	0.000	-	-
Switching Barrier→Consumer Adoption	0.349	0.000	0.382	0.000
Switching Barrier→Behavioral Intention	0.730	0.000	-	-
Behavioral Intention→Consumer Adoption	0.523	0.000	-	-

Table 4.11 Variance Accounted For (VAF)

Variables	**Variance Accounted For (VAF)** $= \frac{\text{Indirect Effect}}{\text{Total Effect}}$	**Strength of Mediation**
Social Influence	$\frac{-0.110}{0.063}$ = -1.746	Suppressor Effect
Sustainability and Credibility	$\frac{0.085}{0.161}$ =0.528(52.80%)	Partial
Facilitating Condition	$\frac{0.091}{0.218}$ =0. 4174(41.74 %)	Partial
Switching Barrier	$\frac{0.382}{0.349}$ =0.10946(109.46%)	Full

Table 4.12 Results of Hypothesis Testing for Mediation Effect

Hypothesis	**Indirect Effect**		**Variance Accounted For (VAF)**	**Supported**
	Coefficient	**P-values (P)**		
H_2: Social influence is mediated by behavioral intention towards the consumer adoption of Alipay.	-0.110	0.004	Suppressor Effect	No
H_4: Sustainability and credibility is mediated by behavioral intention towards the consumer adoption of Alipay.	0.085	0.000	52.8% (Partial Mediation)	Yes
H_6: Perceived ease of use is mediated by behavioral intention towards the consumer adoption of Alipay.	0.025	0.252	-	No
H_8: Facilitating condition is mediated by behavioral intention towards the consumer adoption of Alipay.	0.091	0.000	41.74% (Partial Mediation)	Yes

H_{10}: Switching barrier is mediated by behavioral intention towards the consumer adoption of Alipay.	0.382	0.000	109.46% (Full Mediation)	Yes

The existence of mediation on the independent variables by behavioral intention towards consumer adoption is determined by a two-stage analysis. The first stage is to determine whether each variable has a mediation relationship with the consumer adoption of Alipay. The variables that have mediation relationship will be further analyzed using the Variance Accounted For (VAF) to determine the strength of mediation of behavioral intention on each variable. The mediation relationship between variables is determined by comparing the P-values with the significant level of 5% from the indirect effect table result. The VAF is calculated by using the formula of dividing the coefficient of the indirect effect over the coefficient of the total effect.

First, the mediation relationship between social influence (P=0.004) and consumer adoption of Alipay shows significant relationship. The mediation effect for behavioral intention however shows suppressor effect rather than mediation effect in the VAF analysis. Suppressor effect is meant by the direct effect is stronger than the mediation effect. From Table 4.8, we can clearly see that social influence has the strongest direct effect among the variables. This further proves the occurrence of suppressor effect. Hence, H_2 is not supported as there is no mediation effect by behavioral intention on social influence towards the consumer adoption of Alipay.

Second, the sustainability and credibility (P=0.000) shows significant mediation relationship towards the consumer adoption of Alipay. The VAF analysis shows that there is a partial mediation (52.8%) by behavioral intention on the sustainability and credibility towards the consumer adoption of Alipay. Therefore, H_4 is supported by both the mediation relationship and VAF analysis.

Third, perceived ease of use (P=0.252) does not have a significant indirect relationship with consumer adoption of Alipay. Therefore, the VAF analysis is not

required to be conduct. Hence, H_6 is not supported where perceived ease of use is not mediated by behavioral intention towards the consumer adoption of Alipay.

Fourth, the facilitating condition (P=0.000) shows a mediating relationship towards the consumer adoption of Alipay. The behavioral intention has a partial mediation (41.74%) on facilitating condition towards the consumer adoption of Alipay according to the VAF analysis. Therefore, H_8 is supported as there is mediation by behavioral intention on facilitating condition towards the consumer adoption of Alipay.

Fifth, the switching barrier (P=0.000) shows the most significant mediation relationship with the coefficient of 0.382. The VAF analysis shows that there is a full mediation (109.46%) of behavioral intention on the switching barrier towards the consumer adoption of Alipay. Therefore, H_{10} is supported.

4.4 Conclusion

In the beginning of this chapter, the demographic information adopted from the 394 respondents is examined and summarized into tables and figures. The constructs measurement of total 50 items in the questionnaires are used to measure the variables. Moreover, we use the outer loading, composite reliability, average variance extracted (AVE=convergent validity), discriminants validity (Fornell-Larcker & Cross Loading) and Heterotrait-Monotrait (HTMT) to evaluate reflectively measured model. Finally, path analysis method is used to examine the relationship between the variables, either it is direct or mediation effect. These methods are used to measure the strength, direction and significance of the relationship between variables. All the results in this chapter will be proceeded and further discussed in the following chapter.

CHAPTER 5: DISCUSSION, CONCLUSION AND IMPLICATIONS

5.0 Introduction

The purpose of this study is to investigate the mediating effect of behavioral intention on the consumer adoption of Alipay in Malaysia. This chapter discusses about the summary of introduction, literature review, methodology, empirical results and discussion of major findings. Furthermore, the policy implications, limitation and recommendation will be included in this chapter.

5.1 Summary of Statistical Analysis

In Malaysia, commercial banks like Maybank, Public Bank and CIMB bank collaborate with Alipay to launch this mobile payment service to transform the existing Malaysian spending behavior. The factor of facilitating condition and social influence is still not visible enough to encourage consumer adoption of Alipay. Besides, consumers are not confidence on the sustainability and credibility and perceived ease of use on Alipay thus lead to less adoption in Malaysia. Evaluation on consumer adoption is needed to accelerate this segment growth in creating cashless society. The objective of this study is to investigate the determinants and the mediating effect of behavioral intention on the consumer adoption for Alipay in Malaysia. This study will include interpersonal relationship under dimensions of switching barrier as a significance to further understand about how it can affect behavioral intention. This study contributes to the merchants which use Alipay to expand their business and understand demand of consumer towards mobile payment method for more effective Alipay transaction.

Furthermore, the proposed theory framework is UTAUT model which explains usage behavior and intention to use an information system (Venkatesh, 1999). The framework is also related to Theory of Reasoned Action（TRA）and Technology Acceptance Model (TAM). Interpersonal relationship is always ignored by the previous researchers, thus this study aims to fill up the gap since it is interesting to know that interpersonal relationship might become relationship-specific asset for competitors. There is also limited study on the cashless payment method in Malaysia, therefore this study might help to provide understanding towards determinants of consumers adoption of Alipay in Malaysia.

This quantitative research uses survey methods to collect cross sectional data in public area of Kuala Lumpur (KL) city. Simple random sampling technique is used when distributing questionnaire to target respondents. To test the results, this research will be carried out by using Partial Least Square (PLS) Smart program version 3. The reliability analysis includes Outer Loading, Average Variance Extracted (AVE), Composite Reliability, Cronbach's Alpha, Fornell-Larcker Test, Cross Loading and Heterotrait-Monotrait ratio of Correlations (HTMT).

The results show that it possesses the adequacy of construct reliability, discriminant validity, cross loading and HTMT. The path coefficient result obtained from bootstrapping shows that only social influence and facilitating condition have direct relationship with consumer adoption of Alipay. In contrast, there are mediating effect exist in facilitating condition, sustainability and credibility and switching barrier to consumer adoption. It is found that perceived ease of use does not have both direct and mediating relationship to consumer adoption. Based on VAF analysis, switching barrier have full mediation of behavioral intention while sustainability and credibility and facilitating condition are found to be partially mediated by behavioral intention towards consumer adoption. On the other hand, the suppressor effect is existed between social influence and consumer adoption due to the changes in the direction of relationship.

5.2 Discussion of Major Findings

5.2.1 Social Influence

The result of path coefficient study shows that social influence is positively related to the consumer adoption of Alipay. This study shows that there is no mediating effect of behavioral intention exists between social influence and consumer adoption of Alipay. This is due to the existence of suppressor effect on consumer adoption of Alipay, as mediation relationship of behavioral intention is weaker than the direct relationship between social influence and consumer adoption.

Social influence is an important predictor nowadays, especially in era where technological advancement is primarily on social as networks (Shah, Fatimee & Shajjad, 2014). The impact of social influence increases as consumers are getting more addicted to social networks. Social influence can be observed when Malaysian consumers that are complying with social pressure are easily affected by the current trend of Malaysian advancement in forming a cashless society.

