FACTORS INFLUENCING THE ADPOTION OF E-PAYMENT IN KUALA LUMPUR

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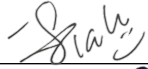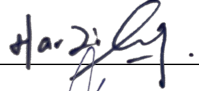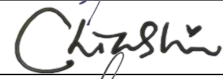DEPARTMENT OF FINANCE

MAY 2020

DECLARATION

We hereby declare that:

(1) This undergraduate research project is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

(2) No portion of this research has been submitted in support of any application for any other degree or qualification of this or any other University, or other institutes 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 13235 words.

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Lastly, we would like to dedicate this research project to the future researchers to assist them in conducting their researches in the future.

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LIST OF ABBREVIATIONS

A	Agree
ATM	Automated Teller Machine
BNM	Bank Negara Malaysia
CSM	Cyber Security Malaysia
D	Disagree
DV	Dependent Variable
EFCC	Economic and Financial Crimes Commission
EP	Adoption of e-payment
EPS	Electronic payment system
E-cash	Electronic cash
E-currency	Electronic currency
E-payment	Electronic payment
E-wallet	Electronic wallet
GI	Government intervention
GIRO	General Interbank Recurring Order
HDFC	Housing Development Finance Corporation
ICICI	Industrial Credit and Investment Corporation of India
ICPC	Independent Corrupt Practices Commission
ICTF	Interoperable Credit Transfer Framework
IV	Independent variable
KL	Kuala Lumpur
KLCC	Kuala Lumpur City Centre
MOT	Model of Trust
N	Neutral
PHYINF	Physical infrastructures
PU	Perceived ease of use
QR	Quick Response
RBI	Reserve Bank of India

S	Security
SA	Strongly agree
SBI	State Bank of India
SD	Strongly disagree
SPSS	Statistical Package for the Social Sciences
T	Trust
TAM	Technology Acceptance Model
TOE	Technology, Organization & Environment

PREFACE

Nowadays, internet technology has become a crucial part of human life. Up to year 2018, the number of internet users in the world has grown gradually and reached 3,650 million of users. Meaning that, as more transaction choices are introduced, the e-payment system is more preferable as compared to the traditional payment system as it provides the benefits such as convenience, time saving, expenses control and user friendly. Based on the statistics from Bank Negara Malaysia (BNM), the e-payment transactions in Malaysia rose drastically from 70.9 transaction per capita in 2014 to 124.6 transaction per capita in 2018 due to Malaysia's government policies and infrastructure improvement. As compared to years before, the number of e-payment transactions are still growing and this motivates us to carry out a research to study the factors influencing the adoption of e-payment in Malaysia, especially in Kuala Lumpur, which is Malaysia's principal capital and largest city. In this research, there are four independent variables concerned, which include Security (S), Trust (T), Perceived Ease of Use (PU), and Government Intervention (GI). The research will evaluate the e-payment adoption among people in UTAR Kampar campus who came from Kuala Lumpur. Lastly, we hope that this research may provide the readers with a better insight and knowledge of the e-payment adoption among the residents from Kuala Lumpur, Malaysia.

ABSTRACT

This research aims to examine the factors influencing the adoption of e-payment in Kuala Lumpur, Malaysia in which the independent variables include security, trust, perceived ease of use and government intervention whereas the dependent variable is the adoption of e-payment in Kuala Lumpur, Malaysia. There are three theories adopted in the research which include Technology, Organization and Environment Framework (TOE), Technology Acceptance Model (TAM) and Model of Trust (MOT). Then, in this research, the data and information were collected by using primary research data through a self-administered survey questionnaire approach. The target respondents for this research include the people who are 18 years old and above and who are from Kuala Lumpur who study or work in UTAR Kampar Campus. Furthermore, there are total of 400 sets questionnaires distributed for data collection but only 385 sets of them were being used due to fifteen sets turned out to be invalid. Next, for data analysis, SPSS 25 was used to analyse the recorded raw data and descriptive analysis, factor analysis, reliability test and inferential analysis were applied in this process. The results of SSPS 25 concluded that all the independent variables which comprised of security, trust, perceived ease of use and government intervention are significant towards the adoption of e-payment in Kuala Lumpur, Malaysia. Last, at the end of this research, implications of study to the future researcher, consumers, business, investor and government and policy maker were found out and some limitations and recommendations for future researchers were also discussed in this research.

CHAPTER 1: INTRODUCTION

1.1.   Research Background

Electronic payment (e-payment) refers to the use of digital instruments to make payment for a product or service through the internet. There are several forms of e-payment system, including online debit card and credit card transactions, electronic wallet (e-wallet), electronic cash (e-cash), digital accumulating balance systems, digital checking payment systems, online stored value systems, and wireless payment systems (Junadi, 2015). Nowadays, internet technology has risen rapidly and has become a crucial part of a person's life. This can be supported by the data presented by Statista Research Department (2019). The data showed that the number of Internet users in the world has increased from 1,024 million in 2005 to 3,650 million in 2018. Which means that, more transaction choices are introduced, and the e-payment systems are more encouraged on worldwide. In preference to the traditional payment system which requires buyers and sellers to contact each other physically, it is quickly replaced by an e-payment system.

Green (2018) claimed that e-payment systems carry several advantages which affect the e-payment adoption. First, e-payment is very convenient as compared to the conventional techniques of payment like cash, checks, credit and debit cards. The transactions of the e-payment can be received and sent right in a couple of seconds. Moreover, Smith (2015) mentioned that Quick Response (QR) codes are convenient to the companies. With QR codes, companies can promote to their customers directly by using the website to increase their website presence. Besides, QR codes can be readily added to offline media such as flyers, company cards, posters, pamphlets and signs so that the customers can scan through the QR codes to know more about their company information. QR codes can also assist the company in creating or building confidence and reputation of the brand. This is an incredibly convenient way for customers to assign or transfer funds, make payments and conduct account requests 24 hours a day throughout the year (Tsai, Huang, Liu,

Tsaur, & Lin, 2010). Besides that, e-payment may help to reduce the expenses of both business and personal. This is because technological costs like the use of internet and computer and other equipment acquisition are greatly reduced (Josphine, 2018). As an illustration, the expenditures of paper and postal are reduced together with the amount of time spent on personal transactions. With conventional payment systems, customers able to save time in processing personal transactions. Damodaran (2017) stated that General Interbank Recurring Order (GIRO) and Instant Transfer processing costs are free for every transaction whereas processing a cheque is RM1 per transaction.

Moreover, the information from Visa Inc., a global payments technology company revealed that Malaysia is positioned at 19th among 73 countries in adopting government e-payment ("Malaysia Ranked 19th For Government," 2019). As stated in Malaysia's payment statistics, out of the population of 32.4 million in Malaysia, 124.6 units are the transaction value per person using e-payment in 2018. The main reason for increasing the adoption of e-payment is government policies and infrastructure. In order to promote the broader use of internet banking and debit card services as a convenient cash replacement and as a more cost-effective payment method, and perhaps even the government's ability to serve as the pioneer in moving to e-payment, the improvement in infrastructure is also a key to extending the availability and acceptance of all e-payment services. These efforts caused payments which were traditionally made by cash and cheques, became electronically with plastic cards or through electronic channels. Besides, the statistics from Bank Negara Malaysia (BNM) proved that Malaysia's e-payment transactions had risen drastically from 70.9 transaction per capita in 2014 to 124.6 transaction per capita in 2018. In spite of the fact that mobile payment is still budding in Malaysia, the competition for the market is getting stronger after 48 non-bank issuers are granted e-payments licenses by the government, most of them are owned by high-profile businesses. For instance, Touch 'n Go eWallet, which is the mobile wallet established jointly by CIMB and Act Financial, and Boost that is owned by Axiata. Other than that, there are also some of them create partnerships with banks to expand their merchant bases.

Kuala Lumpur (KL) is Malaysia's principal capital and largest city. World Population Review (2016) stated that it includes an area of 243 square kilometers (94 square mi) with an estimated population of 1.73 million in 2016. Extensive shopping centers such as Pavilion KL and Suria KLCC are also consideres as the largest sales events throughout the year and feature a varied range of high standard labels from around the world. Therefore, it can be proved that KL has a higher purchasing power because of greater revenue. In this research, three independent variables are concerned, which include Security (S), Perceived Ease of Use (PU), T and a gap variable which is Government Intervention (GI) to be a determinant of the adoption of e-payments in KL.

1.2   Problem Statement

The purpose of the research is to identify the factors affecting e-payment adoption in KL. As stated in Malaysia's payment statistics, the transaction value per capita using e-payment is 124.6 units in 2018. On the other hand, the amount of cash added into circulation increased gradually from 92,347.60 to 94,307.20 in 2017 and 2018 (Pikri, 2019). Even though there are some improvements, Malaysia is still far away from cashless.

The security issues affect the e-payments adoption. Nowadays, the security issues that threaten e-payment systems are full of tricks and changing extremely quickly. According to Aishah Mohmad Afandi (2018), 46% of Malaysian consumers are dubious about the security of e-payment and e-wallet applications; besides, through the survey they conducted, 82% of Malaysian consumers store their bank account details at a minimum of one to six applications, only a quarter (25%) practiced good cyber-security by using different passwords among all of their accounts. Cyber Security Malaysia (CSM) received a complaint about e-wallets due to the treacherous use of payment and information robbery has increased. For example, the victim purchased bitcoins by using e-wallet and the balance of e-wallet was deducted, but the seller did not receive the credits that the victims paid for (Yuen, 2019). From this case, the amount of money may be stolen by someone else halfway

while transferring to the seller. Besides, according to Borneo Post Online, in KL, a user received a phone call from an unknown person who claimed to be a police officer from Bukit Aman and obtained personal information such as Identity Card (IC) number, home address and so on ("Vigilance Needed To Protect Against," 2019).

Nowadays, people around us are using e-payment to do their transaction, purchase goods and services even online investment. This shows that society started to accept e-payment to make their transaction instead of using cash. Trust has a major impact on consumer behavior and therefore effective e-commerce. However, as stated in The Edge Market (2017), there are many individuals lost around RM4.92 billion in Malaysia because of fraud. The fraud cases include online purchase frauds, online gambling, online investment and others. Bank frauds not only happened in Malaysia, India also had over 50,000 bank frauds in the last 11 fiscal years, Industrial Credit and Investment Corporation of India (ICICI) Bank, State Bank of India (SBI) and Housing Development Finance Corporation (HDFC) Bank reported based on Reserve Bank of India (RBI) data ("Bank Frauds Worth ₹2.05 Trillion," 2019). People will get cheated because they do not have precautions and they are having trust in the e-payment system.

Perceived ease of use is a key factor for e-payment adoption. E-payment is a new technology which associate to degree economical, price effective, strong payment infrastructure and convenience. BNM mentioned that e-payments per capita in Malaysia doubled to 111 per capita transactions in 2017 and are expected to hit 200 per capita transactions by 2020 which is rising the adoption rate ("Almost 50% Of Malaysian Consumers," 2018). Besides that, Aishah Mohmad Afandi (2018) said that there are 70% of Malaysian consumers prefer to use electronic methods of payment, which include online transfers, Automated Teller Machine (ATM), cash, credit and debit cards. Moreover, the world is starting to move into a cashless culture with a growing utilization of cards, online banking and payment wallets (Jayaseelan, 2019). Some of the senior citizens do not even use traditional methods like credit cards, and thus resulting of spending control problems. For example,

Singapore decided to organize a campaign to teach senior citizens to use e-payments like QR code to purchase items (Cheng, 2019).

