

SUPERVISOR'S APPROVAL

'I hereby declared that I had read through this thesis and in my opinion that this thesis is adequate in terms of scope and quality which fulfil the requirements for the award of Bachelor of Technology Management (Technology Innovation)

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AN INVESTIGATION OF CONSUMERS' ADOPTION TOWARDS MOBILE
PAYMENTS (M-PAYMENT) IN MELAKA

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The thesis is submitted in partial fulfillment of the requirements for the award of
Bachelor of Technology Management (Technology Innovation)

Faculty of Technology Management and Technopreneurship
(Technology Innovation)

Universiti Teknikal Malaysia Melaka

JUNE 2018

DECLARATION OF ORIGINAL WORK

“I declared that this project is the result of my own research except as cited in the references. This research project has not been any degree and is not concurrently submitted in candidature of any other degree.”

Signature :

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Date :

DEDICATION

I would like to dedicate this research paper to my parents, who has been my main source of inspiration and fully support during my degree studies. Thank you for giving me the opportunity and totally new experience and memorable in my life to complete this research. Besides, thanks to my friends that help and gave encouragement towards me during this research. Finally, to those who indirectly contributed to this research, your kindness means a lot to me. Thank you.

ACKNOWLEDGEMENT

Hereby, I would like to express my deepest thanks to Dr Yusri Bin Arshad for supervising me to do this research. Thanks again for the guide, information and idea that help me to accomplish this research. A sincere appreciation and thanks to Prof. Dr. Adi Saptari as my panel during the presentation and Dr Chew Boon Cheong for sharing his experience and knowledge in the Research Methodology subject, it really helped me a lot in conducting this research.

Lastly, I would like to take this chance to express my deepest thanks and appreciation to my family and friends for giving me their support, encouragement and help to complete this research paper.

Thank you.

ABSTRACT

Carry out a research about the factor that influences the consumers' adoption on mobile payment is necessary for today's technology trend, since findings consumers' preferences and behaviour towards a current technology is needed for future technology forecast. By knowing the consumers' adoption level in mobile payment, it definitely will enhance the system of mobile payment platform for future users. In this research, researcher will find out the factors that influencing consumers' adoption in Melaka through the Technology Acceptance Theory and Innovation Diffusion Theory. Factors that will investigate in this research include perceived usefulness, perceived ease of use, perceived compatibility, subjective norm, perceived risk, perceived trust and perceived cost. A series of questionnaire was conducted to collect respondents' answers, the data collected were analyse using qualitative method. The results shows that it is a significant relationship between the independent variables which are perceived ease of use, perceived compatibility, subjective norm, perceived risk and perceived trust towards the dependent variable which is consumers' adoption towards mobile payment (m-payment) in Melaka. The researcher also suggest to future researcher that they can explored in more deep regarding the consumers' adoption towards new technology research model, such as whole Malaysia or whole world.

Key Words: Mobile Payment, Consumers' Adoption

ABSTRAK

Penyelidikan tentang penerimaan pengguna atas penggunaan telefon bimbit dalam pembayaran mudah alih diperlukan bagi jaman kini yang mementingkan teknologi. Penerimaan pengguna adalah terutama untuk sesuatu system yang menjalankan pembayaran mudah alih. Dalam kajian ini, penyelidik mengenal pasti faktor yang mempengaruhi penerimaan pengguna terhadap system pembayaran telefon bimbit di Melaka. Kajian ini menggunakan Technology Acceptance Model dan Innnovation Diffusion Theory. Terdapat tujuh faktor penting yang dikaji dalam projek tersebut. Soal selidik dijalankan untuk mengumpul jawapan daripada responden, data yang dikumpul akan dianalisis melalui cara kualitatif. Keputusan analisis menunjukkan ada lima factors yang mempengaruhi penerimaan pengguna atas penggunaan telefon bimbit dalam pembayaran mudah alih. Model penyelidikan mampu digunakan dalam penerimaan pengguna atas teknologi lain.