Moreover, as social media users in Malaysia are rising from time to time; consumers in Malaysia are more easily to connect to the Internet. Social influence from media and peers are getting impactful than before. Fang et al. (2017) mention that social influence gives a strong positive impact towards consumer actual behavior. This explains that Malaysian consumers will adopt Alipay when they experience series of social influence from media advertising, promotion and reviews. They tend to be complied with social norms. This is due to consumers will seek to maintain a desired and beneficial relationship to another person or a group (Kelman, 1958).

There is no mediating effect because most adolescents' cognitive control system is less mature compared to adults. They tend to make immediate decision

to adopt Alipay without going through behavioral intention first. This is supported by Albert, Chien and Steinberg (2013) who say that young consumers have more impulse action when they are influenced by social pressure. Furthermore, Weyers (2007) highlights that with social media dominating the market, people tend to lose the ability to retain and truly comprehend information. This is similar with the adolescents in Malaysia who habitually adopt Alipay when they are stressed by social influence because adolescents own peer-related stimuli that are very sensitive to peer influence. As peers do play an important part in the relationship between adolescents these days, the influence to follow and listen to the majority opinion is getting stronger. This is because they want to seek for attention, common values and maintain a satisfying self-defining relationship to another person or group (Shen, 2006). Therefore, there is a presence of suppressor effect of social influence towards consumers' adoption of Alipay rather than it is mediated by behavioral intention.

5.2.2 Sustainability and Credibility

The path coefficient result shows that there is no direct effect found from sustainability and credibility towards consumer adoption of Alipay. Morgeson and Petrescu (2011) state that every user has different own perception in measuring service quality. Their result shows that service quality is strongly based on an individual's satisfaction and trust on a good or service. That satisfaction and trust are the components of behavioral intention which might be distinct based on personal requirement. This is supported by Liao and Cheung (2002) who find that good service quality not necessary lead to high credibility and consumer adoption due to inter-relationship with other variables. Hence, sustainability and credibility are not directly related.

Coincidently, the result shows that the behavioral intention partially mediates the relationship between sustainability and credibility and consumer adoption of Alipay in Malaysia. According to Cronin, Brady, and Hult (2000), customers cultivate positive behavioral intention from their satisfaction based on

cognition, affect and conation model. Satisfaction of customers can come from the sustainability and credibility of the Alipay service. When Malaysia consumers feel safeguarded with the Alipay service, they will intend to adopt this cashless method.

The partial mediation strength of 52.8% is observed from the VAF analysis. This shows that Malaysia has the behavioral culture of ensuring own benefit and safety whenever carrying out any decision. They are highly avoiding uncertainty and concerning much on security and procedural norms on Alipay. Besides, they concern whether Alipay provides a secure transaction system to protect their personal information. This is supported by Beldad, De Jong, and Steehouder (2010) who mention that Alipay has to consolidate trust among consumers to expand the consumer adoption towards their service.

The perception on sustainability and credibility for consumers depends on their educational level. The university students always make decision whether or not to adopt Alipay based on their trust on Alipay credibility. This is supported by Rachlin (1989) who claims that young and high educated people follow their information-seeking goals and strategies before judging and it is always made internally and can be observed through choice. In contrast, there is little number of high school students or can be classified as teenagers have low information-seeking goals on sustainability and credibility of Alipay since they are lack of own subjective guidelines to judge. They might not mediate by behavioral intention when adopting Alipay. Therefore, this study has partial mediating effect between sustainability and credibility and consumer adoption.

5.2.3 Perceived Ease of Use

Surprisingly, this result is inconsistent with most of the past studies since it shows no relationship with the consumer adoption. This is because the perceived ease of use of user might not be contributed through how easy and effortless towards the usage of Alipay. The consumer perception on the ease of operating

might fall on the merchant responsibility. Cabanillas and Rubio (2017) claim that the degree of perceived ease of use of consumer on mobile payment is determined by the intention of the merchant to apply and utilizing it. The merchant would have to prepare adequate resources such as the specify scanner and provide extra training for their employee to master in operating the machines and software when applying Alipay. Besides, Heijden (2002) supports that an untrained employee will only complicate the process of using mobile payment in the transaction hence making the consumer reluctant to use the service. In fact, Malaysia consumers believe on merchant able to prepare well on equipment and labor skills to serve consumers when they apply Alipay, but they think that Alipay is not applicable in most shops where they visit, so this will become the barrier of perceived ease of use on Alipay by Malaysian.

Similarly, the behavioral intention does not mediate the relationship between perceived ease of use and consumer adoption of Alipay. Malaysian literacy on technology and knowledge towards Alipay is still low. Apparently, the usefulness of Alipay in terms of being a convenient method to pay is still invisible among Malaysia consumers. It is still not convincing enough for Malaysian to replace the existing payment methods like cash, credit and debit card and internet-based payment. This finding is supported by Yan et al. (2009) who claim that it is more likely for consumer to unaware or overlook the usefulness of mobile payment as they prefer existing payment method is more useful. In contrast, Schierz et al. (2010) argue that with the perceived ease of use, consumer can gain satisfaction hence stimulate the consumer behavior in adopting mobile payment service.

5.2.4 Facilitating Condition

For the facilitating condition, the results show that there is positive relationship with consumer adoption. Facilitating condition is related to the enjoyment and consumer loyalty as well as innovativeness of facilities to adopt the usage of Alipay services better. Wi-Fi is one of the basic facilities

requirements for Malaysia consumer to use Alipay service. Nowadays, almost every Malaysian with smart phone has applied data usage package so they are connecting to the Internet all the time. Hence, this encourages Malaysia consumers to use Alipay even without WiFi in that particular shop. Malaysia is a country that is rapidly developing and enhancing internet speed therefore it will bring a vital effect between facilitating condition and consumer adoption relationship. Therefore, the government should widen the WiFi coverage in more regions for the sake of consumers who do not have data usage. Alipay also provides support helpline and tutorial when user complete downloading the apps. Thus, it will make consumer easily control and improves their knowledge on how to use Alipay service. These are supported by Thakur (2013) who claims that facilitating condition is an infrastructure that individuals believe which able to provide the organizations services and support use of the system.

Based on the result, behavioral intention mediates the relationship between the facilitating condition and the consumer adoption of Alipay. It is a partial mediating effect of 41.74% from VAF result. City in Malaysia like Kuala Lumpur have accessed to a favorable set of facilitating condition therefore is more likely to have a higher behavioral intention to use a technology as there is provision of favorable. Since Kuala Lumpur has good internet coverage, thus, consumer can enjoy the high facilitating condition to use Alipay during purchase transaction. Notani (1998) research also shows that consumer has good experience using Alipay when there is a high facilitating condition. This study shows that the Malaysia young respondents and adults are more prefer to convenient purchase behavior such as faster payment. They feel satisfied with the convenience of Alipay under great data or WiFi speed, then encourage them to adopt it. In contrast, the spending behavior of older adults is different with the young one. They are already taken traditional payment method as habitual practice for a long time so might not demand or realize for a more convenient payment method such as Alipay even under WiFi coverage areas. Therefore, results show that facilitating condition is only partially mediated by behavioral intention to influence consumer adoption in Malaysia.

5.2.5 Switching Barrier

Switching barrier of Alipay has no direct relationship with the consumer adoption of Alipay. Malaysia is considered as one of the mobile payment emerging countries and its mobile payment services under the infancy stage. According to Hayashi (2012), majority of the consumers in emerging countries have mobile phones but few have connected their bank account to the mobile payment application. The researcher states that the reason that prevent consumer to adopt contactless mobile payment service has no effect with switching barrier, but the main reason is facilitating condition. According to business website of Alipay (2018), Alipay Barcode Payment is based on smartphone technology which contains customer scan static QR code. As QR code for payment has just been kick-started and still in the early phase of development in Malaysia, consumers might not have much confident to adopt this newly launched mobile payment service (Digital News Asia, 2018).

In contrast, some researchers find that switching barrier has relationship with consumer adoption. Under the construct of switching cost, Mackensen (2015) mentions that switching cost negatively affects consumers to adopt and diffuse into mobile payment services. The construct of attractiveness of alternatives is found to be positively related with consumer adoption of payment services. According to VeriFone (2010), consumer's perception towards payment method might fall on how convenient when using it. If compare to traditional cash payment, debit and credit payment are easier to assess, consumers will continue to use them and do not want to switch to third party mobile payment services.