Government intervention is the next factor affecting e-payment. It is meant by the action taken by the government with the purpose of bringing an impact to the market economy ("Government Intervention," 2017). Visa Inc., the global digital payments service provider studied that Malaysia is placed at 19th among 73 countries in government e-payments adoption. Moreover, the ranking showed that Malaysian government has done supremely good in transforming the country to become a digital nation by implementing good policies to support e-payments security, fintech innovation and financial inclusion. Lim and Anette (2017) mentioned that although Malaysia's overall e-payments transactions rose 14.4% in 2016, however, the growth is still considered low due to low debit card, internet and mobile banking usage. As an illustration, Alipay announced that there are 100 merchants in Malaysia accepting its digital payment, but it does not seem to have a great impact on Malaysian consumers. In addition, Igudia (2017) stated that lack of government intervention in providing adequate national physical infrastructures (PHYINF) such as transportation, rail networks, roads, electricity, and communications will influence the adoption of e-payment system. Moreover, the coverage and the availability of accepting the e-payment are the major issue of adoption. Furthermore, national infrastructure of a country such as electricity supply and internet connectivity should be sufficient as it will affect the e-payment adoption and usage (EIU, 2006). For example, in Nigeria, if there is insufficient supply of electricity and telecommunication infrastructure, the adoption of usable technology as well as technological innovation such as e-payment will be affected (Chiemeke et. al.). Thus, to increase the e-payment adoption in Malaysia, government developed Interoperable Credit Transfer Framework (ICTF) to enhance the payment system infrastructure, which helps to ensure the flawless transfer of fund between banks and e-money wallets (Kylasapathy, Hwa, & Zukki, 2017).

There are few limitations of e-payment which are security concern, limitation on amount and time. First, Malaysian consumers felt insecure about e-wallet and mobile payment applications because they able to make a bills payment, transport

and purchasing food and beverage in their smartphones, by just scanning a QR code or taping a button within the application. It is vulnerable to being hacked by the hacker because e-payment is easy to use and can be used at every moment (Yuen, 2019). Furthermore, Green (2018) mentioned that fraudsters use phishing attacks to get unsuspected consumers to provide their e-payment systems log-in data which they collect and use to access personal and financial data from victims. Banks might limit the quantity or number of daily transactions, so that the amount is exceeding a given figure cannot be withdrawn at the same time, or just a certain number of transactions per day are permitted. Based on the perceptions of the customers, they might find this uncomfortable while this is done as a safety measure. In electronic mode access to cash can be postponed, as opposed to physical cash access. Payment terms may need to be longer when taking e-payments. If there is no cooperation between distinct digital payment services, e-currency exchange services may need to be chosen ("Be Aware of These Disadvantages of E-Payment Systems," n.d.).

1.3   Research Objectives

This research focused on KL, Malaysia. The research objectives are stated below:

1.3.1   To evaluate the relationship between Security (S) and the adoption of E-Payment (EP).

1.3.2   To evaluate the relationship between Perceived Ease of Use (PU) and the adoption of E-Payment (EP).

1.3.3   To evaluate the relationship between Trust (T) and the adoption of E-Payment (EP).

1.3.4   To evaluate the relationship between Government Intervention (GI) and the adoption of E-Payment (EP).

1.4   Research Questions

This research focused on KL, Malaysia. The research questions are stated below:

1.4.1   Is there any relationship between Security (S) and the adoption of E-Payment (EP)?

1.4.2   Is there any relationship between Perceived Ease of Use (PU) and the adoption of E-Payment (EP)?

1.4.3   Is there any relationship between Trust (T) and the adoption of E-Payment (EP)?

1.4.4   Is there any relationship between Government Intervention (GI) and the adoption of E-Payment (EP)?

1.5   Significance of Study

Today, e-payment has become an essential point of consideration for anyone who wants to digitize their business. Thus, this research is critical to provide e-payment services with useful insights to provide better e-payment characteristics. The results would explore additional factors that will affect the adoption of the e-payment system in the future for the benefit of aspiring scientists and scholars. Furthermore, government intervention is one of the important factors of e-payment adoption, however, most of the researchers of this topic have ignored this important determinant (Treiblmaier, Pinterits, & Floh, 2006). Therefore, this research will discuss how the government intervention affects the adoption of e-payment. Hence, this research is useful for the potential researchers that are interested in studying the factors of e-payment adoption in future.

Besides, this research would increase the end users' confidence towards the online payment industry including e-payment, therefore, the improvement in technology may improve the industry's availability and credibility, and thus, more consumers are willing to make payments through online system (Baldwin, 1997). Besides, the

findings of this research may help consumers to have a clear understanding of the determinants that affect the adoption of e-payment in KL as well as help them in eliminating the determinants that curb the adoption of e-payment that had been discovered in this research. With that, the consumer acceptance towards e-payment is able to be increased due to the better features of e-payment provided by business. Subsequently, increase in consumer acceptance towards e-payment would be beneficial to the country because of greater economic efficiency. Going cashless is also in line with the Financial Sector Blueprint launched by BNM. Moreover, as stated in blueprint, BNM plans to improve the number of e-payment transactions per capita in the following 10 years from 44 to 200 (Bank Negara Malaysia, 2011).

Furthermore, businesses that accept electronic payment will be able to increase their sales because they are capable of making sales to consumers who prefer to pay electronically and obtain a competitor's advantage that embrace conventional methods of payment. Moreover, e-payment provides credibility for merchants because receiving online payment is more secure than receiving payments through cheques or cash.

In addition, this research could be advantageous for investors who invest in e-payment companies or projects or are interested in the e-payment system, as investors could refer to this research about the current e-payment trend in Malaysia, so that they can make decisions on the investments.

On the other hand, this research would benefit government and policy makers as they would know that the security level of the e-payment nowadays is high, so that, government and policy makers are willing to be involved in and introduce the e-payment systems to the public. Government intervention and the ability of policy makers conduct economic activities in ways that would be beneficial to the society (Sattar, 2009). Furthermore, this research shows to government and policy makers about today's online payment trends in Malaysia and hence, compared with competitors and improve the e-payment system so that comparative advantages are gained.

1.6   Outline of Research

Chapter 1 introduces a quick overview to e-payment, which contains a brief information on research background, problem statement, research objectives and relevant research. Afterwards, Chapter 2 also deals with theoretical analysis, the research methodology and the review of previous empirical research. Next, chapter 3 covers research design, sampling design, data collection and general discussion about the planning before analysis. Chapter 4 consists of descriptive analysis and inferential analysis which analyses the result that respond by the respondents with research questions that we design. Besides that, chapter 5 also comprises limitations and suggestions for prospective researchers.

1.7   Conclusion

Research background, problem statement, objectives and significance of research are explored in this chapter. It involves a simple explanation on the background of e-payment, as well as the problem faced by e-payment users.

CHAPTER 2: LITERATURE REVIEW

2.0   Introduction

This chapter deals with the literature review of factors affecting e-payment adoption in KL. First of all, it will deal with reviews and analyses of literature done in the past as well as the research issues discussed in Chapter 1. Then, some theoretical models will be applied to determine how the adoption of e-payment in KL is influenced by S, PU, T and GI. Furthermore, correlations between IVs and DV will be illustrated in a graphical way which are discussed in theoretical or conceptual framework. Moreover, the next part is hypothesis developments which testable hypotheses will be formulated after justified by past literatures.

2.1   Literature Review

2.1.1 Security (S)

Nowadays, online payments raise a variety of security issues in the transaction process including transaction fraud, information threat and so on (Zhang, Jiang & Huang, 2012). Lai (2016) mentioned that security is positively related with the adoption of e-payment system due to the high security standard could increase the customers' intention to use e-payment, therefore, security should be taken into consideration while designing the e-payment system that have high security level in order to reassure customers in dealing with e-payment. However, Ade`r, Ade`r and Mellenbergh (2008); Kim, Tao, Shin and Kim (2010) and Maroofi, Hashemi and Nargesi (2012) stated that perceived security has positive impact on e-payment system adoption, which means that a high security able to improve the usage of e-payment. In other words, if the security level of the e-payment program is too weak, the customer would not interested in e-payment transactions (Tsiakis & Sthephanides, 2005). Moreover, Mohammad AL-ma'aitah and Abdallah Shatat

(2011), the appearance and development of security on technology impact significantly the growth of e-payment transaction. On the other aspect, the e-payment system is an easy target for stealing money and personal information, and this data is always transmitted in an unsecured way, and thus, makes customers refuse to use e-payment. Therefore, this indicates that the safety level directly affects the e-payment system adoption.

Besides, Ayo and Ukpere (2010) mentioned that security and adoption of e-payment are positively associated in the studies as a unified Smart ATM card is secured due to biometric authentication function. In addition, as stated by Nakhumwa (2013), an insecure e-payment system would attack by hackers and cause to low public acceptability; a secure e-payment system would provide confidence to users in order to adopt the e-payment system. However, Teoh, Chong, Lin and Chua (2013) claimed that security is a significant obstacle to the use of e-payment. This is due to customers' confidence in the technology of e-payment system remains weak, even though their belief on their chosen bank is strong (Sathye, 1999).

However, Laforet and Li (2005) showed that the findings are incompatible with prior studies regarding to the significant relationship between security and e-payment system adoption, it implies an insignificant relationship. With compared to Singaporeans and Malaysians, if there is an advancement in technology to secure the e-payment system, Chinese consumers still would not adopt the e-payment system as they think that disclosing of their personal data is not safe, therefore, if they aware more about the technology nowadays can secure their personal data well, they may change their mind in adopting the e-payment system (Suganthi, Balachandher & Balachandran, 2001).

2.1.2 Perceived Ease of Use (PU)

Perceived ease of use demonstrates how simple a website is to comprehend, learn or operate (Ali Shawket Thiab, & Zeratul Izzah Mohd. Yusoh, 2019). It concerns the individual evaluation of the effort engaged in the technology process. There are

certain empirical studies show that perceived ease of use will influence the e-payment adoption. Moreover, the researches such as Ali Shawket Thiab and Zeratul Izzah Mohd. Yusoh (2019), Perkins and Annan (2013), Sanghita and Indrajit (2017), Liu and Tai (2016), Rao and Goldsby (2009) and Daştan and Gürler (2016), found that there is a positive relationship between perceived ease of use and e-payment in their studies. The impact of management should focus on its corporate websites to make it easier to use, since that will boost customers 'confidence and boost their intent to accept online banking. (Perkins & Annan, 2013).

Besides that, most of the researchers used primary data to gather by using a structured pre-tested questionnaire through a sample survey. Survey method might be categorized in phone call interviews, face to face interviews or mail survey (Sanghita, & Indrajit, 2017). However, the research shows the relationship between perceived ease of use and e-payment by collecting the data in Ghana for the year 2012. Most of the respondents had high school education which are postgraduate degree and college degree holders (Perkins & Annan, 2013). Moreover, Rao and Goldsby (2009) targeted 200 respondents to complete questionnaires whereas Daştan and Gürler (2016) completed 225 online questionnaires by using convenience sampling techniques in their studies. Liu and Tai (2016) found that they use Structural Equation Modeling to test hypothesis testing by distributing 604 questionnaires to companies, universities, schools in Vietnam over the period of December 2014 to April 2015.

However, based on the research of Ali Shawket Thiab and Zeratul Izzah Mohd. Yusoh (2019), Sanghita and Indrajit (2017), Rao and Goldsby (2009), they highlighted that there was also a significant but negative relationship between perceived ease of use and e-payment in their studies. Ali Shawket Thiab and Zeratul Izzah Mohd. Yusoh (2019) said that the population of Bagdad is 7665000 so they are required to complete 385 samples of questionnaire. Besides, Sanghita and Indrajit (2017) said that they examined by using SPSS 25 and Principal Component Analysis to exploratory factor analysis with Varimax Rotation.

2.1.3 Trust (T)

Trust is a main element to determine the behaviour of an entity and it is a standard for an entity selection (Zainab Aljazaf, Perry & Capret, 2010). Trust is the most important determinant of-payment system use (Thaib & Yusoh, 2019). There are some researchers such as Zhang (2009), Mohammad Auwal Kair, Siti abedah Saidin and Aidi Ami (2017) and Daniel and Jonathan (2013) revealed that trust has significant influence to use e-payment on Ghanaian customers.

