

YOUNG ADULTS' INTENTION TO USE MOBILE
PAYMENT IN MALAYSIA

BY

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LIST OF ABBREVIATIONS

SA	Strongly Agree
A	Agree
N	Neutral
D	Disagree
SD	Strongly Disagree
NFC	Near Field Communication
QR	Quick Response
TAM	Technology Acceptance Model
TRA	Theory of Reasoned Action
B2C	Business to Consumer
UTAUT2	Unified Theory of Acceptance and use of Technology 2
PLS	Partial Least Squares
SPSS	Statistical Package for Social Sciences

PREFACE

In the age of digital transformation, the landscape of financial transactions is rapidly evolving, with mobile payment systems emerging as a popular feature of modern commerce. Against this backdrop, this research explores the subtle behaviors and intentions of young adults regarding the adoption of mobile payment technologies in Malaysia.

As the world witnesses a paradigm shift towards cashless economies, Malaysia stands at the forefront of this transformation, boasting a dynamic and technologically savvy young population. With a keen interest in understanding the factors driving the adoption of mobile payment solutions, this study seeks to illuminate the motivations, preferences, and challenges faced by Malaysian young adults in embracing this innovative mode of financial transaction.

Motivated by a desire to bridge the gap between theoretical insights and practical implications, this research attempts to contribute to the academic discourse on consumer behavior and technology adoption. By unraveling the complexities of young adults' attitudes towards mobile payment, this study aims to provide valuable insights that can inform the strategies of businesses, financial institutions, policymakers, and technology providers alike.

ABSTRACT

This research aims to study the relationship between perceived risk, perceived trust, perceived ease of use and perceived usefulness towards the young adults' intention to use mobile payment in Malaysia. The target respondents in this study are young adults who aged from 19 to 39 years old. Moreover, 216 sets of questionnaires were collected, but only 208 sets of questionnaires were valid. The data collected from the survey are analyzed using IBM Statistical Package for Social Science (SPSS) version 29. The respondents' feedback was analyzed and presented using descriptive analysis, inferential analysis, Pearson's correlation analysis, as well as Multiple Regression analysis.

The research findings show that perceived risk and perceived trust have an insignificant relationship with young adults' intention to use mobile payment in Malaysia. Whereas perceived ease of use and perceived usefulness are found to have a significant relationship with young adults' intention to use mobile payment in Malaysia. Next, the implications of the study have been discussed to provide insightful information to marketers, service providers, and the government. Lastly, the limitations associated with this research were stated and recommendations were developed in order to assist future researchers in managing the limitations.

CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

An overview of the research background is provided in this chapter. A discussion of the research problem will also be included in this chapter. The objectives of the research will be outlined in this chapter. As a final step, research questions are presented.

1.1 Research Background

In less than 20 years, smartphones have gained more computational power and sophisticated features thanks to technology advances. Traditional QWERTY keypads have been replaced by finger-operated touchscreens, which have increased the device's usability and hastening its mass market acceptance. Hajazi, Chan, Ya'kob, Siali, & Abdul Latip (2021) stated smartphones are now regarded as essential personal devices for communication, information access, and other purposes, rather than a luxury item due to its enhanced functionalities. As mobile devices and apps become more prevalent, mobile payments are growing rapidly. Essentially, mobile payment refers to the process of performing payments using smartphones in exchange for goods and services, as well as performing authentication and authorization (Chen, Chen & Chen, 2019). In summary, customers can benefit from mobile payment services by using their smartphones to make and receive payments to buy goods. Furthermore, Chen et al. (2019) also stated that 938 million individuals, approximately 36.0% of those who use smartphones, performed mobile payments through retail channels in 2019, and this figure is expected to increase by 13.5% per year.

In the market, mobile payment methods vary depending on the service provider's technology. NFC stands for Near Field Communication, and it is the most often utilized. Based on Hajazi et al. (2021), clients are only able to use contactless payment methods such as NFC when their smartphones are within 10 centimeters of the merchant's contactless payment reader. In contrast to NFC, Person-to-Person technology enables secure accounts inside the same supplier of services to facilitate transactions between two parties. Another type of mobile payment method consists of Quick Response codes, which can either be scanned with a mobile device or presented to the merchant for scanning (Hajazi et al, 2021).

Conversely, as the number of people using smartphones increases, so does the use of mobile payments. According to Hajazi et al. (2021), mobile payments are predicted to reach USD 300 billion globally by 2020, from USD 4.6 billion in 2014. In addition, Wong and Mo (2019) discovered that mobile payments have expanded significantly in China. Compared to other countries, China has the largest transaction value, and Hong Kong is following suit. In 2017, Hong Kong had a transaction value of USD 528.7 million (Wong & Mo, 2019).

In the Malaysia context, Altounjy, Alaeddin, Hussain, & Kot (2020), 73 percent of respondents said they purchase on their smartphone or tablet at least once a month, and 69 percent of all transactions are device-initiated payments. Additionally, only 17% of respondents said they used physical banking, while 64% said they used some sort of mobile payment service such as mobile banking. In Southeast Asia, Malaysia comes in sixth place using mobile banking, while Thailand tops the list with over 80 percent of users. According to Altounjy et al. (2020), Malaysia is now attempting to overtake other nations that rank first when it comes to cashless transactions, including India, China, the Netherlands, Singapore, and France. Retail, eatery, travel, and tour-related industries are among the cash-based sectors that are gradually converting to transactions that do not involve cash (Altounjy et al., 2020).

Furthermore, there are numerous mobile payment service options in Malaysia which includes Touch 'n Go eWallet, Boost, Shopee Pay, Grab Pay and more. Based on Figure 1, a study conducted by Moghavvemi, Mei, Phoong, & Phoong (2021) revealed that around 82% of Malaysians reported having used Touch 'n Go to make e-payments. Additionally well-liked by Malaysian consumers were Boost and GrabPay, with 66 and 49 percent of respondents, respectively, indicating they had used these online payment services. In Malaysia, Touch n' Go is the most popular e-wallet by far, with far more users than its rivals. This is because Touch n' Go is the sole electronic payment system authorized by the government to be used on Malaysian freeways and toll highways. It was initially launched in 1997. In comparison to other Malaysian e-wallet providers, Touch n' Go had the highest brand recognition in 2021 due to its extensive usage over more than 20 years, which included usage on parking meters and in public transit (Statista, 2023).

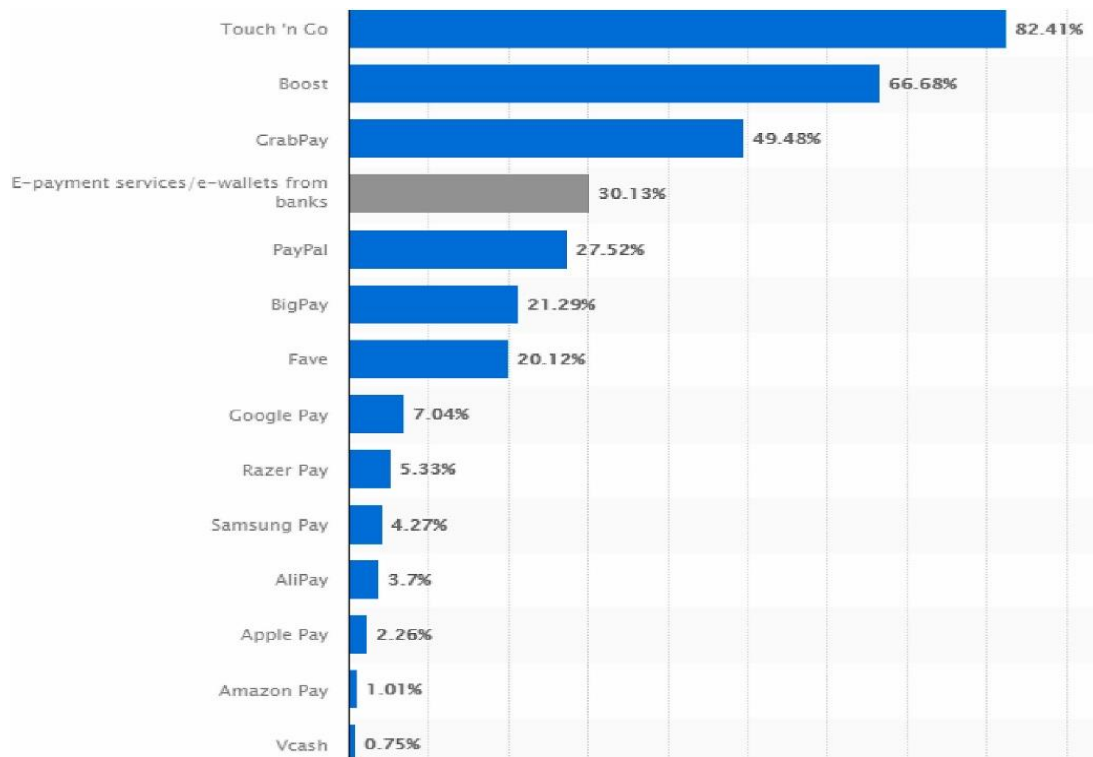


Figure 1: Services used by Malaysians to make e-payments in 2020 (Moghavvemi et al., 2021).