However, the full mediating effect of behavioral intention exists between the switching barrier and consumer adoption of Alipay. The consumers in Malaysia will take into consideration of its complexity, as well as costs when changing their mobile payment service. This might be due to low income group. Although Alipay provides higher service quality and better efficiency, low income group in Malaysia will not intend to adopt it. According to Liu, Zhuo, Soman and Zhao (2012), the purchasing costs and upgrading costs will be very high for

consumers who do not own a smart phone or have a smart phone that cannot utilize the mobile payment application. Thus, switching cost will act as an extra burden for low income consumers when they intend to switch from current payment methods such as cash, debit and credit payment to Alipay. This can be supported by Weiergraeber (2017), in which the researcher states that consumers with low income level have the least behavioral intention and lowest willingness to pay for better service quality. The researcher also mentions that consumers' intention and willingness to pay for quality is strongly increasing in income.

While looking to the construct of attractiveness of alternatives, young generation is easily influenced by surrounding environment and they are willing to accept new payment method like mobile payment. Thus, they might have the intention to try to update their knowledge and learn how to use Alipay. Consequently, it is an opportunity for consumer to have behavioral intention to use Alipay. Besides, young age group people are more courageous to switch and try new payment method because they want to conduct the transaction efficiently. Based on the descriptive analysis, male is more than female. Thus, it can be concluded that male is willing to try new payment method while comparing to female. This can be supported by Venkatesh and Morris (2000), by stating that male is willing to spend more effort to understand and overcome different constraints to process and achieve their objectives.

Within the construct of interpersonal relationship, communication between each other, social persuasion and word-of-mouth (WOM) will have effect on behavioral intention for consumers to adopt Alipay in Malaysia. Majority of the survey respondents are Chinese (71.43%). According to Jacobs (2018), mobile payments have become so familiar in China that paying with cash is practically unheard-of. When there is a rise in mobile payment mainly occupied by Alipay and Wechat pay in China, social persuasion and WOM will have effect on behavioral intention towards Chinese ethnic group in South East Asia, especially Malaysia. This statement can be supported by Chang (2018), in which the researcher mentions that ethnic Chinese in Malaysia are proud to have Chinese 'DNA' and characteristics, they revel in spontaneous flushed of cultural pride when China rises at the stance of Malaysians. Thus, when Alipay starts to influx

into the local market, consumers in major city like KL will have the behavioral intention to adopt Alipay for transaction of goods and services. Furthermore, interpersonal relationship between a service provider and consumer will have effects on behavioral intention for consumer to adopt Alipay in Malaysia too. For example, while consumers are ready to make purchase of goods and services, the shop assistance may suggest Alipay as a payment method for them. Consequently, consumers will get more information and understand how Alipay works and they will intend to use it for future payment.

5.3 Policy Implication

The results prove that facilitating condition is mediated by behavioral intention towards the consumer adoption of Alipay. Infrastructures and facilities such as barcode scanner, internet connection and availability of Alipay service is the basic support system for Alipay. Government should subsidize business owners with those infrastructures. Apart from that, the availability of Wifi connection in Malaysia is still insufficient. For instance, rural areas are not even covered with internet connection. Undoubtedly, this unfavorable situation stands in the way of consumers in using Alipay. To combat with this issue, free and fast internet coverage should be provided to all places of Malaysia, especially shopping malls, shop outlets and any convenience stores. In fact, barcode scanner and any other electronic equipment related with Alipay should be installed in these places where financial transaction will occur. This strategy can give consumers a lot of convenient while conducting monetary transaction and thus able to convince consumers in using Alipay. A good facilitating condition is able to impact consumers' behavioral intention to use Alipay in daily transaction.

Besides, sustainability and credibility is another formula to increase the usage of Alipay. Among the responses, most consumers are very concern on the disclosure of their personal information. Hence, they loss the intention to use

Alipay. They are afraid of the third party misuse their private information in illegal activities. All these worries might hinder consumers' intention in participating in using Alipay. To solve this problem, government should supervise the operation of Alipay. Auditing and monitoring should be conducted several times to ensure there is no leakage of private information to any party besides than Alipay. Audit report can be disclosed to public regularly, ensuring the safeness of private information. This will comfort the concerns of consumers and encourage the adoption of Alipay.

On the other hand, the study shows consumer adoption of Alipay is also affected by switching barrier through the mediation of behavioral intention. Management of Alipay should introduce more user-friendly interface or user guidelines for their users to decrease their switching cost from existing payment method to Alipay. Looking into the perspective of attractiveness of alternatives, consumers will have the intention to switch to Alipay if the other payment alternatives are less attractive to consumers. To increase the attractiveness, Alipay can increase their processing speed, encourage consumers to develop positive intention to adopt Alipay. In the same time, Alipay company can organize social network marketing. This will eventually shape a social norm of using Alipay and create the effect of peer pressure. Advertising in social media such as Facebook and Instagram are also able to create brand awareness in consumers mind. Besides, by integrating the policies that solving facilitating condition and sustainability of Alipay, the credibility of Alipay will increase drastically. These will send a positive image and signal to consumers in Malaysia. Word-of-mouth plays a vital role in interpersonal relationship. Linking with the positive images and credibility of Alipay, consumers will spread the usefulness of Alipay to significant others around them. Through influences of significant ones, readiness of consumers in adopting Alipay can be boosted and the adoption of Alipay will rise rapidly. All these linkage between variables will definitely show an increment in consumer adoption of Alipay.

As a conclusion, our finding is able to assist managers in Alipay to draft their marketing strategy by targeting segmentation. Management in Alipay can segment the market based on the consumers' characteristics. Likewise, promotion and advertising can be designed based on those characteristics to increase the

adoption of Alipay. Furthermore, through the implementation of all these suggested policies, consumer adoption of Alipay is believed to be raised significantly.

5.4 Limitations of the study

This study faces the challenge of covering limited physical region during data collection. Kuala Lumpur presents an exciting opportunity for Alipay network in Malaysia as it is the favourite place for more and more Chinese travellers to visit in recent years. Nielsen (2017) states that over 90% of Chinese tourists prefer Alipay therefore Alipay is only common to be used in Kuala Lumpur. Thus, it might lead to lack of comprehensive analysis to represent consumer adoption of Alipay in whole Malaysia when overlook the consumers in other state.

In term of analysis testing, the dimensions of switching barrier are not conducted in PLS-SEM. The dimensions such as switching cost, attractiveness of alternatives and interpersonal relationship are tested together under switching barrier and obtain the results. This might overlook the importance of each dimension which carry different specific meaning to switching barrier. As a result, investigation on switching barrier is not pertinence enough to draw a final conclusion.

5.5 Recommendations for Future Research

Future research on the determinants of mobile payment adoption is extremely important in order to know the current state on national and

international levels. In fact, the environment of mobile payments will experience huge changes and advancement later on demonstrating the topicality, as well as the consumer states of mind may change drastically when mobile payments become more general method to be used by public and gain bigger share among all the payment methods.

First, it is recommended that samples from other states of Malaysia, which have adopted to mobile payment services or not, can be included in order to verify their perception on the adoption of Alipay. According to Sousa (2018), Georgetown, Ipoh and Johor Bahru are the most developed city ranked accordingly after Kuala Lumpur. For instance, Chong (2017) claims that local hawkers in Georgetown have started to accept payment via Alipay.

Second, instead of consumers' responses, future study can be conducted to examine the perception from the banking and financial institution on the consumer adoption of mobile payment services. According to Bank Negara Malaysia (2018), the collaboration between bank and the payment industry can improve and widen the access to the payments infrastructure, identify and remove the barriers for consumers to adopt e-payment services, as well as provide necessary support to ensure the smooth transaction while using mobile payment services. Therefore, if consumers have confident with the collaboration between bank and mobile payment service provider, they are more likely to conduct large amount of transaction by using Alipay.

Third, future researcher can conduct individual interview with each consumer to study deeply on the factors that affect mobile payment adoption. According to George (2010) individual interview method is more productive compared to the existing quantitative study. The researcher also states that with individual interview, each participant has additional time and chance to share feelings, points of view and attitudes, which provide deeper insights into reasons for consumers to adopt mobile payment services.

5.6 Conclusion

To conclude, this study is conducted to inspect the factors influencing consumer adoption of Alipay in Malaysia either with existence of mediating effect or not. This research proves that there is relationship between the independent variables with consumer adoption of Alipay through behavioral intention except the variable of perceived ease of use. It does not have both direct and indirect relationship with dependent variables through a mediator. The results prove that social influence, sustainability and credibility, facilitating condition and switching barrier are having a prominent impact towards consumer adoption with mediating effect of behavioral intention.