Besides that, Daştan and Gürler (2016) used structural equation modeling and concluded that trust has a positive relationship on the adoption of the e-payment system. Moreover, Suwunniponth (2015) using the Stepwise approach, found a positive relationship in their study. Besides, Oney, Guven, and Rizvi (2017), Liu and Tai (2016) and Kim, Tao, Shin, and Kim (2010) using structural equation modelling proved that trust has a positive relationship with the e-payment adoption. Rouibah, Lowry and Hwang (2016) collected data on 150 online survey questionnaires and 200 paper-based questionnaires and using partial least squares concluded that customers trust positively effect on e-payment adoption. Lastly, Barkhordari, Nourollah, Mashayekhi, Mashayekhi, and Ahangar (2016), used Confirmatory Factor Analysis and Structural Equations Modeling revealed the same result with other researchers.

Moreover, some of the researchers obtained the different results. As an illustration, Mohamad Amin, Mohd Fuaad Said, Choo and Raja Nerina Raja Yusoft (2017) applied structure equation modeling (SEM) and proved that trust is having insignificant correlation with the adoption of e-payment system. Furthermore, Teoh, Chong, Lin and Chua (2013) that used survey instrument also claimed that there is an insignificant relationship between trust and the adoption of e-payment system.

2.1.4 Government Intervention (GI)

Government intervention has facilitated EPS adoption and usage by strengthening the existing laws on financial crimes and empowering the relevant agencies such as the Economic and Financial Crimes Commission (EFCC) and Independent Corrupt Practices Commission (ICPC) to combat cyber-crimes (Igudia, 2017). Zhang (2009) stated government intervention plays a significant role in adoption of electronic payment systems. Electronic payment system is growing rapidly, thus there may be illegal issues such as money laundering, tax evasion and other breaches to occur. Hence, the government should come out with effective measures such as policies and regulations to cope with those issues. For example, all parties in various kinds of transactions, especially the dealers and customers, must strictly obey the government rule and regulations when undergoing the online transactions, such as electronic commerce contracts, transfers of digital funds, insolvency, taxation, digital signatures, and privacy matters. Lee, Park and Ahn (2001) and Swindells and Henderson (1998) had also indicated that regulatory issues are the important factors of e-payment system adoption. Besides, the action of commercial banks in eliminating the charges previously imposed on card holders for using payment cards at ATM terminals of different banks was another positive intervention of the government that aims to encourage the e-payment adoption.

2.2   Theoretical Review

2.2.1 Technology, Organization & Environment (TOE) Framework
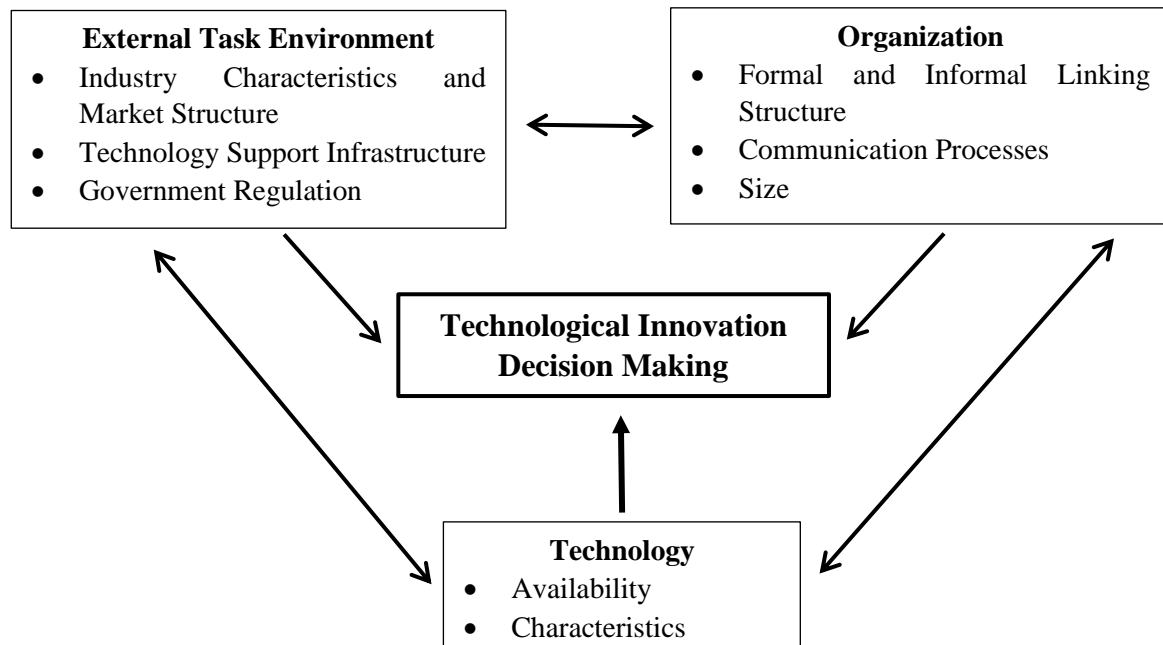
Figure 1: Technology, Organization & Environment (TOE) Framework

Sources: Tomatzky and Fleischer (1990)

TOE framework was developed by Tomatzky and Fleischer (1990) to research the firm's adoption decision for technological information and to evaluate the various factors which are likely to affect the adoption decision. There are three components in TOE framework, which are technology, organisation and environment that affect an organisation's process of adopting and implementing a new technology (Lippert & Govindarajulu, 2006). The technological context considers both external and internal technologies relevant to the company, which include the technologies that already implemented in the company and those available on the market but not currently used by the company. The organisational background relates to the features of the organisation and resources which include the size of firm, amount of slack resources, linking structure between workers, degree of formalization and intra firm communication process. The environmental context comprises the industry's structure and size, contestants of firms in the market, the prevalence of

technology service providers and the government's regulatory environment (Tomatzky & Fleischer, 1990).

TOE framework provides adaptable innovation to the firm, so that the firm could adopt the most suitable technology for its operation (Li, Lai & Wang, 2010). Besides, firms pursue renovations due to pressures of gaining a competitive advantage or acquiring industry identification (Kuan & Chau, 2001). In addition, Li, Lai and Wang (2010) mentioned that with the advanced technology, firms with e-payment systems able to improve its security level as the new technology could help the firm to reinforce the transaction process with high security safeguard for customers' information. Baker (2012) stated that, although TOE framework is assisting firms to adopt new technology, however, TOE framework is limited in listing the distinct factors applicable to different contexts of adoption, which means that there are no new constructions have been applied to the framework. Thus, it may lead to lack of development.

2.2.2 Technology Acceptance Model (TAM)
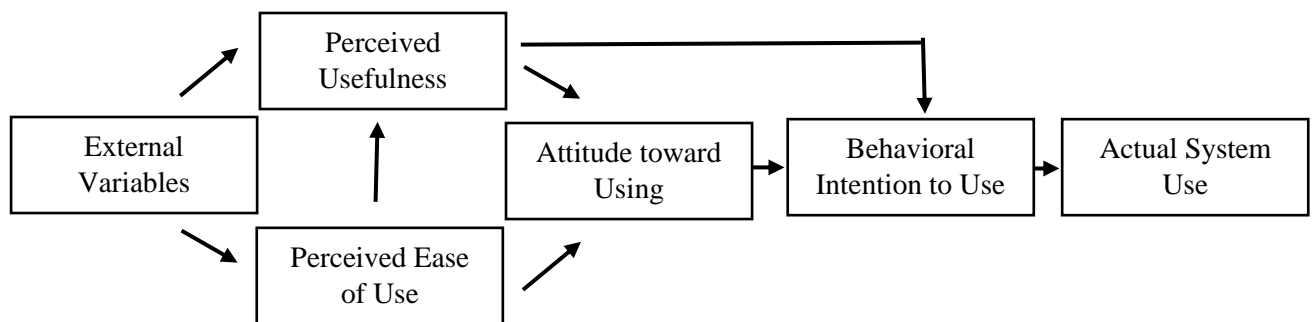
Figure 2: Technology Acceptance Model (TAM)

Sources: Davis (1989)

TAM is a theory that developed and tested a theoretical model on user adoption of computer-based information systems for the impact of systems features (Davis, 1989). There are two significant goals to be established in the context of the TAM. First of the significant goals is to improve our comprehension of processes for user

acceptance and offer new insights into successful information systems design and implementation. Besides that, another significant goal is to provide the theoretical foundation for a practical "user acceptance testing" technique, which would allow system developers and implementers to assess the new technologies proposed before they are implemented. Perceived ease of use is one of the key variables that are regarded which explain the results directly or indirectly in TAM.

According to the research of Scherer, Siddiq, and Tondeur (2019), they determined the problems of the TAM. Cheung and Sachs (2006) found that there are significant changes in particular TAM routes such as the significant direct relationship between perceived ease of use and behavioral intention. Besides that, Burton-Jones and Hubona (2006) highlighted that the role of external factors in TAM key structures explaining the variation differs (as cited in Scherer, Siddiq, & Tondeur, 2019). To illustrate with the efficiency of teachers' computers explains significant variations in perceived ease of use, facilitating technology circumstances at college weakly predict studies differ in the relationship of perceived ease of use and e-payment adoption. Generally, the most important factors in TAM, PEU are the degrees at which one considers the use of technology to be effort-free and boost their job performance or task performance.

2.2.3 Model of Trust (MOT)

Factors of Perceived Trustworthiness
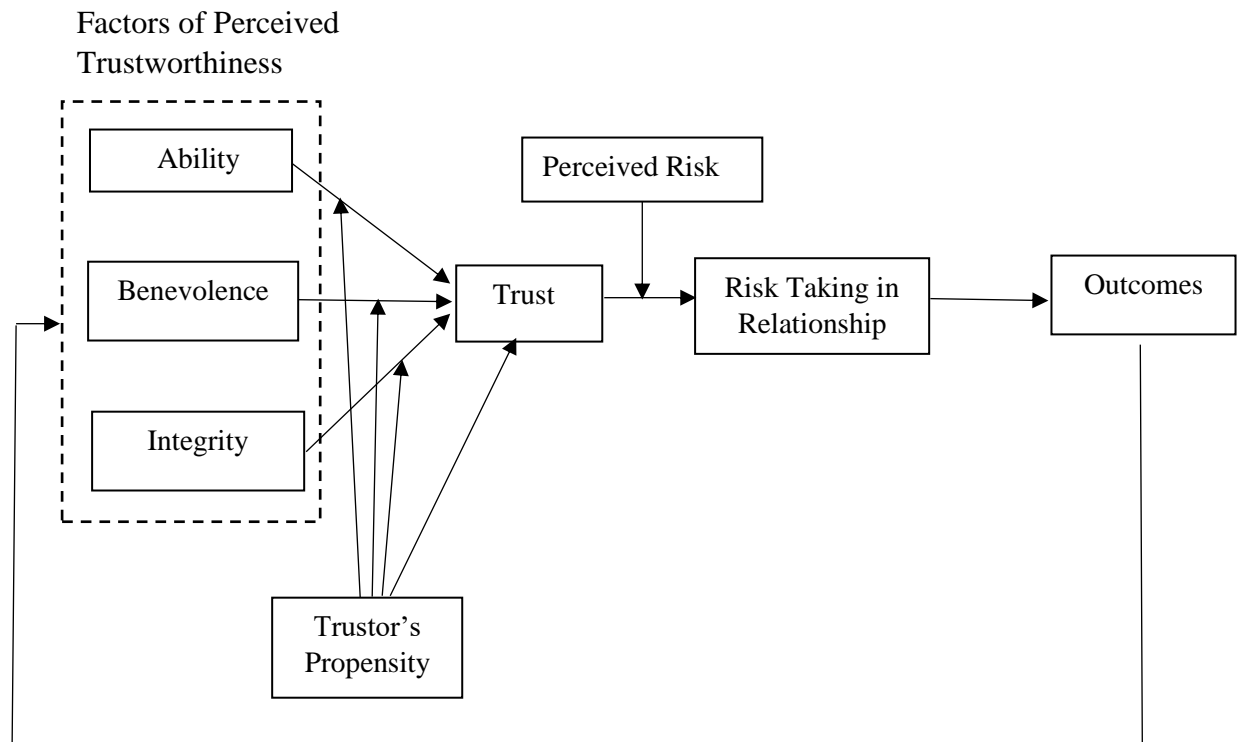
Figure 3: Model of Trust (MOT)

Sources: Mayer, Davis, and Schoorman (1995)

Trust means a litigant willing to be defenseless to the actions of another litigant due to the assumption that others will accomplish a different behaviours considerable to the trustor, regardless of the ability to monitor another party (Mayer, Davis, & Schoorman, 1995). MOT was exploited by Mayer, Davis, and Schoorman (1995) and they have mentioned that the level of trust will conduct to risk taking in a relationship moderated by perceived risk. For example, Lee and Huynh (2005) said that when clients and the service provider organizations have a higher level of perceived mutual trust in their relationship, the client will have more willingness for risk taking. MOT is widely used to explain consumer behaviour relationships in the Internet and management (Lee & Huynh, 2005). Moreover, Ring and Van de Ven (1992) because of the risk of transaction, managers pay more attention to themselves with the trustworthiness of the other party. Besides, Pavlou (2003) surmise that this model has two kinds of trust, which are control trust (trust in

control mechanisms) and party trust (trust in another party). Level of risk is a precondition for trust to exist, thus web retailers have to lower down the infrastructure-related concerns to advance consumers trust in e-commerce because environmental uncertainty is highly affected by behaviour actions of the online seller (Pavlou, 2003).