1.2 Target Respondent

According to Karim, Ulfy, Hossain, Haque, and Anis (2020), a teenager is a person between the ages of 13 to 18, while 19-39 year olds are considered as young adults. According to Tuner (2015), millennials are those who were born between 1981 to 1997, while those who are part of Generation Z are born after 1997. These generations, who represent young adults, were raised in the age of emerging technologies. Additionally, young adults between the ages between 18 years old to 24 years old are more possibly as those in other age groups to make a purchase on a mobile device (Jung, Kwon, and Kim, 2020). In addition, young adults, particularly those from Generation Z and the millennial generation, are drawn to smartphone-based mobile payments because of their simplicity and usability, as well as their strong dependence on smartphones and desire for straightforward payment options. The rapid use of digital payment systems across a range of industries is being driven by these tech-savvy generations, who are eager to adopt new technologies (Purwanto, Sjarief, Dawan, Kurniawan, Pertiwi, & Zahra, 2023). In this study, young adults were selected as the target respondent group since they are more likely to use mobile payments than other age groups.

Furthermore, focusing only on one particular payment system makes it more realistic to examine young adults' intentions to use mobile payment. Given that QR technology is employed by the majority of mobile payment in use in Malaysia, this research has decided to concentrate solely on this particular system. Thus, the goal of this research is to analyze young adults' intention to use mobile payment in Malaysia specifically with QR mobile payment systems.

1.3 Research Problem

During the Covid-19 pandemic, many criminals used cutting-edge technology to adapt their criminal ways, according to Jamil, Sanusi, Yaacob, Isa, and Tarjo (2022). There were a lot of illegal funds collected with the use of new technology. A PricewaterhouseCoopers (2020) report cited by Jamil et al. (2021) indicates that cybercrime is one of the top four financially threatening crimes in Malaysia and Southeast Asia. In this way, young adults' intention to use mobile payments is strongly affected by perceived risk. Wong and Mo (2019) found that approximately 76% of Hong Kong residents refused to shop online. The considerable risk is the reason for this.

On the other hand, cybercrime, including data theft, is also increasing. According to Muharram, Suhaimi, & Marcus (2022), around 13,000 accusations of cybercrime were filed in 2019, resulting in losses of around RM539 million. There were 17,000 cases reported in 2020. With a total loss of RM560 million, the total amount of cases increased to almost 20,000 in 2021. As of February 2022, 3,273 cases with losses of RM114 million had been reported in Malaysia (Muharram et al., 2022). One of Malaysia's key worries is cyber security, which is understandable given the dramatic rise in complaints of online crimes. According to Muharram et al. (2022), consumers are less inclined to try out mobile payment when they have a impression that the provider does not have credibility. Hence, perceived trust is a key factor, and the goal of this research is to examine how perceived trust influences young adults' intentions to use mobile payments in Malaysia.

Another factor that worries consumers when adopting a new system, is its simplicity. As Hajazi et al. (2021) suggest, people will have a greater likelihood to adopt and try mobile payment if they believe mobile payment is friendly and easy to use, comprehend,

and understand. Similarly, someone may decide not to attempt implementing a new system if they believe it to be complicated, complex, or hard to use (Hajazi et al., 2021). This research will therefore using perceived ease of use as one of the independent variables.

Mobile payment adoption may also be hampered by factors other than perceived ease of use, the perceived usefulness of the mobile payment services also affects the intention where prospective users' perceptions of its benefits are taken into consideration. (Hajazi et al., 2021). Using the mobile payment system indeed has many advantages. These advantages include the ability to add more money to the mobile wallet much more quickly and easily than withdrawing cash from an ATM, as well as the ease with which money can be transferred or received from others. In other words, Hajazi et al. (2021) claim that an individual may decide to try using mobile payment services if they believe the new system will offer specific benefits.

It has been the subject of a number of studies examining the intention of using mobile payments. According to a study, Wong, & Mo (2019) are investigating the circumstances around Hong Kong mobile payment on customer intention. Another research from Altounjy et al. (2019) examines the elements affecting retailers in Malaysia about the adoption of mobile payments as an extra transaction option in addition to credit/debit card and cash methods. Further, despite the extensive research on the adoption of mobile payment in other nations, there are few researches that have examined the implementation of mobile payment services in Malaysia. Specifically, there have been a limited number of studies focused on young people's intentions to use mobile payment when they know of the services but not yet utilizing them. Therefore, the study examines the intention of Malaysian young adults to use mobile payments.

1.4 Research Objective

1.4.1 General Objective

In general, the objective of this research is to examine the factors leading Malaysian young adults to use mobile payment. Next, this research will also investigate the connection between the the young adults' intention to use mobile payment, and the independent variables, including perceived risk, perceived trust, perceived ease of use, and perceived usefulness.

1.4.2 Specific Objectives

This research carried out the following specific objectives:

1. To examine the relationship between perceived risk and the young adults' intention to use mobile payment in Malaysia.
2. To examine the relationship between perceived trust and the young adults' intention to use mobile payment in Malaysia.
3. To examine the relationship between perceived ease of use and the young adults' intention to use mobile payment in Malaysia.
4. To examine the relationship between perceived usefulness and the young adults' intention to use mobile payment in Malaysia.

1.5 Research Questions

1. Does perceived risk significantly influence young adults' intention to use mobile payment?
2. Does perceived trust significantly influence young adults' intention to use mobile payment?
3. Does perceived ease of use significantly influence young adults' intention to use mobile payments?
4. Does perceived usefulness significantly influence young adults' intention to use mobile?

1.6 Significance of Study

This research analyzes the complex variables that influence the intention of young adults in Malaysia to use mobile payment systems, filling in the gap in knowledge that currently exists. It is anticipated that the results will offer financial institutions, legislators, and mobile payment service providers insightful information. In doing so, the study hopes to support the nation's efforts to create a more functional and inclusive digital financial environment.

This study concentrates on the viewpoint of young adults, who are crucial to Malaysia's shift to a cashless society. Comprehending their perspectives can aid the government in formulating efficient policies and tactics to ensure a smooth transition. Conversely, this research has the potential to provide valuable insights for financial institutions and

mobile payment companies. These organizations may improve their services and make mobile payments more enticing and user-friendly by understanding the preferences of young adults with relation to trust, usability, and convenience of use.

The study advances the understanding of how young individuals use and adjust to new technologies, especially in relation to mobile payments. This research finding improves the understanding of young adults living in the digital era. In other words, this research aims to gain a better understanding of attitudes of young Malaysians toward mobile payments for the benefit of the government, private sector, and broader society. Through acquiring this insight, numerous parties may shape policies and services that correspond with their requirements, enabling a more seamless shift towards a digital future for all.

1.7 Conclusion

An overview of this study is described, and it gives a guideline for researcher to develop framework. Furthermore, research problem as well as the four of the independent variables that will impact the young adults' intention to use mobile payment in Malaysia also explained.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

A brief discussion of the underlying theories will be presented in this chapter. As a next step, variables will be reviewed in order to determine which variables will be used. Afterwards, a proposal will be presented for a theoretical/conceptual framework. Finally, this study will develop hypotheses that will be the basis of its findings.