Kata Kunci: Penerimaan Pengguna, Pembayaran mudah alih

TABLE OF CONTENT

| CHAPTER | CONTENT | PAGES |
|----------------------|--|--------------|
| | DECLARATION OF ORIGINAL WORK | II |
| | DEDICATION | III |
| | ACKNOWLEDGEMENT | IV |
| | ABSTRACT | V |
| | ABSTRAK | VI |
| | TABLE OF CONTENT | VII-IX |
| | LIST OF TABLE | X |
| | LIST OF FIGURES | XI |
| | LIST OF ABBREVIATION | XII |
| | LIST OF APPENDIX | XIII |
| CHAPTER 1 | INTRODUCTION | |
| | 1.1 Background of Study | 1 |
| | 1.2 Problem Statement | 2 |
| | 1.3 Research Questions | 4 |
| | 1.4 Research Objectives | 4 |
| | 1.5 Important of the Study | 5 |
| | 1.6 Scope, Limitations and Key Assumptions of the Study | 5 |
| | 1.7 Summary | 6 |

| | | |
|------------------|--|----|
| CHAPTER 2 | LITERATURE REVIEW | |
| 2.1 | Introduction | 7 |
| 2.2 | E-Commerce | 7 |
| 2.3 | Mobile Phone | 8 |
| 2.4 | Mobile Payment | 9 |
| 2.5 | Consumers' Adoption | 10 |
| 2.6 | Determinants of Consumers' Adoption on Mobile Payment in Melaka | 11 |
| 2.6.1 | Perceived Usefulness (PU) | 11 |
| 2.6.2 | Perceived Ease of Use (PEOU) | 11 |
| 2.6.3 | Perceived Compatibility (PCOM) | 12 |
| 2.6.4 | Subjective Norm (SN) | 12 |
| 2.6.5 | Perceived Risk (PR) | 13 |
| 2.6.6 | Perceived Trust (PT) | 13 |
| 2.6.7 | Perceived Cost (PC) | 14 |
| 2.7 | Theoretical Framework | 15 |
| 2.8 | Research Hypothesis | 16 |
| 2.9 | Summary | 17 |
| | | |
| CHAPTER 3 | RESEARCH METHOD | |
| 3.1 | Introduction | 18 |
| 3.2 | Research Design | 18 |
| 3.3 | Research Method of The Study | 19 |
| 3.4 | Location of Research | 20 |
| 3.5 | Research Strategy | 20 |
| 3.5.1 | Documentation | 21 |
| 3.5.2 | Pilot Test | 22 |
| 3.6 | Population and Sampling Plan | 22 |
| 3.7 | Time Horizon | 22 |
| 3.8 | Validity | 23 |
| 3.8.1 | External Validity | 23 |
| 3.8.2 | Construct Validity | 23 |
| 3.8.3 | Face Validity | 24 |
| 3.9 | Reliability | 24 |
| 3.10 | Data Analysis Tools | 25 |

| | |
|--|----|
| 3.10.1 Statistical Package for Social Sciences (SPSS) | 25 |
| 3.10.2 Multiple Regression Analysis | 25 |
| 3.10.3 Pearson Correlation Coefficient | 26 |
| 3.11 Summary | 27 |
| CHAPTER 4 ANALYSIS AND DISCUSSION | |
| 4.1 Introduction | 28 |
| 4.2 Pilot Test | 28 |
| 4.2.1 Reliability Test | 29 |
| 4.2.2 Validity Test | 30 |
| 4.3 Respondents Rate | 31 |
| 4.4 Descriptive Analysis | 31 |
| 4.4.1 Respondent Demographic Analysis | 31 |
| 4.4.2 Independent Variable Descriptive | 39 |
| 4.4.3 Descriptive Statistic | 46 |
| 4.5 Inferential Analysis | 47 |
| 4.5.1 Pearson Correlation Coefficient | 47 |
| 4.6 Multiple Regression Analysis | 48 |
| 4.7 Hypothesis Testing | 52 |
| 4.7.1 Hypothesis 1 | 52 |
| 4.7.2 Hypothesis 2 | 53 |
| 4.7.3 Hypothesis 3 | 54 |
| 4.7.4 Hypothesis 4 | 55 |
| 4.7.5 Hypothesis 5 | 55 |
| 4.7.6 Hypothesis 6 | 56 |
| 4.7.7 Hypothesis 7 | 57 |
| 4.7.8 Summary of Hypothesis Testing | 58 |
| 4.8 Summary | 58 |