To summarize MOT, if consumers trust in a person, product, or service they will be willing to take the risks and the trust is based on the consumers behavior such as ability, benevolence and integrity. In short, MOT is related to our research. For example, consumers highly trust in using e-payment system, so they are more willing to take the risk to make transactions by using the e-payment system.

2.3 Proposed Conceptual Framework

Independent Variables		Dependent Variable
Security (S)		
Trust (T)	→	Adoption of e-payment (EP) in KL
Perceived Ease of Use (PU)		
Government Intervention (GI)		
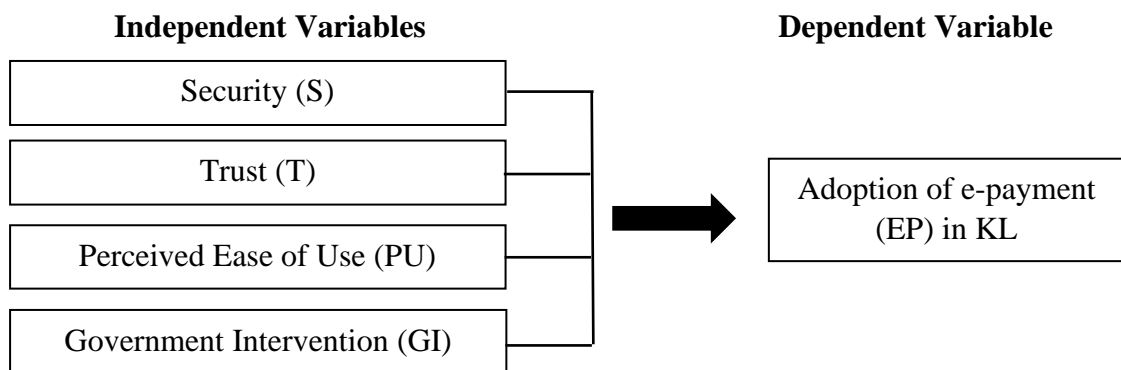
Figure 4: Proposed Conceptual Framework

Source: Developed for the research

Based on the figures above, this research adopts TAM to research the relationship between both variables. According to Gajendra Sharma, Subarna Shakya and Purushottam Kharel, (2014), TAM refers to how users determine the factors affecting the decision to accept new technologies before using and adopting it (as cited in Davis (1989)). In other words, TAM is used in explaining behavioral intention and attitude to use the technology which refers to the perceived ease of use. Besides, additional external factors such as T, S, PU and GI are also integrated into the model to investigate their impacts on the e-payment adoption in KL.

2.4 Hypotheses Development

This research focused on KL, Malaysia. The hypothesis development are stated below:

H1: There is a significant relationship between Security (S) and the adoption of E-Payment (EP).

H2: There is a significant relationship between Perceived Ease of Use (PU) and the adoption of E-Payment (EP).

H3: There is a significant relationship between Trust (T) and the adoption of E-Payment (EP).

H4: There is a significant relationship between Government Intervention (GI) and the adoption of E-Payment (EP).

2.5 Conclusion

Overall, this chapter discussed four IVs which are S, PU, T and GI and the DV which is the adoption of EP in KL in the literature review. After going through the theoretical review, there were several theories used to figure out the determinants influencing the adoption of e-payments in KL such as TOE Framework, TAM and MOT. In addition, research stated that there were positive and negative relationships between IVs and EP.

CHAPTER 3: METHODOLOGY

3.0   Introduction

Chapter 3 expounds the research technique which includes design of research, sampling design, model of sampling, technique of gathering data, instrument of research, constructs measurement, and also the techniques applied for processing data and analyse data.

3.1   Research Design

The information of this research can be collected by using primary data (Douglas, 2015). Several methods like surveys, questionnaires, direct observations and interviews are usable to gather data (Saunders, Lewis & Thornhill, 2009). A self-administered survey questionnaire approach is used to gather primary research data as surveys are relatively easy to administer (Jong, 2016). Besides, self-administered survey method saves time because interview appointments are not needed (Niki, 2018). Self-administered surveys also provide convenience to respondents because the respondents only have to answer the questions (Deren, 2013). The collection of results from the respondents can also be faster (Deren, 2013). Moreover, it is considered as a low-cost method of surveying large samples.

3.1.1   Quantitative Research

Quantitative methods are used in this research as our research design to look over the factors affecting the adoption of e-payment (Wright, O'Brien, Nimmon, Law & Mylopoulos, 2016). According to Goertzen (2017), quantitative research method can be created by numerical data and it is structured to collect and analyse data. This research numerical data is gathered through a survey questionnaire that is

distributed in KL, as KL is the second greatest city in Malaysia with 1.453 million people in year 2019, as stated in the statistics from Department of Statistics Malaysia.

3.1.2 Descriptive Analysis

Typically, descriptive analysis provides information on the features of the population research. Descriptive analysis was applied in this research to determine the factors that affect the adoption of e-payment in KL, Malaysia. Besides, this research also examines the relation between variables.

3.2 Sampling Design

Kothari (2004) stated that it is a definite plan for a particular population to get a sample by using sample design. It relates to the method or process used by the investigator when choosing sample objects. The layout of samples may also specify the number of products in the sample such as the sample size. Sample design is determined before data is collected so that the researcher can choose from the sample designs are designed. Some designs are more accurate and simpler to use than others. Researchers must pick a dependable and research-fitting design sample.

3.2.1 Target Population

A crowd or participant with special qualities of interest and relevance is known as target population. For the large research population, a set of requirements for selecting respondents may lead in the monitoring of the most qualified and convenient participant group without specifying the target and available populations (Asiamah, Mensah & Oteng-Abayie, 2017). For this research, the target population is 18 years old and above in UTAR Kampar Campus and residents in

KL. The first reason to focus on the aged 18 years old and above is because people from these age groups are highly relied on technology, smartphones as well as e-payment in their daily lives. Moreover, the reason for choosing UTAR Kampar Campus is because UTAR is the largest private university in Malaysia. Besides that, the third reason for this research is to focus on residents in KL. It is because World Population Review (2016) claimed that KL has the highest population in Malaysia with an estimated 1.73 million people in 2016. Thus, the population in KL is the most suitable area to collect data for this research.

3.2.2   Sampling Frame and Sampling Location

Sampling frame is the sample that is drawn from a source of source device (Turner, 2003). Sampling location is to select a location or area for collecting data. In the research, since the target population is 18 years old and above who study or work in KL. Sampling method consists of probability samples and non-probability sample methods, in which the former states that the potential for each population element to have the recorded is known (non-zero) while the latter refers to the probability of selecting each population and the researcher unable to be sure every population component has an opportunity not to be selected at zero. The non-probability sample approach comes in the form of voluntary sampling and convenience sampling methods. Voluntary sampling deals with people who select themselves for the survey, but the convenience sample procedure consists of those who are easily accessible. Hence, this research uses convenience sampling method in distributing questionnaires via face to face interaction with respondents.

3.2.3   Sampling Elements

Sampling is an equal level of sample which included in the research such as individual, organization, group or business and so on are one of the sampling element methods. This is feasible if each person in the target population is identified

and contacted-something often unlikely because of cost impacts or impracticality. The respondents will be residents of KL who aged 18 years old and above to participate in this research. One of the reasons why young adults, middle-aged adults and older adults are chosen to participate in this research is because of their understanding and basic knowledge on e-payment.

3.2.4 Sampling Techniques

Churchill and Iacobucci (2009) highlighted that sampling elements are categorized as probability and non-probability sample. Probability sampling is about choosing the sample randomly whereas non-probability sampling is not. Instances of non-probability sampling include voluntary sampling and convenience sampling methods while for the probability sampling, they include stratified random sampling, cluster random sampling, simple random sampling and so on. However, this research decided to choose a convenience sampling method to run the test in this research. Convenience sampling involves collecting samples from a convenient place such as the mall, college, researchers' intern workplace in KL.

3.2.5 Sampling Size

Krejcie and Morgan (1970) mentioned that 385 sets of questionnaires will be given to respondents for the actual test. There are 400 respondents who will participate in the research. Before starting the actual test for the research, this research should do a pilot test which can be investigated and improved on the tool and the methodology (Shea, & Bidjerano, 2018). There are 30 sets of questionnaires that will be administered to students in Universiti Tunku Abdul Rahman, Kampar Campus who are residents from KL and managed to get back all of the questionnaires for pilot testing.

3.3   Data Collection Method

Data collection refers to the process that involves collecting and evaluating information on specific variables in an existing framework. This research uses primary data in collecting data.

3.3.1 Primary Data

Primary data means information gathered by researchers directly and personally (Surbhi, 2017). There are a few sources to gather the primary data. For instance, a researcher can conduct surveys, observations, experiments, questionnaires and personal interviews to collect data. Hence, this research uses self-administered survey questionnaires as data collection.

3.4   Research Instrument

3.4.1 Questionnaire

Written interview, which can be known as questionnaire, is one of the research instruments that composed of a set of questions to collect respondents' information (McLeod, 2018). There are different kinds of questionnaires such as telephone questionnaire, mail questionnaire, computer questionnaire, and in-house survey ("Questionnaires," 2019). One of the advantages of using questionnaires as the research instrument is cost effective (Rainwater, 2019). Besides, it is cheaper than other methods to acquire vast amounts of people's particulars in a short time period. Besides, questionnaire helps to reduce bias as it does not involve any middleman to interpret the data and hence, this prevents the researchers from affecting the answers by using verbal or non-verbal clues. Moreover, questionnaires provide more anonymity than other research instruments. Respondents' identities will not be revealed as questionnaires only release personal information such as age, gender or

race. Respondents are aware and/or consent to data protection when participating in the survey.

3.4.2 Questionnaire Design

The design of the questionnaire is complex to implement because there are numerous details to be concentrated at the same time ("Questionnaire Design," 2019). The first step to design a good questionnaire is making preliminary decisions about the information needed for the survey, determining the target respondents and the techniques used to interview them. Secondly, it is important to decide the question content such as the utility and effectiveness of data, ability and willingness of respondents to answer the questionnaires and the effect of external factors. The next step is to determine the response format whether it is open-ended questions, close-ended questions and or other formats. Then, the question content must be worded appropriately before framing the questionnaire structure. Lastly, pilot test and revision should be formulated to dorm a final draft (Sreejesh, Mohapatra & Anusree, 2014).

In this research, the questionnaire is made up of six parts which are Section A, B, C, D, E and F. Section A contains eight questions for the demographic profile of the respondents. The questions are related to gender, age, occupation, level of education, work experience, monthly income, etc. The respondents are required to tick for one or more answers for each question. In the other sections, it seeks for the respondents' opinions regarding the intention of adopting e-payment in near future and the factors affecting the adoption of EP which are S, PU, T and GI. The answers to the questions given by the respondents must be according to the Likert scale which consists of five scales (1) = SD, (2) = D, (3) = N, (4) = A and (5) = SA.