2.1 Underlying Theories

2.1.1 Extended Technology Acceptance Model

According to Davis (1989), the Technology Acceptance Model (TAM) is adapted from the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior by Fishbein and Ajzen (1980), and Ajzen (1991) respectively. As Davis (1989) argued, the model defines perceived usefulness and perceived ease of use as beliefs about how technologies affect individuals' beliefs about using them. According to this model, individuals' perceptions of usefulness and ease of use are the most significant considerations that determine their acceptance of a technology (Agag and El-Masry, 2016).

The perceived ease of use and the perceived usefulness of information systems impact people acceptability and intention to use such services (Davis, 1989). Additionally, perceived usefulness is how much an individual perceives that a particular system will enhance his performance at work (Davis, 1989). On the other hand, perceived ease of use is the belief that adopting a particular practice will save time and effort (Davis, 1989). Researchers have discovered that the TAM can be used to estimate a wide variety of technologies, including mobile banking apps (Muñoz-Leiva, Climent-Climent, & Liébana-Cabanillas, 2017), NFC payment (Liébana-Cabanillas et al., 2017), e-payments (Acheampong et al., 2017), and mobile wallets (Kumar et al., 2018). Consequently, the TAM is used in this study as the main model for analyzing young adults' intentions for mobile payments.

Nevertheless, the TAM model may not adequately show how consumer attitudes toward mobile payments are influenced. The TAM model should be further strengthened by the inclusion of a few additional variables to determine its appropriateness (Jaradat, 2013). Several studies have been conducted using the extended TAM model, including adoption of information technology (Kim, 2012; Chen and Teng, 2013), mobile payment adoption (Chandra, Srivastava, & Theng, 2010; Chen, 2008; Keramati, Taeb, Larijani, & Mojir, 2011). Furthermore, other research expanded the model by adding more variables, either separately or from different theories. These variables included compatibility (Kim & Qu, 2014), trust and perceived risk (Kesharwani & Bisht, 2012; Featherman & Pavlou, 2003; Pavlou, 2003), and self-efficacy (Hernandez, Jimenez & Martín, 2009; Davis & Venkatesh, 1996).

Based on Pavlou's (2003) study of consumer acceptance of electronic commerce. According to Pavlou (2003), online transactions are highly dependent on trust and risk because Internet transactions are open and global in nature. Further, Pavlou (2003) argues that consumer-marketer transactions are

driven by the notion of trust. The high level of uncertainty and risk involved in online transactions makes trust increasingly important. In e-commerce, trust is crucial for capturing consumer behavior. Consumer behavior is also likely to be affected by perceived risk in B2C e-commerce. The Extended TAM model incorporates trust and perceived risk because they are essential constructs in uncertain times (Pavlou, 2003). Meanwhile, Kesharwani & Bisht (2012) studied how perceived risk and perceived trust impact Internet banking adoption in India. This study uses the Extended Technology Acceptance model and explains that with the increasing number of cyberattacks, consumers are increasingly concerned about their security when using online services.

Thus, based on the preceding statement, the goal of this study is to incorporate perceived trust and perceived risk into the TAM. In this study, an enhanced version of TAM is utilized to determine young individuals' intentions to use mobile payments in Malaysia. Additional components derived from different innovation adoption theories are also included, and mobile payment adoption studies have validated them as meaningful constructs that improve TAM's predictive value. Aside from perceived usefulness and perceived ease of use, additional constructs such as perceived risk and perceived trust have been incorporated into extended TAM model.

2.2 Review of Variables

2.2.1 Behavioral Intentions

Individual intentions can be defined as actions directed toward a specific goal (Zhao, et al., 2010). Additionally, behavior intentions are defined by Ajzen (1988) as the probability of reaching a desired outcome in a specified time. Furthermore, intention also includes how a person is going to act in the future (Fishebein & Ajzen, 1975). According to Wang, Sun, Lei, & Toncar (2009), attitudes and beliefs predict behavioral intentions. The relationship between attitude and behavior is often explained by intention (Huang, Lee, & Ho, 2004), and a negative attitude can also lead to poor intentions (Stevenson, Bruner, & Kumar, 2000). Therefore, behavioral intentions in this research can be referred to the decision to do something in the future.

Tahar, Riyadh, Sofyani, and Purnomo (2020) carried out a research that examined the effect of on citizens' intentions to adopt e-filing, with a intervening variable which is the information technology preparedness. The research uses Armed Forces of Indonesia and taxpayers as the primary data. In addition, a total of one hundred and fifty surveys were handed out and 126 were processed and analyzed. The hypotheses were tested using multiple linear regression and path analysis.

Another study by Jaradat (2013) examines the variables that impact the adoption of mobile voting. The study examines how smartphones are used in educational settings and what expectations and intentions university students have about mobile voting. Furthermore, an empirical test was conducted on the proposed model with data from a survey consisting of 30 items. The results

stated except for perceived price level, the remaining variables includes perceived usefulness, trust, security and privacy, perceived ease of use, compatibility, and subjective norm have a substantial impact on students' behavioral intentions.

Researchers Jung et al. (2020) examined the determinants that motivate and discourage U.S. adoption of mobile payments. In the study, data from an online survey with a sample size of 327 respondents was analyzed using descriptive statistics as well as multiple regression analysis. The study found that U.S. consumers' perceptions of social influence, performance expectancy, trust, knowledge, and compatibility heavily influence their intentions to use mobile payment services. Among the variables, the performance expectancy of mobile payment services was most influential on their intent to use them. Consequently, behavioral intention has been used extensively as a dependent variable for predicting consumer behavior in many studies.

2.2.2 Perceived Risk

The perception of risk can be defined as the feeling that a product or service may result in negative consequences. Essentially, it can be defined as "the combination of uncertainty and seriousness of the outcome" (Bauer, 1967), or "the expectation of loss associated with a purchase" (Peter and Ryan, 1976). This study defines perceived risk as feeling uncertain, uncomfortable, anxious, and conflicted.

Perceived risk will be used as one of the variables affecting young adults' intention to use mobile payments. The reason being it can serve as an important obstacle to the adoption of new technologies. It is possible young individual may not intend to try mobile payments if they perceive it as risky. By understanding and mitigating perceived risks, mobile payments can be accepted and adopted more widely in Malaysia.

As an independent variable, perceived risk has been used extensively in existing studies. A study conducted by Marakanon, & Panjakajornsak (2017) examined how perceived risk affects customer loyalty to environmentally friendly electronics. In order to analyze the data collected for this study, structural equation modeling and confirmatory factor analysis were used. This study found a direct correlation between perceived risk and customer loyalty.

Next, an analysis of perceived risks by Tandon, Kiran, & Sah (2017) was conducted to determine whether it affected customer satisfaction in India. Using the Unified theory of acceptance and use of technology 2 (UTAUT2), the study empirically validated different aspects of perceived risk. According to the study, perceived risk negatively affects customer satisfaction.

Additionally, Zhang and Yu (2020) explore consumer cross-platform buying behavior in China by conceptualizing and analyzing perceived risk. A sample size of 366 people participated in this study through an online questionnaire. According to the results of this study, cross-platform purchasing behavior is positively influenced by customers' perceptions of product effects and perceived services.

2.2.3 Perceived Trust

Trust is defined as multidimensional rather than unidimensional (McKnight, Choudhury, Kacmar, 2002). Besides, in the case of Internet commerce, trust is important as both parties' willingness to cooperate after recognizing their possible losses and taking into account their features (Gefen and Straub, 2004). In an interactive environment, interaction between two parties is a crucial factor in creating trust (Gefen & Straub, 2004). Therefore, the composition of trust differs based on different interactions, such as online banking as well as online shopping (Merhi, Hone, Tarhini, 2019; Moghavvemi, Mei, Phoong, & Phoong, 2021). The perceived trust in this study relates to the subjective belief that is held by an individual in another individual's competence.

As trust in mobile payments affects spending patterns and economic behavior, perceived trust is an important consideration in this study. When users feel confident in the security and reliability of mobile payment systems, they are more likely to use them.