CHAPTER 5 CONCLUSION AND RECOMMENDATION

| | |
|------------------------------------|-----------|
| 5.1 Introduction | 59 |
| 5.2 Summary of Findings | 59 |
| 5.3 Recommendations and Conclusion | 60 |
| 5.4 Limitations of Study | 61 |
| 5.5 Suggestions for Further Study | 62 |
| References | 63 |
| Appendices | 69 |

LIST OF TABLES

| TABLES | TITLE | PAGES |
|---------------|--|--------------|
| 2.1 | Number of mobile phone internet users in Malaysia from 2015 to 2022 | 9 |
| 2.2 | Transaction Value in the Mobile Payment in Malaysia, 2017 | 10 |
| 3.1 | Likert Scale | 21 |
| 3.2 | Cronbach's Alpha Coefficient Range | 24 |
| 3.3 | Rules of Thumb for Interpretation Correlation | 26 |
| 4.1 | Reliability Statistics | 29 |
| 4.2 | Interpretation of Reliability Based on Cronbach's Alpha for Pilot Test Result | 29 |
| 4.3 | Validity Test for Pilot Test Result | 30 |
| 4.4 | Response Rate | 31 |
| 4.5 | Demographic Profile of the Respondent | 32 |
| 4.6 | Descriptive Statistic | 46 |
| 4.7 | Results of Pearson Correlation Coefficient | 47 |
| 4.8 | Model Summary of Multiple Regression | 48 |
| 4.9 | ANOVA table | 49 |
| 4.1 | Coefficients | 50 |
| 4.11 | Result of Hypothesis Testing | 52 |

LIST OF FIGURES

| FIGURES | TITLE | PAGES |
|----------------|--|--------------|
| 2.1 | Theoretical Framework | 15 |
| 4.1 | Gender | 33 |
| 4.2 | Age | 34 |
| 4.3 | Monthly Income | 35 |
| 4.4 | Mainly Used Mobile Payment Types | 36 |
| 4.5 | Purpose of Using Mobile Payment | 37 |
| 4.6 | Frequency of Using Mobile Payment | 38 |
| 4.7 | Independent Variable (Perceived Usefulness) | 39 |
| 4.8 | Independent Variable (Perceived Ease of Use) | 40 |
| 4.9 | Independent Variable (Perceived Compatibility) | 41 |
| 4.1 | Independent Variable (Subjective Norm) | 42 |
| 4.11 | Independent Variable (Perceived Risk) | 43 |
| 4.12 | Independent Variable (Perceived Trust) | 44 |
| 4.13 | Independent Variable (Perceived Cost) | 45 |
| 4.14 | Normal P-P Plot of Independent Variables with Consumers' Adoption | 50 |

LIST OF ABBREVIATIONS

| ABBREVIATION | TITLE | PAGES |
|---------------------|-------------------------------------|--------------|
| UTeM | Universiti Teknikal Malaysia Melaka | |
| PU | Perceived Usefulness | 11 |
| PEOU | Perceived Ease Of Use | 11 |
| PCOM | Perceived Compatibility | 11 |
| SN | Subjective Norm | 11 |
| PR | Perceived Risk | 11 |
| PT | Perceived Trust | 11 |
| PC | Perceived Cost | 11 |
| TAM | Technology Acceptance Model | 15 |
| IDT | Innovation Diffusion Theory | 15 |
| SPSS | Statistical Package for Social | 25 |

LIST OF APPENDIX

| APPENDICES | TITLE | PAGES |
|-------------------|---------------------|--------------|
| A | Questionnaire | 69 |
| B | Gantt chart (PSM 1) | 74 |
| C | Gantt chart (PSM 2) | 75 |

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Nowadays, with the massive growth in popularity of online shopping, mobile payments platform and consumer' behaviours while using these platform have become increasingly important for e-commerce. E-commerce defined as the sale or purchase of goods or services, whether between businesses, households, individuals, Governments, and other public or private organizations, conducted over computer-mediated networks (Khairun et. al., 2011). E-commerce innovations enriched the business development opportunities via multi-access networks. Latest e-commerce innovations are observed as online mobile applications (Jia, 2016). Due to technology, mobile users can use their smartphones to make money transaction or payment by using applications installed in the phone.

Mobile payment is defined as: Payment for products or services between two parties for which a mobile device, such as a mobile phone, plays a key role in the realization of the payment (ISACA, 2011). Due to mobile phone advanced privacy system, mobile phone is the key point that proceed to the verification and confirmation of personal identity during mobile payments. M-payment as "a transfer of funds in return for a good or service, where the mobile phone is involved in both the initiation and confirmation of the payment" (De Bel et. al., 2011).