3.4.3   Pilot Test

Wright (2018) mentioned that before conducting the main research, it is necessary to carry out a pilot test to test the research approach with a small group of people. A pilot research is crucial for determining the possible issues and shortages associated with the research instruments and protocol before carrying out the research (Hassan, Schattner, & Mazza, 2006). Besides, it also aids in making the researcher more familiar with the process in the protocol. One of Roscoe's simple rules of thumb stated that sample size of 30 or more are recommended for pilot test (Hill, 1998). Moreover, Browne (1995) also mentioned that based on general flat rule, sample size of 30 or more are better in estimating a parameter (Whitehead, Julious, Cooper & Campbell, 2015). Hence, 30 sets of survey questions are assigned in this research among students in UTAR, Kampar campus who reside in KL. Then, for conducting a reliability test, the results of 30 sets questionnaires will be collected via SPSS 25.

Table 1: Pilot Test

Variables	Cronbach's Alpha
S	0.702
PU	0.831
T	0.760
GI	0.866

Sources: Developed from the research

3.5   Constructs Measurement

The measuring scale helps to determine how interviewees react to the variables of research differently (Sekaran, 2003). Researchers will gather and analyze the data to determine the statistical inference test. This questionnaire contains four scales such as nominal, ordinal, interval (likert scale) and ratio as measurement. The questionnaire comprised of six parts whereby Section A is about the respondents' demographic profile whereas other sections are about the questions regarding

different independent variables (S, PU, T and GI) to identify their effects on e-payment adoption.

3.5.1 Nominal Scale

The nominal scale usually addresses qualitative or non-value numbers. Sekaran (2003) mentioned that in order to calculate percentage or frequency, the answer from nominal scale cannot be repeated and must have at least one answer. For instance, taking the scale of 0 as male and 1 as female for a gender measurement, the number given is just a label and does not have any quantitative value.

3.5.2 Ordinal Scale

Usually, it is used to determine non-numeric ideas, for instance, satisfaction, discomfort, happiness and others. Ordinal scale had been used in Section A (demographic profile) of this questionnaire to gather the respondents' information.

3.5.3 Interval Scale

Interval scale deals with quantitative data which allows the existence of zero points in the scale. Besides, the difference between two variables of an interval scale are meaningful. Sekaran (2003) stated that differences in the respondents' preference are measured by the scale. Likert scale are the most common scale measurements used for research. It contains five ranges which include (1) SD, (2) D, (3) N, (4) A and (5) SA to determine how likely the statements are being agreed or disagreed by the respondents. Therefore, likert scale had been used in this questionnaire so that the degree of satisfaction of the respondents for each question in Section B can be figured out.

3.6 Data Processing

SPSS 25 has been implemented in this research for the processing of data. Data processing includes five phases including the data of analysis, editing, coding, transcription and the cleansing.

3.6.1   Data Checking

Ensuring all questionnaires are fully completed is the initial stage of data processing is to so that omissions can be prevented. Data checking is for the purpose of mitigating and eliminating the risks of conducting vague results which might affect the research purpose. Checking of data is crucial in ensuring the flawless of the data as well as to ensure the quality of the reviews of the target respondents. The analysis will be marred if any inaccuracies and deficiencies occurred in the project. Moreover, data collected must be ensured to be completed and accurate in order to be used as input for a reliability test. In this research, before recollecting the questionnaire from the respondents, their age and residence were asked for double checking to ensure that they match the target criteria in this research. Besides, researchers checked if respondents have replied to all the questions before collecting back from the respondents. After researcher collected the questionnaires from respondents, researchers have examined if there are any respondents who provide unrealistic answers. For example, this questionnaire asked the respondents for their profession, if a respondent writes 'kindergarten', they are likely exaggerating.

3.6.2 Data Editing

Discerning and rectifying any incomplete, inconsistent, illogical, or illegal data as well as preventing any omissions of the target respondents' information is essential in data editing. In this research, if there is any data omitted, it will be eliminated,

rather than filled up with any values for ensuring the data accuracy and precision by minimizing response prejudice.

3.6.3 Data Coding

Allotting a number to the response of respondents to enter the data into a database is the function of data coding. It enables researchers to turn the vast information into a database so that analyzing the data by using the software would be easier. This research has used Microsoft Excel to enter data into database with coding. In the questionnaire, Section A (Demographic information) involves measuring personal details of targeted respondents, this research coded in order the row of the answer. For example, Question 1 is asking for the gender, first row of answer box is "Male" and second row of answer box is "Female", if the respondents answer "Male" is coded as 1; while if the respondents answer "Female" is coded as 2. Besides, Five-Point Likert Scale has applied for Section B until Section F, where "SD" coded as 1, "D" coded as 2, "N" coded as 3, "A" coded as 4, as well as "SA" coded as 5.

3.6.4   Data Cleaning

Examining consistency and errors of the data as well as guaranteeing there are no omitted responses after double checked by using software is the aim of data cleaning. It must ensure consistency of data to avert the data from outlying. After coding the data, researchers checked for any errors occurring in coding. Besides, researchers also double checked the coding that have been entered Microsoft Excel in order to avoid any wrong coding and omission of coding.

3.6.5 Data Transcription

Transcription of data means the transmission of data to software to be readable for further analysis. Once all the data is successfully entered the software, the data will be evaluated. This research transferred the coding from Microsoft Excel to SPSS 25. In SPSS 25, the researchers keyed in the representation of each coding in order to run the analysis in SPSS 25.

3.7 Data Analysis

Primarily, data analysis plays an important role in conducting quantitative research. Qualitative data analysis is used to classify and interpret the semantic material to make the statements about implicit and explicit dimensions and structures of meaning-making in the material and what it stands for (Flick, 2013). There will be 385 questionnaires distributed in KL by using the convenience sampling method. This research conducts descriptive analysis, reliability checking of factor analysis and inferential analysis in order to interpret the collected data.

3.7.1 Descriptive Analysis

Descriptive analysis is an important component process, it helps researchers observe the phenomenon, subsequently, to identify the research questions and generate the hypothesis based on the observation (Loeb et al., 2017).

3.7.2 Factor Analysis

Factor analysis is the method that research the interrelationship among the variables, a certain appearance is clarified, decrease the quantity of information involved in initial variable and establish a small set of dimension, target to minimize

the loss of information and focus on analyzing the interdependence between the variable (Gabor, 2010).

3.7.3   Reliability Test

Drost (2011) mentioned that when people execute the psychological test, reliability is an important concern to measure the attribute or behavior that human act. In recent years, people or researchers are more emphasis in establishing the reliability of various measurements and instruments when collecting data (Bhatnagar, Kim & Many, 2014). Moreover, as Kimberlin and Winterstein (2008) have noted, the reliability test is designed to determine measurement steadiness, inner accuracy of measuring instruments and instrument score inter-rater reliability.

3.7.3.1 Cronbach's Alpha

Table 2: Rule of Thumb on Cronbach's Alpha

Cronbach's Alpha	Internal Consistency
< 0.60	Poor
0.60 to < 0.70	Moderate
0.70 to < 0.80	Good
0.80 to < 0.90	Very Good
0.90	Excellent

Source: Hinton, P. R., McMurray, I., & Brownlow, C. (2014).

Cronbach Alpha has been exploited by Lee Cronbach since 1951. Principally, the aim of Cronbach Alpha is to estimate internal consistency of the test and indicated as the number between 0 and 1. To ensure validity, internal consistency has to be defined before the test can be employed for examination or research (Tavakol & Dennick, 2011). Moreover, Jain and Angural (2017) claimed that it is usually used to analyses the reliability, however, for its interpretation, some of the elements will affect the value to increase or decrease on it. For example, conducting a test with a large number of items will increase the value of Cronbach alpha yet, a small number of items will decrease the value of it.

3.7.4   Inferential Analysis

For meaningful results, not only apparently logical, factual and real, but also backed by exploratory analysis, a true inferential analysis is necessary. Inferential analysis method will conduct the validity of finding results, conflict between the outcomes will require further verify through some different methods for example sensitivity analysis and specificity analysis (Stevens et al., 2017). Besides, Patterson (1999) stated that inferential analysis is a professional analyst under data overload the analysis process tracing methodology, vulnerabilities. It designs criteria for useful support tools by identifying that point. In addition, inferential process can be separated into three stages which are selection of information, selection of conflict and generation of story. The three processes started from selecting the information from the database and then sequence the returned report of dates and titles. Next, once the data clashing had been pointed out, new information will be identified and chosen. After that, the record of new information will be established, and a reasonable statement will be generated.

3.7.4.1 Pearson Correlation Coefficient

Table 3: Rule of Thumb on Pearson Correlation Coefficient

Coefficient Range	Coefficient Strength
0.00 – 0.19	Very Weak
0.20 – 0.39	Weak
0.40 – 0.59	Moderate
0.60 – 0.79	Strong
0.80 – 1.00	Very Strong

Source: Hair, Wolfinbarger and Ortinau (2008).

The association strength between two variables can be measure by Pearson Correlation Coefficient (Magiya, 2019). As stated in this research, it was used to measure the strength relationship among the independent variables. Besides that, the range of the pearson coefficients is from negative 1 to positive 1, whereby negative 1 indicates negative correlation, positive 1 indicates positive correlation as well as 0 indicates no relationship. Furthermore, according to the rule of thumb on

Pearson Correlation Coefficient, there are few approaches have been proposed to interpret the relationship coefficient into descriptors such as very weak, weak, moderate, strong or very strong relationship.

3.7.4.2 Multiple Regression Analysis

As stated in the research of Suki and Suki (2011), they mentioned that the Multiple Regression Analysis is the expansion of simple regression analysis, which is used to establish a several independent variables (IVs) which are associated to one dependent variables (DV). Besides that, R-squared (R^2) is a statistical measure of how close the information is to the fitted regression line. It is additionally known as the coefficient of determination (*Regression Analysis: How Do I Interpret R-squared and Assess the Goodness-of-Fit*, n.d.). The R^2 is the variation with the measurement of percentage in DV explained by the IV. The higher R^2 indicates that the model is good.

Multiple Regression Model:
$$Y = \beta_0 + \beta_1 X1 + \beta_2 X2 + \beta_3 X3 + \ldots + \beta_k Xk$$

Multiple Regression Equation:
$$EP = \beta_0 + \beta_1 S + \beta_2 PU + \beta_3 T + \beta_4 GI$$

Where,	EP	= Adoption of E-Payment
	S	= Security
	PU	= Perceived Ease of Use
	T	= Trust
	GI	= Government Intervention
	β_0	= Intercept
	$\beta_{1,2,3,4}$	= Slope Coefficient

3.8   Conclusion

Chapter 3 is discussed the methodology used to conduct this research. The next chapter will examine the interpretation of the observations from the data is covered through the data analysis by SPSS.

CHAPTER 4: DATA ANALYSIS

4.0   Introduction

Chapter 4 addresses the data and findings of this research. The research findings are obtained through the questionnaire. There are 385 questionnaires presented for the data collection due to 15 out of 400 questionnaires are invalid. SPSS 25 was used to analyze the recorded raw data. This chapter consists of four main sections, which include descriptive analysis, factor analysis, analysis of reliability and inferential analysis.

4.1   Descriptive Analysis

4.1.1   Demographic Profile

Table 4: Demographic Profile

Characteristics	Frequency	Percent (%)
Gender		
Male	157	40.8
Female	228	59.2
Age		
Below 20	51	13.2
20 – 29	270	70.1
30 – 39	45	11.7
40 – 49	15	3.9
Above 50	4	1.0
Profession		
Student	233	60.5
Fresh Graduate	29	7.5
Government Employee	9	2.3
Private Employee	113	29.4
Others	1	0.3

Education Level		
Diploma	52	13.5
Degree	286	74.3
Master	17	4.4
PhD	8	2.1
Others	22	5.7
Working experience		
0-10 years	337	87.5
11-20 years	31	8.1
21-30 years	14	3.6
31 years and above	3	0.8
Monthly Income		
Less than RM 1,000	215	55.8
RM 1,000 – RM 3,000	83	21.6
RM 3,001 – RM 5,000	64	16.6
RM 5,001 – RM 7,000	22	5.7
RM 9,001 and above	1	0.3

Sources: Developed from the research

Table 4 illustrates the demographic profile of the targets respondents who came from KL. As reflected in Table 4, the percentage of female respondents (59.2%) exceeds the percentage of male respondents (40.8%).