According to Masrek, Mohamed, Daud, & Omar (2014), mobile banking satisfaction is primarily impacted by trust in mobile networks. As a result, if mobile communication service providers cannot maintain consistent network services, customers' trust in mobile networks will be affected, resulting in lower user satisfaction (Masrek et al. 2014).

There are more previous studies used perceived trust as one of their constructs. Studies from Kim, Lee, Chun (2011) and Kim, Rao & Ferrin (2008) examined loyalty and purchase decisions using perceived trust, respectively.

2.2.4 Perceived Ease of Use

As Fleischman & Pavlou (2003) describe it, perceived ease of use is the degree to which prospective users feel their target system will be easy to use. As per Venkatesh, Thong, & Xu (2012), perceived ease of use can be defined as the amount of effort, time, and energy it takes to use a technological system. Furthermore, perceived ease of use can also refer as "the degree of ease associated with the usage of a system" (Al-Saedi, Al-Emran, Ramayah, & Abusham, 2020). In this research, this independent variable perceived ease of use can be described as someone's ability to use a specific technology without much effort.

In this study, it is critical to investigate perceived ease of use since it helps minimize barriers to access for technology beginners. If mobile payment systems are straightforward and user-friendly, those who are unfamiliar with digital technologies are more likely to feel at ease using them.

In a previous study by Ali, & Warraich (2023), 222 university students from public sector universities were asked about their perceived ease of use when it came to personal information management. To analyze the data, a PLS modeling technique was used. It has been shown that perceived ease of use impacts finding, relocating, and organizing information significantly.

In addition, a study by Pham, Le, & Trang (2021) examined the student online learning outcomes with perceived ease of use during Covid-19. A convenience sampling method with detailed questionnaires was used to gather 404 responses from students in Ho Chi Minh City using quantitative research methods.

2.2.5 Perceived Usefulness

As defined in a business environment, perceived usefulness is the perception of a user that he or she is likely to achieve better results by utilizing a particular application system (Davis et al., 1989, p. 985). Besides, Venkatesh et al. (2012) stated the degree to which one believes this technology will contribute to their work performance is called perceived usefulness. It is believed there is a greater likelihood of users using new technologies regularly because of its advantages, such as productivity, convenience, and speed (Lian & Li, 2021). Essentially, perceived usefulness in this study describes how a technology affects an individual's life quality.

The perceived usefulness of mobile payments will be one of the constructs used in this research to understand how it affects young adults' intention to use them. It is essential to articulate the value proposition of the mobile payments based on their perceived usefulness. When users understand mobile payments' practical benefits and value, they will be more likely to see mobile payments as valuable tools.

According to Arbaugh (2000), students' attitudes toward their course experience will be enhanced if they perceive the electronic medium to be useful. An Australian university conducted a quantitative study with 720 responses from online course students. In the empirical study, perceived usefulness was found to positively affect student satisfaction.

Additionally, Dzandu, Boateng, Agyemang, & Quansah (2016) examined social media adoption by using perceived usefulness. The majority of respondents, who were mostly youth, were selected by convenience sampling. An analysis of the data was conducted using multiple regression. Results indicate that perceived usefulness influences social media adoption significantly. As indicated in these studies, perceived usefulness is an important construct to examine.

2.3 Proposed Theoretical/Conceptual Framework

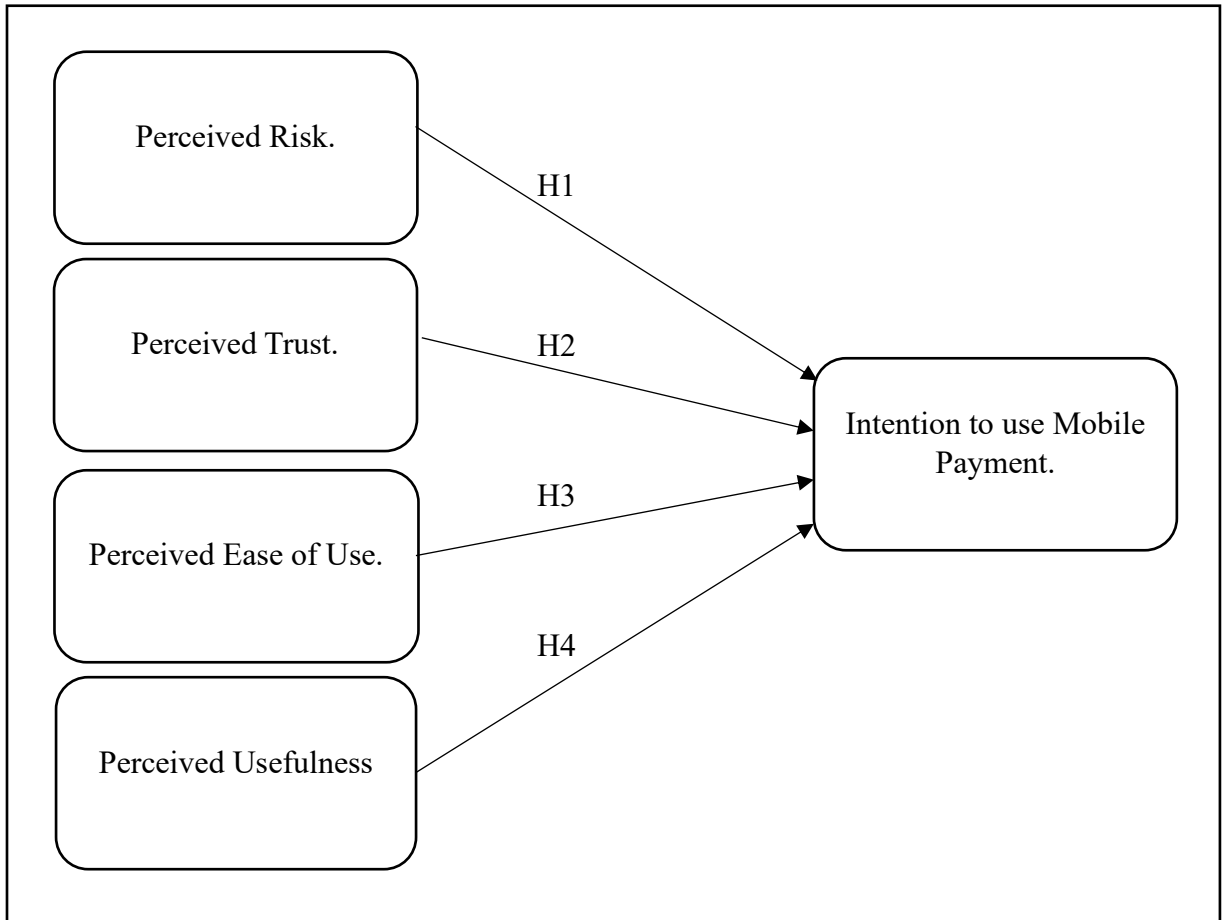


Figure 2: Conceptual Framework

An illustration of the conceptual framework utilized in this research can be observed in the figure above which includes perceived trust, perceived risk, perceived usefulness, and perceived ease of use as the independent variables as well as the intention to use mobile payments as the dependent variable.

2.4 Hypothesis Development

2.4.1 Perceived Risk and the Intention to use Mobile Payment

Featherman (2003) stated that perceived risk is higher when loss expectations are higher. As uncertainty increases, mobile payment usage will be perceived as more risky. Khalilzadeh, Ozturk, & Bilgihan (2017) report that unauthorized use is the biggest threat for mobile payment users, transaction errors, privacy leaks, and mobile device communication reliability. According to previous research (Khalilzadeh, et al., 2017; Pham, & Ho, 2015), perceived risk directly influences users' decisions about adopting mobile payment services.

In a previous study by Kesharwani & Bisht (2012), perceived risk played an important role in influencing Internet banking adoption behaviors, and Tan and Lau (2016) indicate that perception of risk negatively impacts the Malaysian consumers adoption intention to utilize mobile banking services. Besides, previous research has shown that mobile payments are significantly influenced by perceptions of risk (Khalilzadeh, Ozturk, Bilgihan, 2017; Yang, Lu, Gupta, Cao, Zhang, 2012). Due to the sensitive nature of financial information involved in mobile payments, uncertainties regarding security may inhibit adoption (Zeng & Cleon, 2018).