Lastly, this research also lists out the limitations that may influence the accuracy of the results. Several recommendations have been suggested for better future research. This research provides a basic understanding of the mobile payment and acts as a guideline to the Alipay to further improve the business in Malaysia. It also acts as reference to future academic purpose.

REFERENCES

Ab Hamid, M. R., Sami, W., & Mohmad Sidek, M. H. (2017). Discriminant Validity Assessment: Use of Fornell & Larcker criterion versus HTMT Criterion. *Journal of Physics: Conference Series*, *890*, 012163.

AbuShanab, E., & Pearson, J. (2007). Internet banking in Jordan: The unified theory of acceptance and use of technology (UTAUT) perspective. *Journal of Systems and Information Technology, 9*(1), 78-97.

Ajzen, I. (1991), "The Theory of Planned Behavior, *"Organizational Behavior and Human Decision Processes*, *50*(2), 179-211.

Ajzen, I., & Fishein, M. (1980). Understanding Attitudes and Predicting Social Behaviour, Prentice-Hall: Englewood Cliffs, NJ.

Akkucuk, U. (2015). *Handbook of research on developing sustainable value in economics, finance, and marketing*. Hershey, PA: Business Science Reference.

Alba, J. W., & Hutchinson, J. W. (1987). Dimensions of Consumer Expertise. *Journal of Consumer Research, 13*(4), 411.

Albert, D., Chein, A., & Steinberg, L. (2013). The Teenage Brain: Peer Influences on Adolescent Decision Making. *22*(2), 144-120.

Alipay. (2018). What is Alipay Barcode payment and how can I generate a barcode? Retrieved from https://global.alipay.com/help/spot/11

Appianing, J., & Van Eck, R. N. (2015). Gender Differences in College Students'Perceptions of Technology-Related Jobs in Computer Science. *International Journal of Gender, Science, and Technology*, *7*(1), 28-56.

Arndt J. (1967). Role of product-related conversations in the diffusion of a new product. *J. Mark. Res.* 4, 291–295.

Arvidsson, N. (2014). Consumer attitudes on mobile payment services – results from a proof of concept test. *International Journal of Bank Marketing*, *32*(2), 150-170.

Au, Y. A., & Zafar, H. 2008. A multi-country assessment of mobile payment adoption. UTSA College of Business: Working Paper Series.

Avgeropoulos, S., & Sammut-Bonnici, T. (2015). Switching Costs. In Wiley Encyclopedia of Management (eds C. L. Cooper, J. McGee and T. Sammut-Bonnici).

Babonea, A. (2012). Towards positive interpersonal relationships in the classroom. *Scientific Research & Education in the Air Force - AFASES*, 291-294.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215.

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bank Negara Malaysia. (2018). Electronic payments on the rise. Retrieved from http://www.bnm.gov.my/index.php?ch=ps&pg=ps_mep_rise&ac=195&lang=en

Bhattacherjee, A. (2001). Understanding Information Systems Continuance: An Expectation-Confirmation Model. *MIS Quarterly*, *25*(3), 351-370.

Beldad, A., De Jong, M., & Steehouder, M. (2010). How shall I trust the faceless and the intangible? A literature review on the antecedents of online trust. *Computers in Human Behavior*, *26*(5), 857-869.

Berry, L. L. (1995). Relationship Marketing of Services-Growing Interest, Emerging Perspectives, *Journal of the Academy of Marketing Science*, *23*(Fall), 236-245.

Cabanillas, L. F., & Rubio, L. J. (2017). Predictive and explanatory modeling regarding adoption of mobile payment systems. *Technological Forecasting and Social Change, 120*, 32-40.

Chan, K. L. (2017, April 17). Kelantan, Kedah, Sabah score lowest in per capita income. *The Malaysian Insight*.

Chandra, S., Srivastava, S.C., & Theng Y.-L. (2010). Evaluating the role of trust in consumer adoption of mobile payment systems: an empirical analysis, *Communications of the Association for Information Systems*, 27, 561–588.

Chang, T. C. (2018, May 11). Ethnic Chinese in Malaysia are celebrating China's rise – but as multicultural Malaysians, not Chinese. *South China Morning Post*.

Cheah, C., Teo, A., Ooi, K., & Wong, J. C. (2013). Extending the UTAUT Model in M-Banking Adoption.

Cheong, J.H., Park, C.M., & Hwang, H.J. (2003). Mobile Payment Adoption in Korea: Switching from Credit Card: 1 – 22.

Cheong, J. H., Park, C.M., & Hwang, H.J. (2004). Mobile payment adoption in Korea: Switching from credit card. (Ph.D. dissertation, School of Business, Information and Communications University).

Chen, C. D., & Cheng, C. J. (2009). Understanding consumer intention in online shopping: a respecification and validation of the DeLone and McLean model. *Behaviour & Information Technology*, *28*(4), 335-345.

Chen, P. Y. S., & Hitt, L. M. (2002). Measuring switching costs and their determinant in Internet enabled businesses: A study of the on-line brokerage industry, *Information Systems Research*, 13, 255-274

Choi, Y., & Sun, L. (2016). Reuse Intention of Third-Party Online Payments: A Focus on the Sustainable Factors of Alipay. *Sustainability*, *8*(2), 147.

Chong, A. Y. (2013). Predicting m-commerce adoption determinants: A neural network approach. *Expert Systems with Applications,40*(2), 523-530.

Chong, K. Y. (2017, December 20). China tourists prefer to use Alipay. Retrieved from https://www.thestar.com.my/news/nation/2017/12/20/china-tourists-prefer-to-use-alipay-visitors-to-malaysia-go-on-shopping-sprees-with-cashless-payment/

Cronin, J., Brady, M. K., & Hult, G. M. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing, 76*(2), 193-218.

Curtis, L., Edwards, C., Fraser, K.L., Gudelsky, S., Holmquist, J., & Thornton, K. (2010). Adoption of social media for public relations by non-profit organizations. *Public Relations Review 36*(1), 90–92

Daştan, İ., & Gürler, C. (2016). Factors Affecting the Adoption of Mobile Payment Systems: An Empirical Analysis. *EMAJ: Emerging Markets Journal, 6*(1), 17-24.

Davis, F. D. (1993). User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. *International Journal of Man-Machine Studies, 38*(3), 475-487.

DeLone, W. H., & McLean, E. R. (1992). Information Systems Success: The Quest for the Dependent Variable. *Information Systems Research, 3*(1), 60-95.

DeLone, W.H., & McLean, E.R. (2003). "The DeLone and McLean Model of Information Systems Success: A Ten-Year Update," *Journal of Management Information Systems, 19*(4), 9-30.

Derbaix, C., & Vanhamme, J. (2003). Inducing word-of-mouth by eliciting surprise: A pilot investigation. *Journal of Economic Psychology, 24*(1), 99-116.

Deutsch, M., & Gerard, H. B. (1955). A study of normative and informational social influences upon individual judgment. *The Journal of Abnormal and Social Psychology,51*(3), 629-636.

Diacon, P., & Maha, L. (2015). The Relationship between Income, Consumption and GDP: A Time Series, Cross-Country Analysis. *Procedia Economics and Finance*, *23*, 1535-1543.

Digital News Asia. (2018, April 19). UnionPay kickstarts deployment of QR Code for payments in Malaysia. Retrieved from https://www.digitalnewsasia.com/digital-economy/unionpay-kickstarts-deployment-qr-code-payments-malaysia

Dzhain, N. (2014). *Impact of Switching Costs and Network Effects on Adoption of Mobile Platforms* (Master's thesis, Aalto University, Helsinki, Finland).

Eckhardt, A., Laumer, S., & Weitzel, T. (2009). Who influences whom? Analyzing workplace referents' social influence on IT adoption and non-adoption. *Journal of Information Technology*, *24*(1), 11-24.

Fang, W., Ng, E., Wang, C., & Hsu, M. (2017). Normative Beliefs, Attitudes, and Social Norms: *People Reduce Waste as an Index of Social Relationships When Spending Leisure Time. Sustainability*,*9*(10), 1696.

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley Publishing Co.

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *18*(1), 39.