For the age group, the majority of the respondents are in the category of 20-29. Whereas, the fewest respondents are at the age above 50. On the other hand, the percentage of respondents fall in other categories, namely below 20, 30-39, and 40-49 is 13.2%, 11.7% and 3.9% respectively.

Furthermore, the table above showed that most of the respondents are students (60.5 % out of 385 respondents) whereas there is only one respondent (0.3 %) who comes from the other profession. Other than that, there are few of them (7.5%) who are categorized under fresh graduate profession. Out of 385 respondents, more than 30 percent of them are employed, in which 29.4% are working under private sectors while only 2.3% of them are working under government sectors.

In addition, data collected from a minority (2.1% of the total participants) of the respondents earned PhD, whereas the majority of the respondents are holding bachelor's degree, which constitutes 74.3% of the total respondents. Out of 385 respondents, 52 (13.5%) respondents are a Diploma holder, 17 (4.4%) respondents are Master holders while 5.7% of respondents have other education qualifications.

By looking at the working experience, 87.5% out of 385 respondents are claimed to have 0 to 10 years of working experience, which account for the highest proportion. On the contrary, the lowest rate goes to the category of 31 years of working experience and above, which comprised of only 0.8 percent out of total respondents. Whereas, there are 31 (8.1%) respondents earning 11 to 20 years of working experience and 14 (3.6%) respondents earning 21 to 30 years of working experience.

Moreover, Table 4 clearly showed that most of the respondents are having their monthly income less than RM1,000 and RM1,000-RM3,000 with just 34.2% difference between them. Subsequently, 16.6% of respondents have their monthly income of RM3,001-RM5,000. And the monthly income of RM4,001-RM5,000 accounts for 5.7% respondents' monthly income. Lastly, only a minority of respondents have their monthly income of RM9,001 and above.

4.1.2 General Information

Table 5: General Information

Characteristics	Frequency	Percent (%)
Which e- payment do you know?		
PayPal	211	12.9
WeChat payment	298	18.2
Debit card (Visa or MasterCard)	363	22.2
Google Wallet	71	4.3
Amazon payment	49	3.0
Authorize.net	11	0.7
Alipay	179	10.9
NetBank	18	1.1
Touch 'n Go	368	22.5
Others	68	4.2
Which e-payment do you most regular use?		
PayPal	47	7.9
WeChat payment	29	4.9
Debit card (Visa or MasterCard)	167	28.1
Google Wallet	9	1.5
Amazon payment	7	1.2
Authorize.net	3	0.5
Alipay	36	6.1
NetBank	18	3.0
Touch 'n Go	229	38.6
Others	49	8.2

Sources: Developed from the research

The general information on e-payments which the respondents know about and regularly use is shown in Table 5. According to the results shown in the table, Touch 'n Go is the most common e-payment system to the respondents as it is known by 22.5% respondents while Authorize.net is the least common one to the respondents as there is only 0.7% of respondents who know about it. The second common e-payment system among 385 respondents is Debit card (Visa or MasterCard) (22.2 %), followed by WeChat payment (18.2%), PayPal (12.9%), Alipay (10.9%), Google Wallet (4.3%), the others e-payment system (4.2%), Amazon payment (3.0 %) as well as NetBank (1.1%).

As shown in the table, 229 of the respondents use Touch 'n Go the most regularly, which constitutes 38.6% out of the 385 respondents. The second most-regularly-used e-payment system is Debit card (Visa or MasterCard), which comprised of 167 (28.1%) respondents. The result is followed by 49 (8.2%) respondents who use the others e-payment, 47 (7.9%) respondents who use PayPal, 36 (6.1%) respondents who use Alipay, 29 (4.9%) respondents who use WeChat payment, 18 (3.0%) respondents who use NetBank, 9 (1.5%) respondents who use Google Wallet and 7 (1.2%) respondents who use Amazon payment. On the other hand, there are only 3 respondents who use Authorize.net regularly, which contributes to only 0.5% of the overall respondents.

4.2 Factor Analysis

Table 6: Total Variance Explained (Initial Eigenvalues)

Component	Total	% of Variance	Cumulative %
1	9.652	41.966	41.966
2	1.783	7.750	49.716
3	1.466	6.373	56.089
4	1.179	5.127	61.216
5	0.916	3.982	65.198
6	0.754	3.279	68.477
7	0.704	3.062	71.539
8	0.696	3.026	74.565
9	0.637	2.771	77.336
10	0.600	2.610	79.946
11	0.584	2.539	82.485
12	0.565	2.456	84.941
13	0.498	2.165	87.106
14	0.447	1.943	89.049
15	0.439	1.910	90.959
16	0.404	1.757	92.716
17	0.386	1.679	94.395
18	0.366	1.592	95.987
19	0.352	1.533	97.520
20	0.299	1.300	98.820

21	0.247	1.073	99.892
22	0.025	0.108	100.000
23	0.000	0.000	100.000

Sources: Developed from the research

Factor analysis is used to investigate the interaction of variables in a various factor. Thus, it is an effective tool for lessening an enormous number of variables into lesser numbers of factors. Table 6 illustrates that every single quantifiable variable can be arranged into four classifications. Since all components are greater than 1, thus it implies that the four factors in the initial solution have their eigenvalues greater than 1. Together, the results account for almost 61 percent of the variability in the initial variables. In view of Table 6, component 1 expressed 42 percent, while component 2 expressed 7.8 percent of total followed by segment 2 expressed 7.8 percent of total variables. Subsequently, component 3 and 4 have 6.4 percent and 5.1 percent of variance individually. In short, the percentage of variance for the first component is the largest among the other 3 components.

Table 7: R-Squared

S 2	0.588
S 3	0.528
S 4	0.675
S 5	0.724
S 6	0.425
PU 1	0.498
PU 2	0.489
PU 3	0.579
PU 4	0.569
PU 6	0.780
PU 7	0.769
T 1	0.766
T 2	0.767
T 4	0.613
T 5	0.514
T 6	0.514
GI 1	0.653
GI 2	0.702

GI 3	0.546
GI 4	0.642
GI 5	0.517
GI 6	0.637
GI 7	0.585

Sources: Developed from the research

R-squared ($R^{2)}$) quantifies the percentage of variation in dependent variable explained by the independent variable (Ratner, 2009). In general, it is better to have a higher R^2 because it shows that the model is a great data fit ("Coefficient of Determination," 2020). Besides, "Linear Correlation," (n.d.) mentioned that the R^2 value consistently somewhere in the range of 0 and 1, which indicate is an ideal positive linear relationship between the variables if R^2 is equivalent to 1, large positive linear association if R^2 is between 0.45 and 0.9, small positive linear association if R^2 is less than 0.45 but more than 0, and there is an insignificant relationship between the variables if R^2 is equal to 0.

Based on Table 7, it shows that almost all of the values extracted are more than 0.45, which means that there are large positive linear associations between the dependent and independent variables, which the points are close to the regression line. Except for S6 which has only 0.425 of R^2, it indicates that the points are far from the regression line, which also indicates that there is a small positive linear association between the dependent and independent variables.

4.3   Reliability Analysis

4.3.1 Internal Reliability Test

Table 8: Reliability Test

Variables	Cronbach's Alpha	No. of items
S	0.790	5
PU	0.744	6
T	0.833	5

| GI | 0.882 | 7 |

Sources: Developed from the research

The acceptable alpha value of Cronbach's alpha was stated in Table 2 based on rule of thumb. Table 8 shows that GI has the highest value of the alpha, 0.882, indicating that GI data are highly reliable. On the other hand, alpha values of other variables, S, PU and T, are 0.790, 0.744 and 0.833 individually. Since the alpha values for these three variables are greater than 0.7, the results are therefore considered reliable for all these variables.

4.4   Inferential Analysis

4.4.1 Pearson Correlation Coefficient

Table 9: Correlation Coefficient

	EP	S	PU	T	GI
EP	1.000				
S	0.609	1.000			
PU	0.637	0.660	1.000		
T	0.654	0.600	0.782	1.000	
GI	0.632	0.583	0.687	0.720	1.000

Sources: Developed from the research

Table 8 revealed that all the IVs had a moderate relationship with e-payment. As shown in Table 9, T has the most moderate relationship (0.654) among the 4 IVs. Besides, the other IVs, which are S, PU and GI had moderate relationships (0.609, 0.637 and 0.632 respectively) with e-payment. In shorts, based on Pearson Correlation Analysis, DV is having positive relationships with all the IVs. Which means that, when the IVs increase, DV will increase as well.

4.4.2 Multiple Regression Analysis

Table 10: Multiple Regression Analysis

Model	R	R-Squared	Adjusted R-Squared	Estimated SE
	0.730	0.533	0.529	0.48494

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t-stat	p-value
	B	SE	Beta		
Constant	0.610	0.157		3.886	0.000
S	0.245	0.048	0.246	5.100	0.000
PU	0.145	0.069	0.131	2.110	0.036
T	0.239	0.061	0.241	3.910	0.000
GI	0.209	0.050	0.225	4.194	0.000

Sources: Developed from the research

EP = 0.610 + 0.245 S + 0.131 PU + 0.241 T + 0.225 GI

β_0= **0.610** which means when S, PU, T and GI are equal to zero, the EP in KL is 0.610.

β_1= **0.246** which means when S increases by 1%, on average, the EP in KL will increase 0.246%, ceteris paribus.

β_2=**0.131** which means when PU increases by 1%, on average, the EP in KL will increase 0.131%, ceteris paribus.

β_3=**0.241** which means when T increases by 1%, on average, the EP in KL will increase 0.241%, ceteris paribus.

β_4=**0.225** which means when GI increases by 1%, on average, the EP in KL will increase 0.225%, ceteris paribus.

Table 11: Summary of Hypothesis Testing

Hypothesis Testing	Result	Accepted/ Rejected
H1: There is a significant relationship between S and EP in KL.	0.000	Accepted
H2: There is a significant relationship between PU and EP in KL.	0.036	Accepted

H3: There is a significant relationship between T and EP in KL.	0.000	Accepted
H4: There is a significant relationship between GI and EP in KL.	0.000	Accepted

Sources: Developed from the research

H1: There is adequate evidence to demonstrate that there is a relationship between S and adoption of EP in KL since the p-value of S 0.000 is lower than significance level 0.05. Therefore, H1 is accepted.

H2: There is adequate evidence to demonstrate that there is a relationship between PU and adoption of EP in KL since the p-value of PU 0.036 is lower than significance level 0.05. Therefore, H2 is accepted.

H3: There is adequate evidence to demonstrate that there is a relationship between T and adoption of EP in KL since the p-value of T 0.000 is lower than significance level 0.05. Therefore, H3 is accepted.

H4: There is adequate evidence to demonstrate that there is a relationship between GI and adoption of EP in KL since the p-value of GI is 0.000 which is lower than significant level 0.05. Therefore, H4 is accepted.

$R^2 = 0.533$

R-squared (R^2) is applied to evaluate the goodness of fit for the regression models (Cameron, & Windmeijer, 1997). Based on our result, the R-squared is 53.3%, which indicates that 53.3% of the variation in predicted EP in KL can be explained by the variation in S, PU, T and GI.

4.5   Conclusion

In chapter 4, descriptive analysis, factor analysis, reliability analysis and inferential analysis are being discussed. All these analyses are applied for the interpretation of the effects of the data gathered and for further discussion in the next chapter.

CHAPTER 5: CONCLUSION

5.0 Introduction

The findings of the statistical analysis of Chapter 4 are summarized and discussed in this chapter. In addition, the main findings and the results of hypothesis testing are also examined in this chapter. Last, this chapter also discusses the study's limitations and recommendations.

5.1 Summary of Statistical Analysis

5.1.1 Descriptive Analysis

There are 385 KL respondents are targeted in this research, with 59.2% female respondents, while 40.8% male respondents. Most of respondents are between the ages of 20 to 29, representing 70.1% of respondents, while 13.2% are below the ages of 20, 11.7% aged between 30 to 39 years old, 3.9% from the age between 40 to 49 years old and only 10% of the respondents aged above 50 years old.