Updated with advanced mobile technology and electronic payment services around the world, there are a lot of investments in developing m-payment services in Malaysia. Finally, today's banking using electronic platform increasing and the fast diffusion of mobile payment technology achieved around the world (Laukkanen et. al., 2009).

It is not clear why m-payment in Malaysia still left behind the high usage of mobile phone although it gave advantages such as of convenience and flexibility, especially for those who have no internet quotas (Lim, 2008). Therefore, there have been repeated calls for the research on the factors that investigate or clarify the adoption, acceptance, and use of M-banking (Kim, H. et. al., 2007). Finally this research is conducted to identify determinants of consumers' adoption towards mobile payment in Melaka and find out what is the factors that influence greatest on the Melaka consumers' intention to adopt m-payment.

1.2 Problem statement

When it comes to m-payments, the chicken-or-egg analogy is frequently used to describe the challenge facing merchant and consumer adoption issues. Merchants are unwilling to invest in the systems for an m-payment transaction unless there is consumer demand (Denis et. al., 2015). The phenomena was that technological advances and service availability do not automatically lead to widespread adoption and use (Wang et. al., 2008). A report from Bank Negara, there are 8 945 million of mobile banking subscribers in 2016 and increase to 10 828 million subscribers in September 2017 (Bank Negara, 2016) (Bank Negara, 2017). Despite with the significant investment, the growth in number of subscriptions of mobile payment does not predicted to have created consumer interest and high adoption among Malaysia mobile phone users at which only 30% of population use own mobile phone to conduct financial transactions. This situation suggests a lack of knowledge about the moderators and mediators that influence the consumers' adoption of this mobile payments (m-payment), which is due to the limited research that has been carried out in this area (Zarifopoulos et. al., 2009).

On the other hand, compared Malaysia to the China Alibaba Group's Taobao@Tmall Singles Day Celebration in 11th November 2017, the ninth annual 11.11 Global Shopping

Festival was best history of e-commerce. The official number came in at RMB168.2 billion, or more than \$25.3 billion in 24 hours. And 90% of that came from mobile (Alizila , 2017). This situation proved that mobile payment have the high return of investment in term of online shopping payment method. However, keep in mind that in order to reach critical mass of m-payment users, there are a number of key requirements that influence consumers' adoption which include simplicity and usability, universality, interoperability, security, privacy and trust, cost, speed and cross-border payments (Dahlberg et. al., 2007). Failure to address the above requirements may explain why m-payments have not lived up to the hype in Malaysia (Damsgaard et. al., 2009).

M-payments have been available in Melaka for a reasonably long time ago, yet this payment method level of consumers' adoption still lagged behind compare to other country as most of the research have been carried out to identify influencing factors of m-payment adoption in different countries Thus, an appropriate research to study about m-payment adoption among consumers in Melaka is important.

Thus, this study is to develop a theoretical framework from the literature that reflects the intention of Melaka consumers to adopt m-payment in Malaysia. Secondly, researcher use empirical analysis to validate the formulated framework by undertaken survey among Malaysians. Finally, researcher discusses about the results of m-payment adoption in Malaysia.

1.3 Research Questions

This research is to investigate closely the consumer understanding towards mobile payments (m-payment). At the same time, establish a theoretical framework to analyse the factors exist in the mobile payments' technology domain that affect consumers adoption.

The research guided by the following research question:

1. What are the factors that influence the consumers' adoption towards mobile payments (m-payment)?
2. What are the relationships between perceived usefulness, perceived ease of use, perceived compatibility, subjective norm, perceived risk, perceived trust, and perceived cost with consumers' adoption towards mobile payment.
3. What is the most influencing factor of consumers' adoption towards mobile payments (m-payment) in Melaka?
4. What are the recommendation from these factors to improve consumers' adoption towards mobile payment?

1.4 Research Objectives

The major purpose of the research is to inspect how technology domain factors in using mobile payments influence the level of consumers' adoption towards mobile payments (m-payment). Therefore the following research objectives were built:

1. To identify the factors that influence the consumers' adoption towards mobile payments (m-payment).
2. To investigate the relationships between perceived usefulness, perceived ease of use, perceived compatibility, subjective norm, perceived risk, perceived trust, and perceived cost with consumers' adoption towards mobile payment.
3. To define the most influencing factor of consumers' adoption towards mobile payments (m-payment) in Melaka.
4. To provide the recommendation from these factors to improve consumers' adoption towards mobile payment.