Garson, G. D. (2016). *Partial Least Squares: Regression & Structural Equation Model*. Retrieved from https://www.smartpls.com/resources/ebook_on_pls-sem.pdf

George, K. (2010, July 20). 9 Reasons to Choose In-Depth Interviews (IDIs) | Market Research in Upstate NY – RMS. Retrieved from https://rmsresults.com/2010/07/20/in-depth-interviews-market-research-in-upstate-ny-central-new-york-syracuse-survey/

Ghauri, P. N., & Grønhaug, K. (2005). *Research methods in business studies: A practical guide*: Pearson Education.

Gold, A.H., Malhotra, A., & Segars, A.H. (2001). Knowledge Management: An Organizational Capabilities Perspective, *Journal of Management Information Systems, 18*(1), 185-214.

Guo, H., Huang, X., & Craig, P. (2015). Factors Influencing the User Acceptance of Alipay. *Proceedings of the 2015 International Conference on Economy, Management and Education Technology*.

Gremler, D. D. (1995). *The effect of satisfaction, switching costs, and interpersonal bonds on service loyalty* (Unpublished doctoral dissertation). Arizona State University.

Hair, J. F. (2018). Product | SmartPLS. Retrieved from https://smartpls.com

Hair, J. F., Hauff, S., Hult, G. T., Richter, N. F., Ringle, C. M., & Sarstedt, M. (2017). Kapitel 4: Gütebeurteilung von PLS-SEM-Ergebnissen (Teil I). *Partial Least Squares Strukturgleichungsmodellierung*, 89-117.

Hair, J., F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *A primer on partial least squares structural equation model (PLS-SEM).* Sage, Los Angeles.

Hair, J. F., Hult, G. T.M., Ringle, C. M., & Starstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM).* Thousand Oaks (Calif.: SAGE Publications, Inc).

Hall, D. T., & Mansfield, R. (1975). Relationships of age and seniority with career variables of engineers and scientists. *Journal of Applied Psychology*, *60*(2), 201-210.

Harwell, M. (2011). Research design in qualitative/quantitative/mixed methods. *The Sage handbook for research in education. 2nd ed. Los Angeles, CA: Sage*, 147.

Hayashi, F. (2012). Mobile Payments: What's in It for Consumers? *Economics Review*, 35-66.

Heijden, H. V. (2002). Factors Affecting the Successful Introduction of Mobile Payment Systems. Retrieved from https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1065&context=bled20

Henseler, J., Ringle, C.M., & Sarstedt, M. (2015). "A new criterion for assessing discriminant validity in variance-based structural equation modeling", *Journal of the Academy of Marketing Science*, *43*(1), 115-135.

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The Use of Partial Least Squares Path Modeling in International Marketing. *Advances in International Marketing*, *20*, 277-319.

Hogg, M, A. (1994). *The Social Psychology of Group Cohesiveness*, New York: Harvester Wheatsheaf.

Hongxia, P., Xianhao, X., & Weidan, L. (2011). Drivers and barriers in the acceptance of mobile payment in China. *2011 International Conference on E-Business and E-Government (ICEE)*.

Hossain, M. A., Hasan, M. I., Chan, C., & Ahmed, J. U. (2017). Predicting User Acceptance and Continuance Behaviour Towards Location-based Services: The Moderating Effect of Facilitating Conditions on Behavioural Intention and Actual Use. *Australasian Journal of Information Systems*, *21*.

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: a review of four recent studies. *Strategic Management Journal*, *20*(2), 195-204.

Inn, T. K. (2017, August 15). Public Bank partners Alipay to offer mobile wallet services - Business News | The Star Online. Retrieved from https://thestar.com.my/business/business-news/2017/08/15/public-bank-partners-alipay-to-offer-mobile-wallet-services/

Jacobs, H. (2018, April 15). One photo show that China is already in a cashless future. *Business Insider*.

Jeong, B. K., & Yoon, T. E. (2013). An Empirical Investigation on Consumer Acceptance of Mobile Banking Services. *Business and Management Research, 2*(1)

Joifin, F. (2017). 9 Digital Payments in Malaysia That You Need to Know About. Retrieved May 6, 2018, from https://www.comparehero.my/blog/digital-payments-malaysia.

Jones, M. A., Mothersbaugh, D. L., & Beatty, S. E. (2000). Switching barriers and repurchase intentions in services. *Journal of Retailing*, *76*(2), 259-274.

Karsikko, H. (2015). Current State *of Mobile Payments in Finland Drivers and obstacles in diffusion and adoption of mobile payments* (Unpublished master's thesis). Oulu University of Applied Sciences, Oulu, Finland.

Kelman, H. C. (1958). Compliance, identification, and internalization: Three processes of attitude change. *Journal of Conflict Resolution, 2*(1), 51–60.

Khalifa, M., & Shen, K. N. Drivers for Transactional B2C M-Commerce Adoption: Extended Theory of Planned Behavior. *Journal of Computer Information Systems, 48*(3), 2008, 111–117.

Khalilzadeh, J., Ozturk, A. B., & Bilgihan, A. (2017). Security-related factors in extended UTAUT model for NFC based mobile payment in the restaurant industry. *Computers in Human Behavior*, *70*, 460-474

Kim, H., Xu, Y., & Koh, J. (2004). A Comparison of Online Trust Building Factors between Potential Customers and Repeat Customers. *Journal of the Association for Information Systems*, *5*(10), 392-420.

Kim, H. W., Gupta, S., & Lee, S. H. (2013). Examining the Effect of Online Switching Cost on Customers' Willingness to Pay More. *Asia Pacific Journal of Information Systems, 23*(1), 21-43.

Kim, H., Gupta, S., & Jeon, Y. (2013). User Continuance Intention Towards Mobile Internet Service: The Case of WiMAX in Korea. *Journal of Global Information Management*, *21*(4), 121-142.

Kim, M. K., Park, J. H., & Park, M. C. (2007). The Effect of Switching Barriers on Customer Retention in Korean Mobile Telecommunication Services.

Kline, R.B. (2011). *Principles and practice of structural equation modelling.* New York: Guilford.

Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement.*

Kuala Lumpur Population. (2018, October 18). Retrieved from http://worldpopulationreview.com/world-cities/kuala-lumpur-population/

Kumar, P. P. (2017, September 15). RFID technology toll collection by mid-2018. *The Malaysian Reserve*.

Kurnia, S., & Zhao, Y. (2014). "Exploring Mobile Payment Adoption in China". *PACIS 2014 Proceedings*, 232.

Lee, K. C., & Chung, N. (2009). Understanding factors affecting trust in and satisfaction with mobile banking in Korea: A modified DeLeon and McLean's model perspective. *Interacting with Computers*, *21*(5-6), 385-392.

Lerner, J. S., Ye, L., Valdesolo, P., & Kassan, K. (2014). Emotion and Decision Making. Retrieved from https://scholar.harvard.edu/files/jenniferlerner/final_.pdf.

Liao, Z., & Cheung, M.T. (2002). Internet-based e-banking and consumer attitudes: An empirical study. *Information Management*, 39, 283–295.

Lin, J. (2014). *The Effect of Consumer Learning on Intention to Use Mobile Payments* (Doctoral dissertation, Auburn University).

Liu, S., Zhuo, Y., Soman, D., & Zhao, M. (2012) The consumer implications of the use of electronic and mobile payment systems, *Research Report Series Behavior Economics in Action*, Rotman School of Management, Toronto.

Liu, Y. (2015). Consumer protection in mobile payments in China: A critical analysis of Alipay's service agreement. *Computer Law & Security Review*, *31*(5), 679-688.

Luarn, P., & Lin, H. (2005). Toward an understanding of the behavioral intention to use mobile banking. *Computers in Human Behavior*, *21*(6), 873-891.

Lunneborg, C. E. (1979). Book Review: Psychometric Theory: Secon d Edition Jum C. Nunnally New York: McGraw-Hill, 1978, 701 pages. *Applied Psychological Measurement*, *3*(2), 279-280.

Lynott, P. P., & McCandless, N. J. (2000). The Impact of Age vs. Life Experience on the Gender Role Attitudes of Women in Different Cohorts. *Journal of Women & Aging*, *12*(1-2), 5-21.

Mahpar, M. H. (2017, March 22). Maybank and CIMB to enable Alipay mobile wallet in Malaysia - Business News | The Star Online. Retrieved from https://thestar.com.my/business/business-news/2017/03/22/cimb-to-enable-alipay-mobile-wallet-in-malaysia/

Maimbo, S., Saranga, T., & Strychacz, N. (2010). Facilitating Cross-Border Mobile Banking in Southern Africa. *Economic Premise*, (26).