Out of 385 respondents, 60.5% of them are students, 29.4% are employees from private sectors, 7.5% are fresh graduates, 2.3% are government employees and the rest (0.3%) are from the other professions. According to the analysis on education level, the majority of respondents are highly educated, in which 74.3% of the respondents are Degree holders, 13.5% are Diploma holders, 4.4% are Master holder and 2.1% are PhD holders.

Furthermore, 87.5% out of 385 respondents have working experiences of 0 to 10 years. In contrast, there is only 0.8% of the respondents who earn 31 years of working experience and above. For the remaining of the respondents, 8.1% of them

earn 11 to 20 years of working experience while 3.6% earn 21 to 30 years of working experience.

For the monthly income, 55.8% of respondents earn less than RM1,000 per month. This result is followed by 21.6% respondents who have a monthly income of RM 1,000 to RM 3,000, 16.6% who earn RM 3,001 to RM 5,000 per month, 5.7% who receive monthly income of RM 5,001 to RM 7,000 and only 0.3% of the respondent earns monthly income of RM 9,001 and above.

5.1.2 Factor Analysis

According to the result of total variance explained, we can conclude that all the variables are assembled into four components because all of the four components have eigenvalues larger than 1. Besides, based on the R-Squared result, almost all the values have large positive linear association between dependent and independent variables as R-squared are greater than 0.45. The greater the R-squared indicates the better the model is, where the points are near to the regression line. However, except S6 has a R-squared value of 0.425 which is less than 0.45, indicates that dependent and independent variables are Slight positive correlation, where the points are distant from the regression line. In overall, since we have a high R-squared result, the model of this research is in good fit for the data.

5.1.3 Reliability Analysis

Based on the reliability test, the Cronbach's alpha of the dependent variables, which include S, PU, T and GI are 0.790, 0.744, 0.833 and 0.882 respectively. Since Cronbach's alpha for each of the dependent variables is more than the minimum level of reliability, which is 0.7, thus all the data for these variables are considered as acceptable and reliable acceptable (Hair et al., 2006).

5.1.4 Inferential Analysis

Based on our research multiple regression analysis the result showed the four variables which are S, PU, T and GI had significant relationship between adoption EP in KL when the significant level decided at 0.05. Based on our result, all of the p-values were less than 0.05. Moreover, in our result R-square shows 0.533, which means they are 53.3% of the variation in predicted adoption of e-payment in KL can be explained by the independent variable which are S, PU, T and GI.

5.2 Discussion of the Major Findings

H1: Table 10 indicates that there is a significant and positive relationship between S and EP in KL due to the significant value (0.000) is less than p-value (0.05). This result was supported by past research from Lai (2016), Kim, Tao, Shin and Kim (2010), Ade`r, Ade`r and Mellenbergh (2008), Maroofi, Hashemi and Nargesi (2012) for the security affect the adoption of e-payment system. Based on their studies, they discovered that S has a positive relationship with the adoption of e-payment due to the high security standard to improve the usage of e-payment. However, Teoh, Chong, Lin and Chua (2013); Mohammad AL-ma'aitah and Abdallah Shatat (2011) found that significant but negative relationship between S and e-payment adoption system. This is because the confidence of believing in new technology and banking system of e-payment was still weak.

H2: The research indicates that there is a significant and positive relationship between PU and EP in KL. The significant value of PU (0.036) is less than p-value (0.05). Based on the past research, Ali Shawket Thiab and Zeratul Izzah Mohd. Yusoh (2019), Perkins and Annan (2013), Sanghita and Indrajit (2017), Liu and Tai (2016), Rao and Goldsby (2009), Daştan and Gürler (2016) was agreed with the relationship between PU and EP is significant and positive relationship. This is because people can use e-payments to make payment for purchasing an item or paying utility bills anytime and anywhere. It is easy to use and convenient to people

nowadays. Besides that, according to the past research of Ali Shawket Thiab and Zeratul Izzah Mohd. Yusoh (2019), Sanghita and Indrajit (2017), Rao and Goldsby (2009) disagreed with the significant and negative relationship between PU and adoption of e-payment. Some of the people might feel that it is a new technology system, they are not willing to try and learn to use e-payment.

H3: As stated in the result generated from Table 10 exhibits significant between T and EP in KL. Furthermore, it shows positive relationship. From the table, it designates that the significant value of T (0.000) is less than p-value (0.05). This indicates that T is significant and positive towards EP. According to findings of Daştan and Gürler (2016); Barkhordari, Nourollah, Mashayekhi, Mashayekhi and Ahangar (2017); Suwunniponth (2015); Oney, Guven and Rizvi (2017); Kim, Tao, Shin and Kim (2010); Rouibah, Lowry and Hwang (2016); Liu and Tai (2016), T is significant and positive towards the adoption of e-payment was supported. Besides that, the past research of Mohamad Amin, Mohd Fuaad Said, Choo and Raja Nerina Raja Yusof (2017); Teoh, Chong, Lin and Chua (2013) was not supported due to T is insignificant relationship towards the adoption of e-payment.

H4: The result of Table 10 reveals that there is a significant relationship between GI and EP in KL in our research. The significant value of GI is 0.0000, which is lower than the p-value of 0.05. This result conveys that GI positively affected the adoption of e-payment. Based on the findings of the literature was agreed by Zhang (2009); Lee, Park and Ahn (2001); Swindells and Henderson (1998) and Igudia (2017). This is the reason the government developed policies and regulations to avoid illegal issues like theft and money laundering.

5.3   Research Implications

The research discussed several significant factors that affects the adoption of e-payment in Kuala Lumpur, which include S, PU and T. Additionally, one of the important factor that affects the adoption of e-payment in KL, which is government intervention (GI) is also discussed in this research. Most of the researchers of this

topic have ignored this important determinant even though GI is an important factor (Treiblmaier, Pinterits, & Floh, 2006). Thus, this research is useful for the future researchers that are interested in studying the factors such as S, PU, T and especially GI in affecting adoption of e-payment in future.

Besides, this research may help consumers to have a finer understanding on the advantages of using e-payment. For instance, by using e-payment, consumers may have freedom to do the transaction at any time and from any location. Besides, consumers can also control their expenses easily since using an e-payment system would record all the transactions on their account, so e-payment users could check for their expenses from the transaction history. Thus, it may be easier for consumers to manage their expenses wisely by using e-payment system rather than by paying with cash as consumers cannot view all the transactions history unless they keep recording their daily expenses, which may be inconvenient as compared to e-payment system.

Moreover, the research findings provide a clear view of the factors affecting the consumer's willingness to adopt e-payment in KL. The results show that all the IVs (S, PU, T, GI) are significantly and positively related to the DV (EP). Thus, all the businesses that accept e-payment should be aware of the significant effects of these IVs which are helpful to overcome the resistance to e-payment that repels consumers.

Furthermore, this research is also beneficial for the investors who invest in e-payment companies or projects, or the investors that are interested in the e-payment system. This is because investors could refer to this research about the current e-payment trend in Malaysia and assist them in making better decisions on the investments.

5.4   Research Limitations

This research has few limitations. Those limitations must be taken note in future study. In our research, we distributed our questionnaire by using hardcopy in KL. We realise that hardcopy questionnaire was costly to print out the questionnaire and it takes more time to collect the responses from the respondents in KL. Many respondents will refuse to fill up the questionnaires because it takes time to understand and read the statement in the questionnaire even though it only takes 10 minutes to 15 minutes to complete the questionnaire. Therefore, we faced difficulty when distributing the questionnaire to the respondents.

Besides, based on the research, limited independent variable is one of the limitations involved. Although all the independent variables are positively significant to the adoption of e-payment in KL. This is because of the significance value of S, PU, T and GI is less than p-value of 0.05. Other than that, the outcome of R-squared is 0.533 which is considered as moderate positive correlation and it still needs to be improved on it. However, our research has only four independent variables, these variables might be not affecting the adoption of e-payment in KL. Based on most of the past researchers, they have more than four independent variables in their research.

Furthermore, there is an unbalanced result in the demographic profile of the respondents, whereby most of our targeted respondents (70.1% of the total respondents), are from the age group of 20 to 29 years old. Moreover, most of them (60.5% out of 385 respondents) are students, and overall of them are highly educated. This means that the results collected are only limited to students who hold a Degree Programme, which might miss out the other respondents from other professions and with low educational levels, who might have contrasting aim in adopting e-payment. Therefore, the research results are limited.

5.5 Research Recommendations

As stated by the limitations we faced in this research, there is some advice which would be recommended to future researchers. Firstly, we face difficulty when we are distributing the hardcopy questionnaires because it is costly and taking time to answer the questionnaire. The recommendation for this limitation is we can distribute the questionnaire through online. Respondents can complete the questionnaire when they are free as they can conduct the questionnaire anytime. Simultaneously, we can collect the response more efficiently and lower down the research cost since we distribute the questionnaire through online.

Besides, future researchers are encouraged to do research for more than five independent variables. If the future researchers faced the result of significance value is higher than p-value of 0.05 or R-squared is small than 0.5. Future researchers can remove the independent variables which are not significant to future research. As an illustration, if future researchers got the result of R-squared is 0.2 and they only four independent variables in their research, then the future researchers must remove one of the independent variables and add a new variable to their research.

Next, in order cope with the limitation of getting unbalanced results from the respondents, future researchers are advised to use cross sectional research to study the entire populations or samples. It enables researchers to collect data with various characteristics such as age group, professions as well as the education level at once, in a short time. With the presence of this research method, the results collected by the future researchers will be more balance since the results are collected from the entire group of people instead of selective of them. Thus, the future researchers could have a more precise result by using this research method.

5.6 Conclusion

In short, the results show that S, PU, T and GI support have significant relationship with the adoption of e-payment in KL. This chapter has discussed and concluded the outcomes of descriptive analysis, factor analysis, reliability analysis, as well as inferential analysis.

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Appendix 1: Questionnaire Permission Letter

UNIVERSITI TUNKU ABDUL RAHMAN

Wholly Owned by UTAR Education Foundation (Company No. 578227-M)

24th July 2019

To Whom It May Concern

Dear Sir/Madam,

Permission to Conduct Survey

This is to confirm that the following students are currently pursuing their *Bachelor of Business Administration (Hons) Banking and Finance* program at the Faculty of Business and Finance, Universiti Tunku Abdul Rahman (UTAR) Perak Campus.

I would be most grateful if you could assist them by allowing them to conduct their research at your institution. All information collected will be kept confidential and used only for academic purposes.
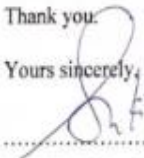
The students are as follows:

Name of Student	Student ID
Ding Jia Lee	16ABB05665
Har Zi Qing	16ABB01444
See Sue Wei	16ABB02862
Teoh Chia Shin	16ABB04105
Wong Por-Lyn	16ABB03819

If you need further verification, please do not hesitate to contact me.

Thank you.

Yours sincerely,

Ms Kuah Yoke Chin
Head of Department
Faculty of Business and Finance
Email: kuahyc@utar.edu.my

Mr Hoon Hui
Supervisor
Faculty of Business and Finance
Email: hoonh@utar.edu.my

Kampar Campus : Jalan Universiti, Bandar Barat, 31900 Kampar, Perak Darul Ridzuan, Malaysia
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Sungai Long Campus : Jalan Sungai Long, Bandar Sungai Long, Cheras, 43000 Kajang, Selangor Darul Ehsan, Malaysia
Tel: (603) 9086 0288 Fax: (603) 9019 8868
Website: www.utar.edu.my

Appendix 2: Questionnaire
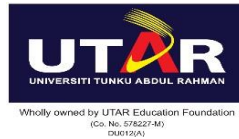
Topic: Factors influencing the adoption of e-payment in Kuala Lumpur, Malaysia

Dear Respondents,

We are Final Year Bachelor of Business Administration (Hons) Banking and Finance students from University Tunku Abdul Rahman (UTAR). The purpose of this research is to identify the relationship between the factors affecting the adoption of e-payment among the staff and students in UTAR. This questionnaire consists 6 sections and the respondents are compulsory to answer every single question. This questionnaire will approximately take the precious 10 minutes to complete. The information that we adapted from the respondents will be kept confidentially. The information is just for the research purpose. Thanks for the participation and the contribution of the precious time.