1.5 Important of the Study

With the rapid development of mobile payment systems, online shopping, bill payment and banking are started to rely on conducting payment transactions using m-payment. The important of this research is to dig the factors faced by mobile payments in order to analyse consumers' adoption level regarding m-payment. This is highly important to study whether the m-payment systems available in Melaka had brought benefits to consumers to improve consumers' adoption on m-payment. At last, this study also helps to identify the m-payments future trend among online users and consumers in Melaka, which lead to a higher investment of stakeholder on mobile-payments systems development.

1.6 Scope, Limitations and Key Assumptions of the Study

In year 2017, the payment transactions become fully automated and advanced in different applications, softwares and platforms. Via internet, consumers can do their payments activities at home which give better and higher consumers' satisfaction. Meanwhile, focus of this study is on the consumers' behavioural intention to adopt mobile payments. Researcher wants to identify what are the factors that influence consumers' adoption in m-payment and how these factors affect the level of consumers' adoption towards m-payment. The factors that contribute to the consumers' adoption in m-payment include perceived usefulness, perceived ease of use, compatibility, subjective norm, perceived risk, perceived trust and perceived cost. This study focus on the data collect from questionnaires. Questionnaires are distributed to consumers all around Melaka using google form links. Target respondents are mobile phone users who understand about and have been using m-payment, or anyone who had not yet adopted such a services. As many as 350 respondents were been targeting to answer this questionnaire.

During the research, attention is focused on the factors in technology domain of mobile payments among other domains' factors. The limitations of the study was lack in information. All information are taken from all sources such as internet but actually there are more than thousands of related research. The information is not easily access due to unavailability of data and most of the journals and articles are limited access and need to be pay. On the other hand, researcher lacks of experience in conducting study. It is totally a new challenge for researcher as a beginner as researcher facing difficulties to identify useable data and sorting important information from journals and articles. At the same time, this research is limit to only focus on mobile payment adoption among consumers and do not disclose the details of technology in these mobile payments applications. Besides, the findings on mobile payment adoption is not suitable for other payment methods consumers' adoption due to the different platform and technology used.

For assumption in the study, researcher assumes that the answers provide by the respondents are honest in the survey. Furthermore, researcher assumes that respondents understand about mobile payments and all factors included in the survey to measure level of consumers' adoption in order to be a part of primary data collection.

1.7.1 Summary

In chapter 1 has discussed about the background, problem statement, objectives, important and relevant research of the topic. The background and problem statement discussed on what is mobile payments (m-payment) and factors that influencing consumers' adoption towards mobile payments. This research objective is to investigate how these factors related to the level of consumers' adoption of mobile payments. Besides, this chapter stated the scope, limitations and key assumption of the study clearly. The subsequent chapter discussed on relevant research information and variables that related to the study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter present the ideas, factors, problems, solutions, and results from others that expert in this study area. The conceptual framework that best for this research are adapted with proven and relevant identified variables and being discussed how they are important to this research.

2.2 E-Commerce

Over the last decade, e-commerce transformed into a new shopping experience for consumers. E-commerce break the boundaries of time and space, reduce transaction costs, expand two-way communication, reduce product inventory and promoted the innovation of business model (Guo et. al., 2014). The invention of computer triggered the rapid revolution of information technology globally. In succession of the innovation of e-Commerce, leads to the revolution of the new era of economy and society. E-commerce create the large population so called virtual geography. The adoption of technology of consumers are enabling the e-commerce sector to be more reachable and efficient (Deloitte, 2015). All sort of devices such as smartphones, tablets come along with advanced broadband technologies 3G, 4G, Wi-Fi increased the number of internet users. Banks and other platform started to invest in e-commerce that provide secure system to pay effortlessly via payments gateways. The globalization and rapid development in knowledge and technology level of e-commerce

enable businesses to sell goods and services over internet around the world (WTO, 2013). In between all the transaction of online payment, majority of consumers used mobile payments.