When it comes to mobile banking, higher risk perception can deter people from adopting this technology, as demonstrated by Sohail & Al-Jabri (2014), who found that non-users perceive mobile banking at a higher risk level than regular users. An additional study by Al-Jabri & Sohail (2012) found out that mobile banking adoption is negatively affected by perceived risk.

In contrast, in a study by Malik & Annuar (2021), Malaysian youth aged 18-30 were examined in terms of their intention to use e-wallets. Data was collected through an online questionnaire, with 251 respondents. According to the results, the intention to use e-wallets is not directly impacted by perceived risk. In another study, Altounjy et al. (2020) found that from the merchant's standpoint, the perceived risk does not affect the merchant's decision to adopt mobile payments. Therefore, it is hypothesized that:

H1: There is a significant relationship between perceived risk and young adults' intention to use mobile payment.

2.4.2 Perceived Trust and the Intention to use Mobile Payment

It is inevitable that consumers will experience some level of risk when shopping online (Kim et al., 2008). As a result, they are betting on the unpredictable nature of the future and the behavior of others, such as perhaps trustworthy web suppliers, or undiscovered technology. The concept of trust becomes more relevant when consumers are faced with uncertain situations (Luhmann, 2000). The ability to trust one's fellow man becomes essential when one has to deal with uncertain and uncontrollable circumstances. It is more difficult to trust other people's actions when these actions are unknown or unknowable, according to Gambetta (1988).

Previously, a study by Slade, Williams, Dwivedi, and Piercy (2015) demonstrated that consumers' usage intentions were influenced by trust related to mobile payment providers. While another study by Al-Saedi et al. (2020), trust is built upon the reliability and safety of mobile payment service providers.

A growing number of studies have examined adoption intentions in the context of trust. McKnight, Choudhury, and Kacmer (2002) studied the impact of trust on usage intentions of websites. In addition, Gefen and colleagues (2003) found a positive correlation between trust and intention to use. For Pavlou (2002), the study demonstrates that consumers' attitudes are significantly influenced by trust, resulting in more positive behavioral intentions through reduced risk. Last but not least, Zhou (2013) argues that consumer behavior and intentions toward mobile phones are influenced by trust regardless of mobile security risks.

Although trust and purchase intention have been researched extensively, the results have been inconsistent. Several studies in social commerce have found a reverse relationship between trust and purchase intention (Chen, Lu, Wang, & Pan, 2019; Lal, 2017; Wang & Herrando, 2019). In addition, Mejia-Delgado, & Paredes (2023) showed that trust dispositions and purchase intentions had no significant relationship. Similarly, Bianchi & Andrews (2012) found no significant effect of Chilean consumers' trust on their online purchase intentions. As a result, the hypothesis will be:

H2: There is a significant relationship between perceived trust and young adults' intention to use mobile payment.

2.4.3 Perceived Ease of Use and the Intention to use Mobile Payment

According to Venkatesh, James, & Xu (2012), mobile payment users do not intend to spend much time and effort using it. Despite the positive attributes and benefits of user acceptance of technology, its ease of use must also be considered. Technology that is not difficult to use can strengthen consumers' intentions to use it (Venkatesh, James, & Xu, 2012).

Researchers have found that perceived ease of use contributes to mobile payment adoption intentions the most (Alalwan, Dwivedi, Ranalt, 2017; Kim, Mirusmonov, Lee, 2010). Moreover, Alalwan et al (2017) stated that mobile payment services are expected to be more attractive to users if they are easier to use. A number of studies have shown that perceived ease of use has a substantial effect on behavioral intentions when it comes to using mobile payments (Alalwan et al., 2017; Abrazhevich, 2001; Chong, 2013).

According to Islam, Abid, & Ahmer (2020), intentions to adopt mobile payments are directly affected by perceived ease of use. Additionally, studies from Koenig-Lewis, Marquet, Palmer, & Zhao (2015); Teo, Tan, Ooi, & Lin (2015) highlighted that perceived ease of use impacts individuals' use of mobile payments. However, studies by Slade, Dwivedi, Piercy, & Willaims (2015); Phonthanakitithaworn et al. (2016); Oliveira, Thomas, Baptista, & Campos (2016) found that it does not appear perceived ease of use has any significant effect on intentions to use mobile payment services. Hence, this study examines whether young adults in Malaysia perceive ease of use as influencing their intention to use mobile payments. The next hypothesis of this research is as follows:

H3: There is a significant relationship between perceived ease of use and young adults' intention to use mobile payment.

2.4.4 Perceived Usefulness and the Intention to use Mobile Payment

People are most possibly to try mobile payment if they find them useful (Hongxia, Xianhao, Weidan, 2011; Alalwan et al., 2017). It has been suggested by several studies that perceived usefulness affects behavior intentions toward mobile payments (Hongxia et al., 2011; Chong, 2013).

According to Koenig-Lewis et al. (2015), a research about young French people using mobile payment. In the research, perceived usefulness played a significant role in explaining their intention to utilize mobile payments. Next, the research findings of Slade et al. (2015) also indicate a strong correlation exists between perceived usefulness and intention to use mobile payments among UK individuals. Besides, Shaw (2014) stated that perceived usefulness has a direct and major impact on the behavioral intention to use digital payments. It became clear that individuals would use the system if they perceived the mobile payment to be useful in their daily lives.

It has been found, however, in studies conducted by Anggraini & Rachmawati (2019); Phonthanukitithaworn, Sellitto, & Fong (2016), there is no significant impact of perceived usefulness on behavioral intentions. To address this contradiction, this research attempts to analyze the impact of perceived

usefulness on young adults' intentions to use mobile payments in Malaysia. This led to the following hypothesis:

H4: There is a significant relationship between perceived usefulness and young adults' intention to use mobile payment.

2.5 Conclusion

This chapter provided the literature review of the research, and the framework of this research was adopted from other relevant theoretical models. Then, hypothesis of this research was also developed.

CHAPTER 3: METHODOLOGY

3.0 Introduction

First, the research design is covered in this chapter. Then, sampling design will also be addressed in this chapter. Following that, data collection method will also be discussed. Lastly, the research's data analysis tool will be included in this chapter.

3.1 Research Design

Research design is the process of translating conceptual concerns into relevant and feasible empirical findings. It provides precise guidance for research procedures (Creswell, 2009). The researcher follows a step-by-step procedure before beginning the data collection and analysis process to ensure that the research objective is met. Research design essentially aims to transform a research problem into data that can be studied in order to provide pertinent answers to research questions with the least amount of financial outlay. According to Kerlinger (1986), research design is a strategy, structure, and plan that aims to answer research questions with the most efficient use of variables.

In this research, descriptive research will be selected. In descriptive research, facts and characteristics are described systematically and accurately about a given population or area. In addition, Dulock (1993) argued that descriptive research provides an accurate account of the characteristics of individuals, situations, or groups.

Furthermore, the term "quantitative research design" describes methods and approaches that yield distinct or quantifiable results (Kothari, 2007). In order to collect data, empirical observations and measurements are used. Besides, time and planning are required for these methods. In quantitative research, responses are always closed-ended. A quantitative research approach is regarded as an analytical method of conducting research. A quantitative research approach was chosen for this study as it will collect data using online questionnaires about young adults' intentions to use mobile payments in Malaysia.

3.2 Sampling Design

According to Yates (2004), sampling is the process of selecting respondents. The population refers to all entities, whether they be countries, regions, organizations or groups of people who share similar characteristics (Bryman and Bell, 2007). Nevertheless, it is not feasible to study the entire Malaysian population, because of its complexity and time requirements. Hence, this study will use a sample of Malaysian young adults between 19 and 39, regardless of whether they are males or females.

3.2.1 Target Population

The target population is known as the group of people that the research aims to study and make conclusions from (Rao & Beckingham, 2013). In this research, the target population will be young adults in Malaysia, including both females and males that aged between 19 and 39. In other words, individuals who express an interest in using mobile payments and those who have already conducted

transactions using mobile payments in Malaysia will be included in the target population.