Thank you for your participation.

Section A: Demographic information

In this section, we are interested in your background in brief. Your answer will be kept strictly confidential. Please tick(/) one answer of yours.

1. Gender
    - ☐ Male
    - ☐ Female

2. Age
    - ☐ Below 20
    - ☐ 20 – 29
    - ☐ 30 – 39
    - ☐ 40 – 49
    - ☐ Above 50

3. Profession
    - ☐ Student
    - ☐ Fresh Graduate
    - ☐ Government Employee
    - ☐ Private Employee
    - ☐ Others: _____

4. Education Level
    - ☐ Diploma
    - ☐ Degree
    - ☐ Master
    - ☐ PhD

☐ Others: _____

5. Working experience
   ☐ 0-10 years
   ☐ 11-20 years
   ☐ 21-30 years
   ☐ 31 years and above

6. Monthly Income
   ☐ Less than RM 1,000
   ☐ RM 1,000 – RM 3,000
   ☐ RM 3,001 – RM 5,000
   ☐ RM 5,001 – RM 7,000
   ☐ RM 7,001 – RM 9,000
   ☐ RM 9,001 and above

7. Which e- payment do you know?
   ☐ PayPal
   ☐ WeChat payment
   ☐ Debit card (Visa or MasterCard)
   ☐ Google Wallet
   ☐ Amazon payment
   ☐ Authorize.net
   ☐ Alipay
   ☐ NetBank
   ☐ Touch 'n Go
   ☐ Others: _____

8. Which e-payment do you most regular use?
   ☐ PayPal
   ☐ WeChat Payment
   ☐ Debit card (Visa or MasterCard)
   ☐ Google Wallet
   ☐ Amazon payment
   ☐ Authorize.net
   ☐ Alipay
   ☐ Netbank
   ☐ Touch 'n Go
   ☐ Others: _____

Section B: Influence of the e-payment adoption

In the following sections, we seek for your opinion regarding the intention of perform e-payment and the factors affecting the adoption of e-payment. Please indicate the extent to which you agreed or disagreed with each statement by using following scale.

(1) = Strongly Disagree (SD)

(2) = Disagree (D)

(3) = Neutral (N)

(4) = Agree (A)

(5) = Strongly Agree (SA)

Please circle one number per line to indicate the extent to which you agreed or disagreed with the following statements.

Adoption of e-payment in the near future

		SD	D	N	A	SA
EP 1	Compared to traditional payment met hod, e-payment is more convenient.	1	2	3	4	5
EP 2	I spent more than 50% of my income each month in e-payment.	1	2	3	4	5
EP 3	I think the biggest challenge when people adopting e-payment systems are perception of user in adopting e-payment system.	1	2	3	4	5
EP 4	The reason I adopt e-payment system because of my expenditure is easy track.	1	2	3	4	5
EP 5	I think that e-payment has a lower risk compare to other means.	1	2	3	4	5

Section C: Security Issues

		SD	D	N	A	SA
SI 1	I fear of exposing my personal information to third party when using e-payment system.	1	2	3	4	5
S 2	Making transactions or paying for goods and services through e-payment system is secure.	1	2	3	4	5
S 3	I would reject to use e-payment if the third party requests me to upload my personal information.	1	2	3	4	5

S 4	Dual digital authentications are necessary while using e-payment system.	1	2	3	4	5
S 5	I would concern about conducting an online business with the existing of the statement of security procedures.	1	2	3	4	5
S 6	I am willing to use my credit card on the web.	1	2	3	4	5
S 7	I fear of any fraudulent charge while using e-payment system.	1	2	3	4	5

Section D: Perceived Ease of Use

		SD	D	N	A	SA
PU 1	E-ayment is flexible in access.	1	2	3	4	5
PU2	E-payment provides various payment channels that enable me to make payment easily.	1	2	3	4	5
PU 3	I feel e-payment is simple to use	1	2	3	4	5
PU 4	I feel e-payment is easy to use.	1	2	3	4	5
PU 5	I do not get frustrated when use e-payment.	1	2	3	4	5
PU 6	When I perform e-payment, less effort is required.	1	2	3	4	5
PU 7	I feel e-payment minimize my time when perform the transaction.	1	2	3	4	5

Section E: Trust

		SD	D	N	A	SA
T 1	I trust the service provider have good image in providing the e-payment system.	1	2	3	4	1
T 2	I trust the service provider in providing solution when the e-payment system issues occur.	1	2	3	4	1
T 3	I trust the e-payment system is safe in transferring big sum of funds.	1	2	3	4	1
T 4	I use e-payment system to make all payments.	1	2	3	4	1
T 5	I trust that the e-payment system is safe for every transaction.	1	2	3	4	1
T 6	I trust the e-payment system will not leak my privacy to third party.	1	2	3	4	1

Section F: Government Interventions

		SD	D	N	A	SA
GI 1	Government encourages e-payment services.	1	2	3	4	5
GI 2	Government promotes e-payment services.	1	2	3	4	5
GI 3	Government implements sufficient laws and regulations in e-payment.	1	2	3	4	5
GI 4	Government intervention plays a significant role towards e-payment adoption.	1	2	3	4	5
GI 5	Government has taken major steps to move the country into the digital age.	1	2	3	4	5
GI 6	Government facilitates wider outreach e-payments infrastructure.	1	2	3	4	5
GI 7	Government provides financial support in adopting e-payment system.	1	2	3	4	5

Appendix 3: SPSS Output

2.1 Descriptive Analysis

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
	Male	157	40.8	40.8	40.8
Valid	Female	228	59.2	59.2	100.0
	Total	385	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
	Below 20	51	13.2	13.2	13.2
	20-29	270	70.1	70.1	83.4
	30-39	45	11.7	11.7	95.1
Valid	40-49	15	3.9	3.9	99.0
	Above 50	4	1.0	1.0	100.0
	Total	385	100.0	100.0	

Profession

		Frequency	Percent	Valid Percent	Cumulative Percent
	Student	233	60.5	60.5	60.5
	Fresh Graduate	29	7.5	7.5	68.1
Valid	Government Employee	9	2.3	2.3	70.4
	Private Employee	113	29.4	29.4	99.7
	Others	1	.3	.3	100.0
	Total	385	100.0	100.0	

Education Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	52	13.5	13.5	13.5
	Degree	286	74.3	74.3	87.8
	Master	17	4.4	4.4	92.2
	Phd	8	2.1	2.1	94.3
	Others	22	5.7	5.7	100.0
	Total	385	100.0	100.0	

Working Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-10 years	337	87.5	87.5	87.5
	11-20 years	31	8.1	8.1	95.6
	21-30 years	14	3.6	3.6	99.2
	31 years and above	3	.8	.8	100.0
	Total	385	100.0	100.0	

Monthly Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than RM1,000	215	55.8	55.8	55.8
	RM 1,000 - RM3,000	83	21.6	21.6	77.4
	RM 3,001 - RM5,000	64	16.6	16.6	94.0
	RM 5,001 - RM7,000	22	5.7	5.7	99.7
	RM 9,001 and above	1	.3	.3	100.0
	Total	385	100.0	100.0	

Which e- payment do you know?

		Responses		Percent of Cases
		N	Percent	
D7[a]	PayPal	211	12.9%	57.3%
	WeChat payment	298	18.2%	81.0%
	Debit card (Visa or MasterCard)	363	22.2%	98.6%
	Google Wallet	71	4.3%	19.3%
	Amazon payment	49	3.0%	13.3%
	Authorize.net	11	0.7%	3.0%
	Alipay	179	10.9%	48.6%
	NetBank	18	1.1%	4.9%
	Touch 'n Go	368	22.5%	100.0%
	Others	68	4.2%	18.5%
Total		1636	100.0%	444.6%

a. Dichotomy group tabulated at value 1.

Which e-payment do you most regular use?

		Responses		Percent of Cases
		N	Percent	
*D8	PayPal	47	7.9%	20.5%
	WeChat payment	29	4.9%	12.7%
	Debit card (Visa or MasterCard)	167	28.1%	72.9%
	Google Wallet	9	1.5%	3.9%
	Amazon payment	7	1.2%	3.1%
	Authorize.net	3	0.5%	1.3%
	Alipay	36	6.1%	15.7%
	NetBank	18	3.0%	7.9%
	Touch 'n Go	229	38.6%	100.0%
	Others	49	8.2%	21.4%
Total		594	100.0%	259.4%

a. Dichotomy group tabulated at value 1.

2.2   Factor Analysis

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.652	41.966	41.966	9.652	41.966	41.966
2	1.783	7.750	49.716	1.783	7.750	49.716
3	1.466	6.373	56.089	1.466	6.373	56.089
4	1.179	5.127	61.216	1.179	5.127	61.216
5	.916	3.982	65.198			
6	.754	3.279	68.477			
7	.704	3.062	71.539			
8	.696	3.026	74.565			
9	.637	2.771	77.336			
10	.600	2.610	79.946			
11	.584	2.539	82.485			
12	.565	2.456	84.941			
13	.498	2.165	87.106			
14	.447	1.943	89.049			
15	.439	1.910	90.959			
16	.404	1.757	92.716			
17	.386	1.679	94.395			
18	.366	1.592	95.987			
19	.352	1.533	97.520			
20	.299	1.300	98.820			
21	.247	1.073	99.892			
22	.025	.108	100.000			
23	.000	.000	100.000			

Extraction Method: Principal Component Analysis.

R-squared

	Extraction
SI 2	.588
SI 3	.528
SI4	.675
SI 5	.724
SI 6	.425
PU 1	.498
PU 2	.489
PU 3	.579
PU 4	.569
PU 6	.780
PU 7	.769
T 1	.766
T 2	.767
T 4	.613
T 5	.514
T 6	.514
GI 1	.653
GI 2	.702
GI 3	.546
GI 4	.642
GI 5	.517
GI 6	.637
GI 7	.585

Extraction Method: Principal Component Analysis.

2.3   Reliability Analysis

2.3.1   Security

Case Processing Summary

		N	%
Cases	Valid	385	100.0
	Excluded[a]	0	.0
	Total	385	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.790	7

2.3.2 Perceived Ease of Use

Case Processing Summary

		N	%
	Valid	385	100.0
Cases	Excluded[a]	0	.0
	Total	385	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.744	6

2.3.3 Trust

Case Processing Summary

		N	%
	Valid	385	100.0
Cases	Excluded[a]	0	.0
	Total	385	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.833	5

2.3.4 Government Intervention

Case Processing Summary

		N	%
	Valid	385	100.0
Cases	Excluded[a]	0	.0
	Total	385	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.882	7

2.4   Inferential Analysis
2.4.1   Pearson Correlation Coefficient

Correlations

		EP	SI	PU	T	GI
Pearson Correlation	EP	1.000	.609	.637	.654	.632
	SI	.609	1.000	.660	.600	.583
	PU	.637	.660	1.000	.782	.687
	T	.654	.600	.782	1.000	.720
	GI	.632	.583	.687	.720	1.000
Sig. (1-tailed)	EP	.	.000	.000	.000	.000
	SI	.000	.	.000	.000	.000
	PU	.000	.000	.	.000	.000
	T	.000	.000	.000	.	.000
	GI	.000	.000	.000	.000	.
N	EP	385	385	385	385	385
	SI	385	385	385	385	385
	PU	385	385	385	385	385
	T	385	385	385	385	385
	GI	385	385	385	385	385

2.4.2 Multiple Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.730[a]	.533	.528	.48494

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.610	.157		3.886	.000	.301	.919	.610	.157
	SI	.245	.048	.246	5.100	.000	.150	.339	.245	.048
	PU	.145	.069	.131	2.110	.036	.010	.280	.145	.069
	T	.239	.061	.241	3.910	.000	.119	.359	.239	.061
	GI	.209	.050	.225	4.194	.000	.111	.307	.209	.050

a. Dependent Variable: EP