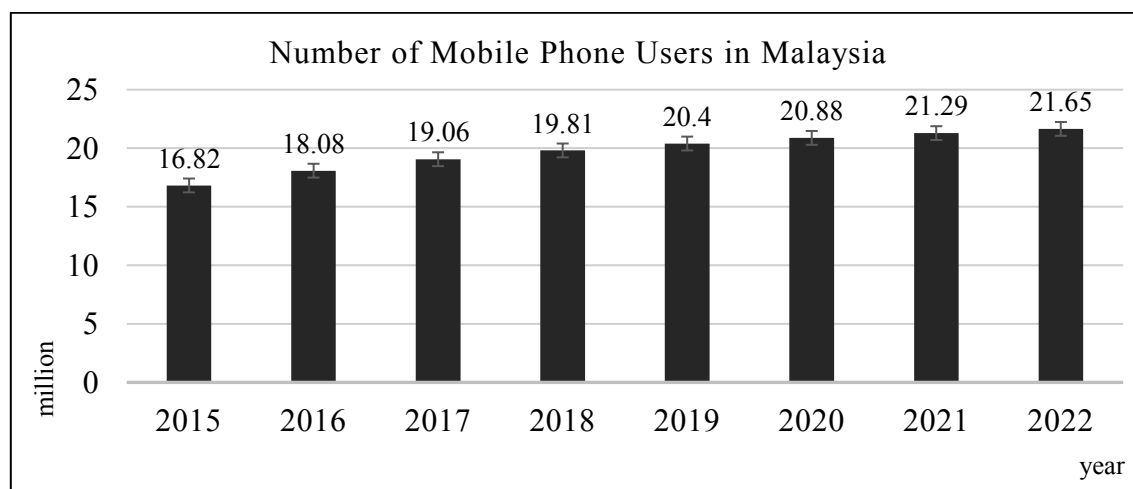
2.3 Mobile Phone

The advanced technological nature of mobile phones in general, and smartphones in particular, enable multiple features and function for users (Fuentes et al., 2017). M-Commerce, or Mobile Commerce, is the commerce process that involved process mobile device, for example, a mobile phone or smartphone because mobile commerce consider as a part of e-commerce (Ehsan, 2010). Use of mobile phone and smartphone frequently connect to mobile payments. The mobile phone as an electronic device use to make calls, is believe to has improved from enabling a mobile device to be used as a browser, accessing basic internet- banking and retail systems to the use of application-enabled mobile phone as a payment form substituting a check, cash or card to create the mobile payments trend (Dennehy et al., 2015). The advantages on accessing the information and online shopping via internet, is the key point on mobile phone users population. In the survey report of (MCMC, 2017), smartphone remained the most popular means for users to access the internet (89.4%) making the country a mobile-oriented society. Meanwhile, in 2016, there were 28.5 million mobile broadband subscriptions compared to 2.5 million fixed broadband subscriptions. In 2017, 19.06 million people accessed the internet through their mobile phone. In 2021, this figure is projected to amount to 21.29 million mobile phone internet users (Statista, 2017).

Table 2.1:

Number of mobile phone internet users in Malaysia from 2015 to 2022 (in millions)

Source: (Statista, 2017)



2.4 Mobile Payment

According to (Mallat, 2007), mobile payment are the use of mobile phone to conduct the payment transaction in which money are transfer from a payer to receiver via an intermediary or directly without intermediary. Mobile payment (m-payment) enables users to complete their payments in a safer, faster, and more convenience transactions at anytime and anywhere (Zhou, 2013). In the past review on mobile phone (Dahlberg et. al., 2007), mobile payment is carried out with a mobile payment instrument such as mobile credit card or mobile wallet. Mobile payment fall into two categories which is purchase of goods or services and payments of bills. For purchase, mobile payment substitute cash, cheques, credit card and debit card. For bills, mobile payment provide debit and credit function from account-based payment instrument such as ATM online transfer, auto debit via online, electronic invoice acceptance or internet banking payment to merchants Mobile payment able to decrease the payment transaction processing fees and also to decrease the circulation of physical money. The changes in payment habits have resulted in a development of new services such as mobile payments in order to meet consumer demands and also to enhance efficiency (Dahlberg et. al, 2007). A recent report reveals the mobile payment transaction in Malaysia (Statista, 2016), it highlighted the amounts to usd142 million in 2017 and the average transaction value per user is usd136.10 in 2017.