3.2.2 Sampling Technique

A sample is defined as a tiny subset of a population that has been selected to portray the greater population, according to Dawson & Trapp (2004). There are two types of samples: "Probability" samples and "Non-probability" samples. Acharya, Prakash, Saxena, & Nigam (2013) note that probability sampling allows investigators to generalize results to the target population. In contrast, probability sampling is more complex, involves more time, and is more expensive. Thus, the non-probability sampling technique will be utilized in this research. Non-probability samples have an unknown selection probability that leads to selection bias (Acharya et al, 2013). Convenience sampling as well as snowball sampling are one of the most typical utilized techniques.

In most cases, convenience sampling is utilized as a sampling technique. This is where the researcher chooses the sample according to their convenience. Respondents are more often selected because they happen to be in that particular place in that moment in time. This method has the advantage of being the most commonly utilized, less costly, and does not require a complete list of population elements. There are, however, several limitations to convenience sampling, including the inability to measure or control variability and bias (Acharya et al, 2013).

On the other hand, for the snowball sampling technique, the few first participants and respondents are selected by random methods. Then the other additional participants are gathered by information provided by the first few respondents. Snowball sampling, according to Goodman (2011), is a technique specifically intended to estimate the statistically significant social structure within an identified group of study.

In this research, snowball sampling was applied. The target respondent for this research, which was carried out in Malaysia, is young adults. Because of the challenges in reaching the respondents, the survey was done online via snowball sampling. In particular, friends and family were the first people to receive the questionnaire. Then, the questionnaire was repeatedly distributed to the other participants by the family and friends. With the use of this method, the study can receive an adequate amount of responses in a short period.

3.2.3 Sample Size

Hair, Ringle, and Sarstedt (2011) state that the minimum sample size should be ten times the number of formative indicators used to measure a single construct or ten times the number of structural paths in the structural model that are targeted at a specific latent construct. There will be eighteen survey statements in this study. There will be eighteen survey statements in this study. Therefore, 180 will be the sample size when this 10 times rule is used. Essentially, a minimum of 180 questionnaires will be gathered for the purpose of this study.

3.3 Data Collection Methods

3.3.1 Primary Data

Hox, & Boeije (2005) define primary data as those collected specifically for the current research question, using methods that are most appropriate for the study topic. A self-administered questionnaire was the most appropriate method for this study, as it was quick, easy, and inexpensive to use. A total of 216 questionnaires were distributed to young adults between the ages of 19 and 39. Moreover, the survey questionnaires place a great deal of emphasis on protecting the privacy of data provided by participants.

3.3.2 Secondary Data

Secondary data is data that was initially collected for one purpose and then used for another (Hox, & Boeije, 2005). Secondary data is used in this study to construct the literature review to enhance readers' understanding. Additionally, secondary data provides an easier way to determine connections between variables. Following the formulation of hypotheses based on prior research, these hypotheses will be analyzed and validated upon the collection of survey data related to this research.

3.4 Research Instruments

According to Oben (2021), a research instrument is a methodical, scientific technique that is used to gather, evaluate, and comprehend data about the study's objectives and alignment. In this research, a self-administered questionnaire was given to the young adults target group. According to Rowley (2014), questionnaires are one of the most commonly utilized methods of data collection, and many researchers in many different backgrounds and fields link their research with questionnaires. Questionnaires offer the advantage of contacting and getting responses from a large number of people across a wide range of locations (Rowley 2014). Therefore, in this study, the survey questionnaire was distributed and shared online with the intended respondents. This questionnaire was developed using Google Forms since it made it easy to contact the intended respondents.

3.4.1 Questionnaire Design

There are three main sections of the survey questionnaire ranging from strongly disagree to strongly agree, and they will be developed using a Likert scale.

In section A, respondents are asked 4 general questions regarding the usage and familiarity of mobile payment services in Malaysia. These general questions are here to act as a filter question which is to ensure that the data collected only consists of young adults who are using mobile payments in Malaysia and eliminate respondents who are not using mobile payments in Malaysia.

In section B, this section will be about construct measurements. This section will include questions that relate to all 4 independent variables as well as 1 dependent variable. The independent variables will be perceived risk, perceived trust, perceived ease of use, and perceived usefulness, while the dependent variable will be the intention to use mobile payment. Each question in this section is on a Likert scale to allow respondents to select the most appropriate statement. Based on the data collected, each variable is examined in relation to the others.

In section C, respondents are asked about their demographic profile. This is related to their personal information such as gender, age group, ethnicity, education level, and monthly income. It is through the collection of these demographic data that a deeper and broader understanding is gained of the research issue as well as its implications for different groups of people.

3.4.2 Pilot Test

The purpose of a pilot test is to simulate the methods and procedures that will be used on a larger scale (Porta, 2008). An important goal of conducting a pilot study is to determine whether an approach is feasible for use in a larger-scale study. All types of research studies must comply with these guidelines (Leon, Davis, & Kraemer, 2011).

In order to evaluate the validity and reliability of questionnaire questions, a pilot test is conducted before a large-scale survey can be conducted. As part of the pilot test, the clarity of the questions was assessed, as whether the instrument

was capturing the intended information and whether important aspects had not been overlooked. As a result of the feedback, the questionnaire was revised, refined, and enhanced. For this study, Cronbach's Alpha was used to determine the instrument's reliability. Below is Table 3.1, which shows the Cronbach Alpha coefficient's level of acceptance.

Table 3.1 Rules of Thumb about Cronbach Alpha Coefficient

Cronbach's Alpha	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Source: Sharma (2016).

For this study, 60 questionnaires were distributed and collected during the pilot test. 58 responses were valid out of the 60 questionnaires collected, while 2 responses were invalid. IBM Statistical Package for the Social Sciences (SPSS) version 29.0 was used to calculate the Cronbach Alpha from the data collected from all 58 respondents. Pilot test results are shown in the table below.

Table 3.2 Results of the Pilot Test

Variables	Cronbach Alpha	No. of items	Strength
Intention to use Mobile Payment	0.742	3	Acceptable
Perceived Risk	0.821	4	Good
Perceived Trust	0.744	4	Acceptable
Perceived Ease of Use	0.711	3	Acceptable
Perceived Usefulness	0.736	4	Acceptable

3.5 Construct Measurement

3.5.1 Origin of Constructs

Table 3.3 Origin of Constructs

Constructs	Original	Modified	Source
Intention to use mobile payment.	<ol style="list-style-type: none"> 1. I intend to use the mobile payment system in the future. 2. I expect that I will use the mobile payment system in my daily life. 3. I expect to use the mobile payment system frequently. 	<ol style="list-style-type: none"> 1. I intend to use the mobile payment system in the future. 2. I expect that I will use the mobile payment system in my daily life. 3. I expect to use the mobile payment system frequently. 	(Al-Saedi et al., 2020)

<p>Perceived Risk</p>	<p>1. In general, I believe that using m-payment to conduct a payment transaction will be risky.</p> <p>2. I believe that there will be high potential for loss associated with using m-payment (for instance, loss of my financial details to thieves).</p> <p>3. I believe that there will be too much uncertainty associated with using m-payment (for instance, money does not get through to the received due to a network problem).</p> <p>4. I believe that using m-payment will involve many unexpected problems (for instance, overcharging from merchants or credit card providers).</p>	<p>1. In general, I believe that using mobile payment to conduct a payment transaction will be risky.</p> <p>2. I believe that there will be high potential for loss associated with using mobile payment (for instance, loss of my financial details to thieves).</p> <p>3. I believe that there will be too much uncertainty associated with using mobile payment (for instance, money does not get through to the received due to a network problem).</p> <p>4. I believe that using mobile payment will involve many unexpected problems (for instance, overcharging from merchants or credit card providers).</p>	<p>(Phonthanukitithaworn et al., 2016)</p>
<p>Perceived Trust</p>	<p>1. Mobile payment system is trustworthy.</p> <p>2. I believe that all the transactions data are confidential.</p> <p>3. I believe that I would get an immediate confirmation message when the transaction is completed.</p> <p>4. I would expect that the mobile payment system to be reliable</p>	<p>1. Mobile payment system is trustworthy.</p> <p>2. I believe that all the transactions data are confidential.</p> <p>3. I believe that I would get an immediate confirmation message when the transaction is completed.</p> <p>4. I would expect that the mobile payment system to be reliable</p>	<p>(Al-Saedi et al., 2020)</p>