Mackensen, I. (2015). *Mobile Payments – A Strategic Forecasting Approach* – (Master's thesis, Copenhagen Business School, Frederiksberg, Denmark).

Martin, P., Thomas, G. (2000). Interpersonal Relationships as a Metaphor for Human Nature Relationships. *Journal of Australasian Outdoor Education*, *5* (1): 39 –45.

Mazzarol, T., Sweeney, J. C., & Soutar, G. N. (2007). Conceptualizing word-of-mouth activity, triggers and conditions: An exploratory study. *European Journal of Marketing*, 41(11/12), 1475-1494.

Memon, A. H., & Rahman, I. A. (2014). SEM-PLS Analysis of Inhibiting Factors of Cost Performance for Large Construction Projects in Malaysia: Perspective of Clients and Consultants. *The Scientific World Journal*, *2014*, 1-9.

Mobile Payment favoured by 70% of Malaysian. (2017, February). Retrieved May 6, 2018, from http://www.smartinvestor.com.my/mobile-payments-malaysians/

Mohd, U. (2017). *Report of Household Income and Basic Amenities Survey 2016*. Department of Statistics Malaysia Official Portal.

Morgeson, F.V., & Petrescu, C. (2011). Do They All Perform Alike? An Examination of Perceived Performance, Citizen Satisfaction and Trust with US Federal Agencies. Int. Rev. Admin. Sci, 77, 451–479.

Morris, M., Venkatesh, V., & Ackerman, P. (2005). Gender and Age Differences in Employee Decisions About New Technology: An Extension to the Theory of Planned Behavior. *IEEE Transactions on Engineering Management*, *52*(1), 69-84.

Müller-Stewens, J., Schlager, T., Häubl, G., & Herrmann, A. (2017). Gamified Information Presentation and Consumer Adoption of Product Innovations. *Journal of Marketing*, *81*(2), 8-24.

Mun, Y. P., Khalid, H., & Nadarajah, D. (2017). Millennials' Perception on Mobile Payment Services in Malaysia. *Procedia Computer Science*, *124*, 397-404.

Nascimento, J. C., & Macedo, M. A. (2016). Structural Equation Models using Partial Least Squares: An Example of the Application of SmartPLS® in Accounting Research. Retrieved from http://www.repec.org.br/index.php/repec/article/view/1376

Nielsen Mobile Shopping. (2017, August 15). Public Bank partners Alipay to offer mobile wallet services - Business News | The Star Online. Retrieved

from https://thestar.com.my/business/business-news/2017/08/15/public-bank-partners-alipay-to-offer-mobile-wallet-services/

Notani, A. (1998). Moderators of Perceived Behavioral Control's Predictiveness in the Theory of Planned Behavior: A Meta-Analysis. *Journal of Consumer Psychology*, *7*(3), 247-271.

Olalere, A. (2013). The mediating effect of contextual characteristics on collectivist dynamics and entity-based creativity among faculty in higher education. *All Dissertations*, 1-159.

Oliveira, T., Thomas, M., Baptista, G., & Campos, F. (2016). Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology. *Computers in Human Behaviour, 61*, 404-414.

Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). E-S-QUAL. *Journal of Service Research*, *7*(3), 213-233.

Peng, H., Xu, X., & Liu, W. (2011). Drivers and barriers in the acceptance of mobile payment in China. *2011 International Conference on E-Business and E-Government (ICEE)*.

Peterson, R. A. (1995). Relationship Marketing and the Consumer. *Journal of the Academy of Marketing Science*, *23*(fall), 1995, pp. 278-281.

Pham, T. T., & Ho, J. C. (2015). The effects of product-related, personal-related factors and attractiveness of alternatives on consumer adoption of NFC-based mobile payments. *Technology in Society*, *43*, 159-172.

Rachlin, H. (1989). Judgment, decision, and choice: a cognitive/behavioral synthesis. *Choice Reviews Online*, *26*(11), 26-6564-26-6564.

Ratten, V. (2011), "Social cognitive theory in mobile banking innovations", *International Journal of E-Business Research*, *7*(1), 39-51.

Rivis, A., & Sheeran, P. (2003) "Descriptive Norms as an Additional Predictor in the Theory of Planned Behaviour: A Meta-Analysis." *Current Psychology: Developmental, Learning, Personality, Social, 22*(3), 218-233.

Rodriguez, M. C., & Maeda, Y. (2006). Meta-analysis of coefficient alpha. *Psychological Methods*, *11*(3), 306-322.

Rogers, E. M. (1962). *Diffusion of Innovation*. Paper presented at The Free Press, New York, NY.

Rogers, E. M. (1976). New product adoption and diffusion. *Journal of Consumer Research*, *2*, 290-310.

Schierz, P. G., Schilke, O., & Wirtz, B. W. (2010). Understanding consumer acceptance of mobile payment services: An empirical analysis. *Electronic Commerce Research and Applications*, *9*(3), 209-216.

Shah, M. U., Fatimee, S., & Sajjad, M., Dr. (2014). Mobile Commerce Adoption: *An Empirical Analysis of the Factors Affecting Consumer Intention to Use Mobile Commerce. Basic. Appl. Sci. Res.*, *4*(4), 80-88.

Shen, D., Laffey, J., Lin, Y., & Huang, X.X. (2006), "Social Influence for Perceived Usefulness and Ease-of-Use of Course Delivery Systems," *Journal of Interactive Online Learning*, *5*(3), 270-282.

Shen, X., Cheung, C., Lee, M. K., & Chen, H. (2006). How social influence affects we intention to use instant messaging: The moderating effect of usage experience.

Sihaloho, J. B. (2009). Factors That Influence Behavioral Intention of Mobile Payment on Consumer Banking in North Jakarta. *Business and Entrepreneurial Review*, *9*(1), 61–78.

Song, J., & Zahedi, F. (2007). Trust in health infomediaries. *Decision Support Systems*, *43*(2), 390-407.

Sousa, G. (2018, January 11). Biggest Cities In Malaysia. Retrieved from https://www.worldatlas.com/articles/biggest-cities-in-malaysia.html

Spears, N., & Singh, S. N. (2004). Measuring Attitude toward the Brand and Purchase Intentions. *Journal of Current Issues & Research in Advertising*, *26*(2), 53-66.

Tacken, M., Marcellini, F., Mollenkopf, H., Ruoppila, I., & Széman, Z. (2005). Use and acceptance of new technology by older people. Findings of the international MOBILATE survey: 'Enhancing mobility in later life'. *Gerontechnology*,*3*(3).

Tan, M., & Teo, T. (2000). Factors Influencing the Adoption of Internet Banking. *Journal of the Association for Information Systems*, *1*(1), 1-44.

Taylor, S., & Todd, P. (1995), "Assessing IT Usage: The Role of Prior Experience," *MIS Quarterly*, 19(4), 561-570

Thakur, R. (2013). Customer Adoption of Mobile Payment Services by Professionals across two Cities in India: An Empirical Study Using Modified Technology Acceptance Model. *Business Perspectives and Research*, *1*(2), 17-30.

Teoh, M.Y., Chong, W.C., Lin, B.S., & Chua, W.J. (2013). Factors affecting consumers' perception of electronic payment: an empirical analysis. *Internet Research*, *23*(4), 465-485.

The Enter project (2011), "Enter the impact of modern media", European Comenius School Partnership Project.

Thong, J. Y., Hong, S., & Tam, K. Y. (2006). The effects of post-adoption beliefs on the expectation-confirmation model for information technology continuance. *International Journal of Human-Computer Studies*, *64*(9), 799-810.

Toh, T.W., Marthandan, G., Chong, A. Y.L., Ooi, K.B., & Arumugam, S. (2008). What drives Malaysian m-commerce adoption? An empirical analysis. Retrieved from http://marcomacademy.co.uk/ijmma/What-drives-mobile-commerce-An-empirical-evaluation-of-the-revised-UTAUT-model.pdf

Trafimow, D., & Fishbein, M. (1994). The Moderating Effect of Behavior Type on the Subjective Norm-Behavior Relationship. The Journal of Social Psychology,134(6), 755-763.

Triandis, H. C. (1980), Beliefs, Attitudes and Values, NE, Lincoln: University of Nebraska Press, pp.195-259.

United States Postal Service. (2018). Types of Switching Costs. Retrieved from https://about.usps.com/manuals/spp/html/spp2_050.htm

Venkatesh, V. (2000). Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model. *Information Systems Research, 11*(4), 342-365.