<p>Perceived Ease of Use</p>	<p>1. I believe that when I use m-payment, the process will be clear and understandable.</p> <p>2. I believe that it is easy for me to become skillful at using m-payment.</p> <p>3. I believe that m-payment is easy to use.</p>	<p>1. I believe that when I use mobile payment, the process will be clear and understandable.</p> <p>2. I believe that it is easy for me to become skillful at using mobile payment.</p> <p>3. I believe that mobile payment is easy to use.</p>	<p>(Shankar & Datta, 2018)</p>
<p>Perceived Usefulness</p>	<p>1. Using m-payment would enable me to pay more quickly.</p> <p>2. Using m-payment makes it easier for me to conduct transactions.</p> <p>3. Using m-payment would be advantageous.</p> <p>4. I would find m-payment a useful possibility for paying.</p>	<p>1. Using mobile payment would enable me to pay more quickly.</p> <p>2. Using mobile payment makes it easier for me to conduct transactions.</p> <p>3. Using mobile payment would be advantageous.</p> <p>4. I would find mobile payment a useful possibility for paying.</p>	<p>(Shankar & Datta, 2018)</p>

3.6 Proposed Data Analysis Tool

In this study, IBM Statistical Package for the Social Science (SPSS) version 29.0 was used for developing and evaluating both the measurement and the structural model. The latest version offers easy-to-use features. The flexibility and scalability of IBM SPSS make it accessible to users with varying levels of expertise.

3.6.1 Descriptive Analysis

This study used descriptive statistics to illustrate the possible influences on the intention of young adults to use mobile payment services and to draw useful inferences about this development. A descriptive statistic can be used to summarize collected data in a simple manner. An analysis of descriptive data is one of the types of statistical analysis carried out before conducting more complicated models or tests. Describes and characterizations of the data are applied to summarize the data (Pagano, 1990). A descriptive analysis is generally used to measure a data's frequency distribution and central tendency, according to Thompson (2009). Frequency distribution describes how frequently certain data occur based on a particular categorization. A descriptive analysis is conducted in this study to analyze the demographic profile of the respondents from Section C.

3.6.2 Inferential Analysis

3.6.2.1 Pearson's Correlation Coefficient

Pearson's correlation coefficient (r) measures an association between two variables (Weisburd, Britt, Wilson, & Wooditch, 2020). According to Weisburd et al (2020), Pearson's coefficient of correlation (r) is widely used as a method for measuring linear correlation. Using this method, the scores of subjects are compared relative to the mean, and an estimate is made of whether the scores move together or in opposite directions. This study will use Pearson's correlation analysis to assess the strength and direction of the linear relationship between variables to identify potential relationships between dependent and independent variables. Table 3.4 shows Pearson's Correlations and their absolute ranges.

Table 3.4 Class of Pearson Correlation and absolute ranges of values

Class	Range – Absolute Value
Not correlated / Very weak	< 0.1
Weak	0.1 to 0.2
Moderate	0.2 to 0.5
Strong	> 0.5
Very Strong	> 0.5

Source: Mohamad, Asman, Mirasa, Saad, Bolong, Steven, C.& Siti Noorain (2021).

3.6.2.2 Multiple Regression Analysis

Multiple regression analysis is a statistical method for analyzing the relationship between two or more variables. Using multiple regression, an explanation is provided by a dependent variable and several independent variables that are thought to lead to or contribute to the change in the dependent variable (Rubinfeld, 2000). An analysis of multiple regression is performed in order to analyze the topic and understand the relationships among the variables. This method can be used to predict a variable's importance using another variable.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \dots + \beta_kX_k + \varepsilon$$

Source: Ngo, & La Puente (2012)

The multiple regression analysis for this study is as follows:

$$\text{Intention to use Mobile Payment} = \beta_0 + \beta_1(\text{Perceived Risk}) + \beta_2(\text{Perceived Trust}) + \beta_3(\text{Perceived Ease of Use}) + \beta_4(\text{Perceived Usefulness}) + \varepsilon$$

3.7 Conclusion

Quantitative as well as the descriptive research are utilized in this research. Then, primary and secondary data are used to collect the data. Before the actual data collection, a pilot test was carried out. Lastly, this study adopted the Pearson's Correlation and the Multiple Regression Analysis to measure the association between the variables.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

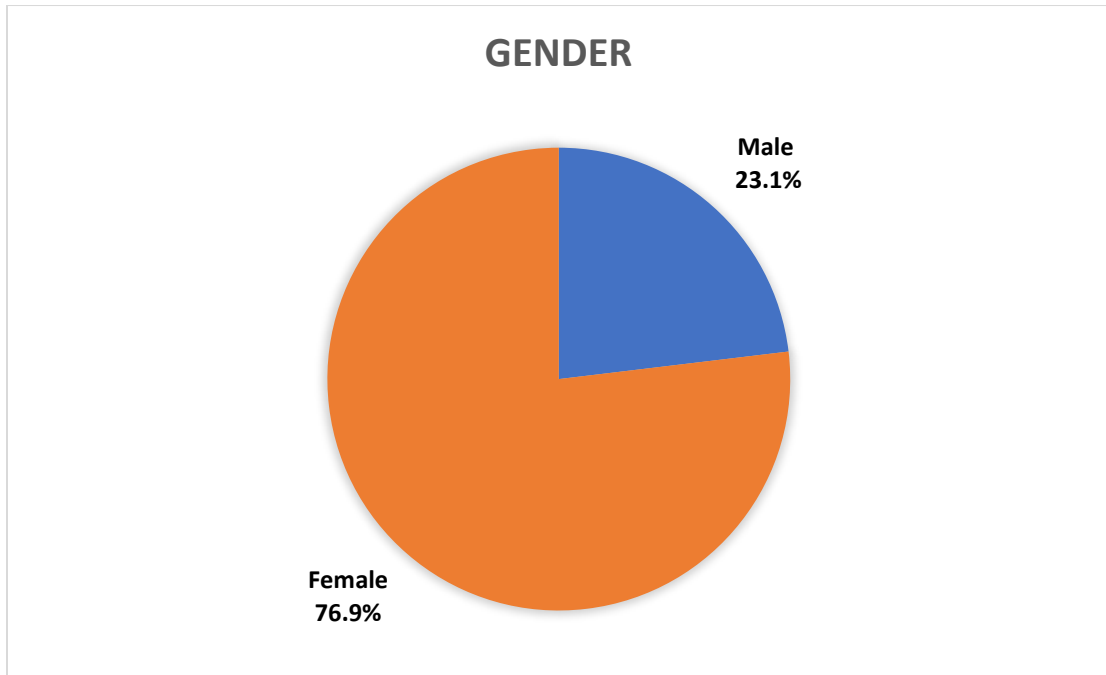
This chapter will be intended to focus on the discussion in this chapter will focus on the descriptive analysis. Then, this chapter will also be presenting the inferential analysis. There are 216 responses were collected. However, only 208 responses are usable, the remaining 8 responses are rejected because there respondents do not use mobile payment, and they have no intention of using mobile payment

4.1 Descriptive Analysis

4.1.1 Respondent General Information & Demographic Profile

In this section, it will include the respondent's general information as well as the demographic profile. The general information will include 4 questions which are the respondents' experience with mobile payment, familiarity with different mobile payment services, preferences of mobile payment platforms, and the frequency of using mobile payment. For the demographic question, it will contain 5 questions which include gender, age, education level, ethnicity, and monthly income.