Venkatesh, V., & Morris, M. G. (2000). Why Don't Men Ever Stop to Ask for Directions? Gender, Social Influence, and Their Role in Technology Acceptance and Usage Behavior. *MIS Quarterly, 24*(1), 115.

Venkatesh, V., Morris M.G., Gordon, B.D, & Davis F.D. (2003), "User Acceptance of Information Technology: Toward a Unified View*," MIS Quarterly, 27*(3), 425-478.

Verhoeven, J. C., Heerwegh, D., & Wit, K. D. (2010). Information and communication technologies in the life of university freshmen: An analysis of change. *Computers & Education, 55*(1), 53-66.

Verifone. (2010). *A cashless future on the horizon.* Retrieved March 17, 2018, from http://www.verifone.co.uk/media/1420610/VeriFone_Cashless_Future_Contactless.pdf.

Verkijika, S. F. (2018). Factors influencing the adoption of mobile commerce applications in Cameroon. *Telematics and Informatics*.

Weiergraeber, S. (2017). Network Effects and Switching Costs in the US Wireless Industry.

Weyers, B. (2007). The Internet's Impact on Our Thinking. *An Exploration of the Consequential Implications on Our Cognitive Thought Process*. Retrieved July 31, 2018, from file:///C:/Users/User/Downloads/weyers.pdf.

White, A., Katherine, M., Smith, J., Joanne, K., Terry, C., Deborah, J., Greenslade, B., Jaimi, H., McKimmie, K., & Blake M. (2009) Social influence in the theory of planned behaviour: the role of descriptive, injunctive, and ingroup norms. *British Journal of Social Psychology, 48*(1), 135-158.

Xie, J., & Lin, R. (2014). Understanding the adoption of third-party online payment an empirical study of user acceptance of Alipay in China. Retrieved from https://diva-portal.org/smash/get/diva2:733072.pdf

Yan, A.W., Md-Nor, K., Abu-Shanab, E., & Sutanonpaiboon, J. (2009). Factors that affect mobile telephone users to use mobile payment solution. *International Journal of Economics and Management, 3* (1), 37-49.

Yang, K. (2010). Determinants of US consumer mobile shopping services adoption: implications for designing mobile shopping services. *Journal of Consumer Marketing,* 27(3), 262-270.

Yang, K., & Forney, J. C. (2013). The Moderating Role of Consumer Technology Anxiety in Mobile Shopping Adoption: Differential Effects of Facilitating Condition and Social Influences. *Journal of Electronic Commerce Research, 14*(4), 334-347.

Yau, H. K., & Ho, T. C. (2015). The Influence of Subjective Norm on Behavioral Intention in Using E-Learning. *An Empirical Study in Hong Kong Higher Education,2*(1), 110-121.

Zhao, Y., & Kurnia, S. (2014). Exploring Mobile Paymnet Adoption in China. Retrieved from https://pdfs.semanticscholar.org/c5dd/7f14546e5733c563a2e83c7600/pdf

Zhou, T., Lu, Y., & Wang, B. (2010). Integrating TTF and UTAUT to explain mobile banking user adoption. *Computers in Human Behavior, 26*(4), 760-767.

Zolait, A.H.S. and Sulaiman, A. (2009), "The influence of communication channels on internet banking adoption", *Asian Journal of Business and Accounting, 2* (2), 115-134

APPENDIX A: Questionnaire

Dear Respondent,

Warmest greeting from Universiti Tunku Abdul Rahman (UTAR)

We are final year undergraduate students of Bachelor of Financial Economics, Universiti Tunku Abdul Rahman (UTAR). The purpose of this survey is to conduct a research to investigate determinants on the consumer adoption for Alipay in Malaysia. Please answer all questions to the best of your knowledge. There are no wrong responses to any of these statements. All responses are collected for academic research purpose and will be kept strictly confidential.

Thank you for your participation.

Objective of the study:

I. To determine the potential consumer in using Alipay services in Malaysia.
II. To study the payment preferences among Alipay consumer in Malaysia.
III. To identify determinants that influence consumer adoption using Alipay in Malaysia.

Instructions:

1) There are TWO (2) sections in this questionnaire. Please answer ALL questions in ALL sections.
2) Completion of this form will take you less than 10 minutes.
3) The contents of this questionnaire will be kept strictly confidential.

Voluntary nature of the study:

Participation in this research is entirely voluntary. All information collected is treated as strictly confidential and will be used for the purpose of this study only.

Please be informed that in accordance with Personal Data Protection Act 2010 which came into force on 15 November 2013, Universiti Tunku Abdul Rahman (UTAR) is hereby bound to make notice and require consent in relation to collection, recording, storage, usage and retention of personal information.

Acknowledgement of notice:

I have been notified by you and that I hereby understood, consented and agreed per UTAR notice.

I disagree, my personal data will not be processed.

Yours sincerely,

Chong Zheng Yang
Faculty of Business and Finance
Universiti Tunku Abdul Rahman (UTAR)
Jalan Universiti, Bandar Barat,
31900 Kampar,
Perak Darul Ridzuan,
TEL: 017-4403199
Email: zhengyang497@gmail.com

Please indicate your agreement for the following items based on the Scale of 1 to 5 (1: Strongly Disagree; 5: Strongly Agree). Each item represents a commonly held opinion. Indicate your agreement to each statement by ***selecting the most appropriate answer.***

1	2	3	4	5
Strongly Disagree (SD)	Disagree (D)	Neutral (N)	Agree (A)	Strongly Agree (SA)

Section A: This section is about each construct on DV

IV1: Social Influence (SI)

No.	***Code***	***Item***	***SD***	***D***	***N***	***A***	***SA***
1	SI1	Government decision to implement Alipay in Malaysia will induce me to use Alipay.	1	2	3	4	5
2	SI2	Alipay promotional campaign affects my decision to use Alipay.	1	2	3	4	5
3	SI3	Consumers' word of mouth can affect my decision to use Alipay.	1	2	3	4	5
4	SI4	Evaluation reports from media can affect my decision to use Alipay.	1	2	3	4	5
5	SI5	I will use Alipay to satisfy the expectations of others.	1	2	3	4	5

IV2: Sustainability and Credibility (SAC)

No.	***Code***	***Item***	***SD***	***D***	***N***	***A***	***SA***
6	SAC1	I feel secure of my savings when using Alipay.	1	2	3	4	5
7	SAC2	I feel safe about my personal information while using Alipay.	1	2	3	4	5
8	SAC3	I believe Alipay will not lead to transaction fraud.	1	2	3	4	5
9	SAC4	I believe Alipay reduces the risk of human error in monetary transaction.	1	2	3	4	5
10	SAC5	I believe that no risk involved in the transmission of the	1	2	3	4	5

		transaction information through wireless network.					
11	SAC6	I can get the corresponding compensation when Alipay system makes mistake.	1	2	3	4	5
12	SAC7	I think Alipay improves Malaysia credit system.	1	2	3	4	5

IV3: Perceived Ease of Use (PEOU)

No.	***Code***	***Item***	***SD***	***D***	***N***	***A***	***SA***
13	PEOU1	I feel that it is easy to become skillful at using Alipay service.	1	2	3	4	5
14	PEOU2	I feel that the interaction with Alipay service is clear and understandable.	1	2	3	4	5
15	PEOU3	I believe that Alipay saves my time during purchase.	1	2	3	4	5
16	PEOU4	I feel that Alipay service has no limits to its use at any time and in any place.	1	2	3	4	5
17	PEOU5	I believe it is quick to obtain necessary support during an emergency transaction from Alipay service.	1	2	3	4	5
18	PEOU6	I can use Alipay service without remaining balance in my account.	1	2	3	4	5

IV4: Facilitating Condition (FC)

No.	***Code***	***Item***	***SD***	***D***	***N***	***A***	***SA***
19	FC1	I have the necessary resources to use Alipay.	1	2	3	4	5
20	FC2	I have the necessary knowledge to use mobile payment application.	1	2	3	4	5
21	FC3	I get help from others when I have difficulties using Alipay.	1	2	3	4	5
22	FC4	I get assistance from Alipay when I have payment problems.	1	2	3	4	5
23	FC5	Alipay on my smartphone is running smoothly.	1	2	3	4	5
24	FC6	I think Alipay is more convenient compared to other payment methods.	1	2	3	4	5
25	FC7	I use Alipay to facilitate my finances.	1	2	3	4	5
26	FC8	Agents (banker and mobile operator) are readily available for me if I want to use Alipay.	1	2	3	4	5
27	FC9	Network coverage is available for me to use Alipay.	1	2	3	4	5

IV5: Switching Barrier

a) **Switching Cost (SC)**

No.	*Code*	*Item*	*SD*	*D*	*N*	*A*	*SA*
28	SC1	It would take me a lot of time if I change to Alipay.	1	2	3	4	5
29	SC2	It would cost me a lot of money if I changed to Alipay.	1	2	3	4	5
30	SC3	It would take me a lot of effort to switch to Alipay.	1	2	3	4	5
31	SC4	I might be placed in a risky situation of having a worse service if I switch to Alipay.	1	2	3	4	5

b) **Attractiveness of Alternatives (AOA)**

No.	*Code*	*Item*	*SD*	*D*	*N*	*A*	*SA*
32	AOA1	I have other mobile payment services to choose from if I need.	1	2	3	4	5
33	AOA2	I would be happy with other payment services than Alipay.	1	2	3	4	5
34	AOA3	I would probably be equally or more satisfied with other mobile payment services besides Alipay.	1	2	3	4	5
35	AOA4	Original payment can be a substitute to Alipay service.	1	2	3	4	5

c) **Interpersonal Relationship (IR)**

No.	*Code*	*Item*	*SD*	*D*	*N*	*A*	*SA*
36	IR1	I will use Alipay if people around me use Alipay.	1	2	3	4	5
37	IR2	My intimates can persuade me to use Alipay.	1	2	3	4	5
38	IR3	My colleague can affect my decision to use Alipay.	1	2	3	4	5
39	IR4	My family can affect my decision to use Alipay.	1	2	3	4	5

MV: Behavioral Intention (BI)

No.	*Code*	*Item*	*SD*	*D*	*N*	*A*	*SA*
40	BI1	I am willing to learn how to use Alipay.	1	2	3	4	5
41	BI2	I will try to use Alipay if necessary.	1	2	3	4	5
42	BI3	I intend to use Alipay often.	1	2	3	4	5
43	BI4	I am willing to recommend Alipay to my friends.	1	2	3	4	5
44	BI5	I will use Alipay during purchase instead of other payment methods if it's available.	1	2	3	4	5
45	BI6	If I have access to Alipay services, I would really use them.	1	2	3	4	5

DV: Consumer Adoption (CA)

No.	*Code*	*Item*	*SD*	*D*	*N*	*A*	*SA*
46	CA1	I use Alipay if given the opportunity.	1	2	3	4	5
47	CA2	I make a purchase via Alipay in my daily purchase.	1	2	3	4	5
48	CA3	I increase my use of Alipay to make a purchase.	1	2	3	4	5
49	CA4	I recommend others to use Alipay to make a purchase if it is provided.	1	2	3	4	5
50	CA5	I prefer Alipay service as an addition to existing bank account.	1	2	3	4	5

Section B: Respondent's Demographical Profile

1. Please indicate your gender:

☐ Male ☐ Female

2. Age group:

☐ Below 21 ☐ Between 21 – 30

☐ Between 31 - 40 ☐ Between 41 – 50

☐ Between 51 - 60 ☐ 61 and above

3. Race:

Malaysian

☐ Malay

☐ Chinese

☐ Indian

☐ Others: Please specify:

4. Marital Status:

☐ Single ☐ Married

☐ Divorced ☐ Widow

5. Educational level:

☐ Primary or below ☐ Bachelor Degree

☐ High school / Secondary level ☐ Master Degree

☐ College diploma ☐ Doctorate Degree or higher

6. Occupation:

- ☐ Student
- ☐ Professional
- ☐ Self-employed
- ☐ Unemployed

7. Please state your monthly personal income:

- ☐ Below RM1500
- ☐ RM1501-RM3000
- ☐ RM3001 – RM4500
- ☐ RM4501-RM6000
- ☐ More than RM6000

Thank you for participating in this survey. Your participation is highly appreciated.

APPENDIX B: Pilot Test Analysis

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SI1	177.3000	416.907	.309	.917
SI2	177.2667	421.926	.113	.919
SI3	177.1000	411.541	.510	.916
SI4	177.4667	414.671	.388	.917
SI5	177.9000	393.817	.722	.913
SAC1	177.9000	404.783	.479	.916
SAC2	178.0000	407.310	.501	.916
SAC3	177.8333	407.937	.401	.917
SAC4	177.3667	403.964	.611	.915
SAC5	178.1667	410.282	.350	.917
SAC6	177.8333	399.454	.567	.915
SAC7	177.2000	414.993	.320	.917
PEOU1	177.3667	413.413	.434	.916
PEOU2	177.4333	417.564	.256	.918
PEOU3	177.0000	415.172	.384	.917
PEOU4	177.7000	420.148	.123	.919
PEOU5	177.4333	414.185	.295	.917
PEOU6	178.1667	407.730	.442	.916
FC1	177.8000	403.269	.620	.914
FC2	177.4333	407.909	.561	.915
FC3	177.4667	410.257	.507	.916
FC4	177.5667	405.495	.572	.915
FC5	177.7333	407.582	.457	.916
FC6	177.5667	414.530	.313	.917
FC7	178.0000	405.241	.477	.916
FC8	178.0667	418.754	.191	.918
FC9	177.5333	414.189	.365	.917
SC1	177.7333	414.409	.259	.918
SC2	178.4667	414.947	.231	.918
SC3	178.3667	420.102	.126	.919
SC4	178.4000	428.731	-.077	.921
AOA1	178.0000	415.241	.213	.919
AOA2	178.1333	417.499	.248	.918
AOA3	178.0667	407.306	.452	.916
AOA4	177.9333	420.547	.134	.919

IR1	177.3333	414.368	.339	.917
IR2	177.4000	416.110	.248	.918
IR3	177.5667	416.944	.259	.918
IR4	177.3667	413.757	.316	.917
BI1	177.1000	410.024	.611	.915
BI2	177.2000	414.028	.349	.917
BI3	177.6000	403.076	.523	.915
BI4	177.5667	398.047	.724	.913
BI5	177.4333	404.323	.640	.914
BI6	177.4000	399.283	.703	.914
CA1	177.2333	409.013	.583	.915
CA2	177.9667	391.482	.668	.913
CA3	177.6667	390.851	.746	.912
CA4	177.2667	402.271	.706	.914
CA5	177.2667	408.409	.548	.915

Item Statistics

	Mean	Std. Deviation	N
SI1	3.9667	.71840	30
SI2	4.0000	.83045	30
SI3	4.1667	.69893	30
SI4	3.8000	.71438	30
SI5	3.3667	1.09807	30
SAC1	3.3667	1.06620	30
SAC2	3.2667	.90719	30
SAC3	3.4333	1.07265	30
SAC4	3.9000	.88474	30
SAC5	3.1000	1.06188	30
SAC6	3.4333	1.13512	30
SAC7	4.0667	.82768	30
PEOU1	3.9000	.71197	30
PEOU2	3.8333	.79148	30
PEOU3	4.2667	.69149	30
PEOU4	3.5667	1.04000	30
PEOU5	3.8333	.94989	30
PEOU6	3.1000	.99481	30
FC1	3.4667	.89955	30
FC2	3.8333	.79148	30
FC3	3.8000	.76112	30
FC4	3.7000	.87691	30
FC5	3.5333	.97320	30
FC6	3.7000	.87691	30
FC7	3.2667	1.04826	30
FC8	3.2000	.88668	30

FC9	3.7333	.78492	30
SC1	3.5333	1.04166	30
SC2	2.8000	1.09545	30
SC3	2.9000	1.02889	30
SC4	2.8667	1.04166	30
AOA1	3.2667	1.14269	30
AOA2	3.1333	.81931	30
AOA3	3.2000	.99655	30
AOA4	3.3333	.92227	30
IR1	3.9333	.82768	30
IR2	3.8667	.93710	30
IR3	3.7000	.83666	30
IR4	3.9000	.92289	30
BI1	4.1667	.64772	30
BI2	4.0667	.82768	30
BI3	3.6667	1.06134	30
BI4	3.7000	.95231	30
BI5	3.8333	.83391	30
BI6	3.8667	.93710	30
CA1	4.0333	.71840	30
CA2	3.3000	1.26355	30
CA3	3.6000	1.16264	30
CA4	4.0000	.83045	30
CA5	4.0000	.78784	30