Figure 4.1: Gender



Source: Developed for the research

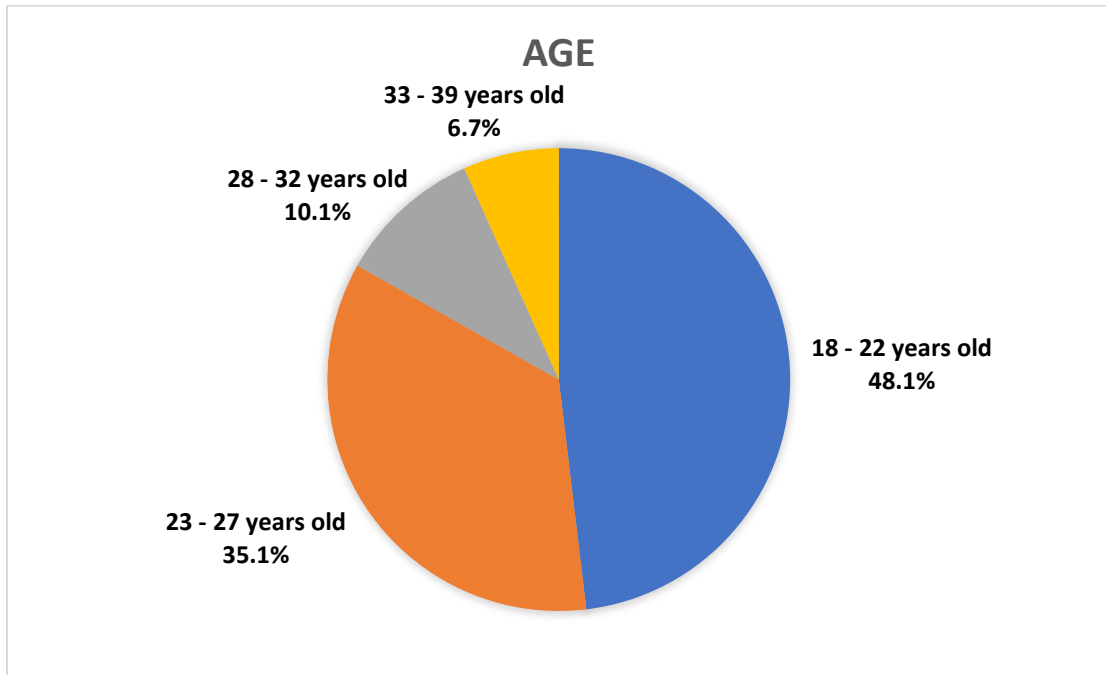
Table 4.1: Gender

	Frequency	Percentage
Female	160	76.9
Male	48	23.1
Total	208	100

Source: Developed for the research

As shown above, the percentage of female participants is 76.9%, while the percentage of male participants is 23.1%.

Figure 4.2 Age



Source: Developed for the research

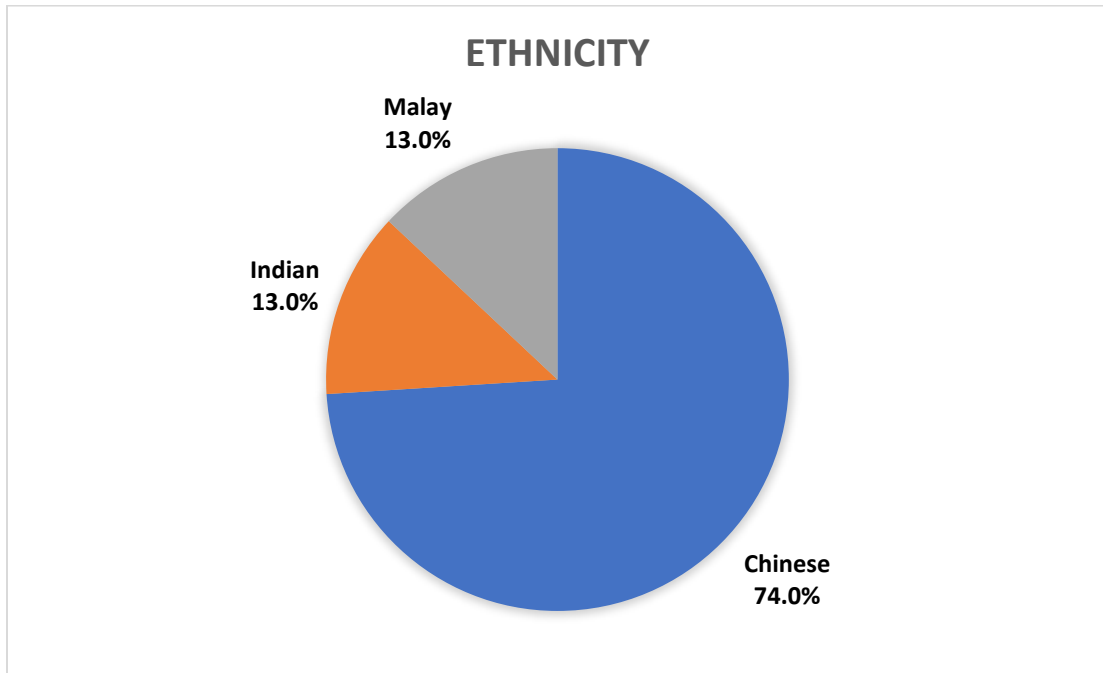
Table 4.2: Age

	Frequency	Percentage
18 – 22 years old	100	48.1
23 – 27 years old	73	35.1
28 – 32 years old	21	10.1
33 – 39 years old	14	6.7
Total	208	100

Source: Developed for the research

Information above stated that the age group of 18 – 22 years old has the highest percentage with 48.1%. The second highest percentage will be 35.1% for the age group of 23 – 27 years old. Then it is followed by 10.1% for the age group of 28 – 32 years old. The lowest will be at 6.7% for the age group of 33 – 39 years old.

Figure 4.3: Ethnicity



Source: Developed for the research

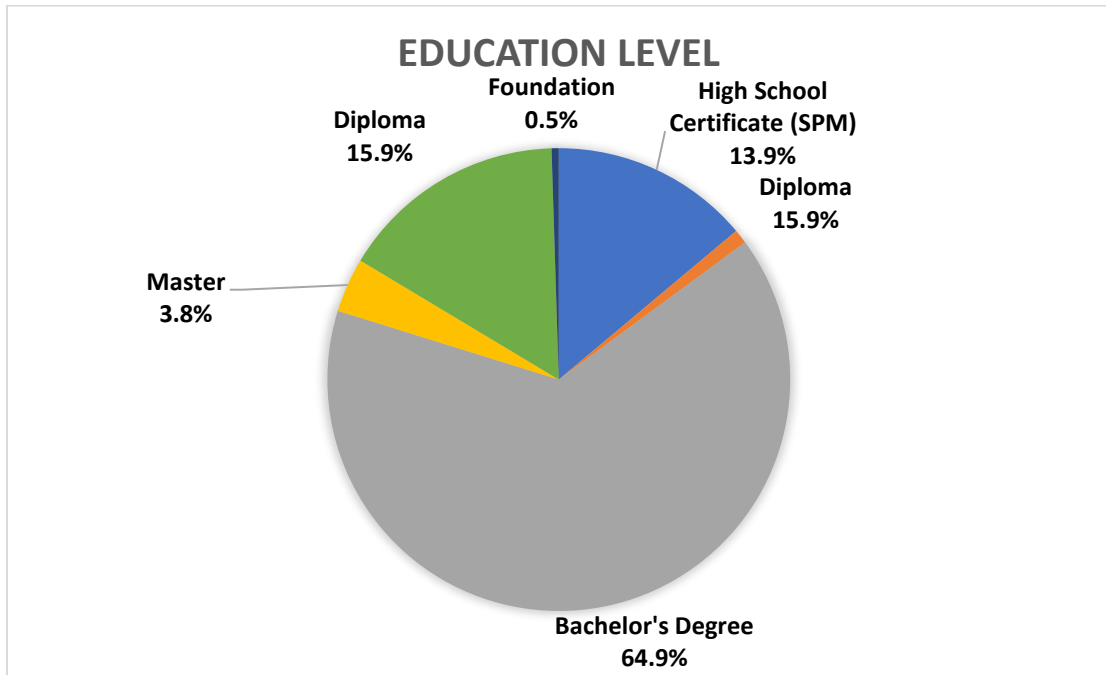
Table 4.3: Ethnicity

	Frequency	Percentage (%)
Chinese	154	74.0
Indian	27	13.0
Malay	27	13.0
Total	208	100

Source: Developed for the research

There are 74% of Chinese respondents in Figure 4.3 and Table 4.3, which is the highest percentage among the three groups of respondents. In contrast, the Indian and Malay respondents shared the same response percentage with 13%, with both races receiving 27 responses.

Figure 4.4: Education Level



Source: Developed for the research

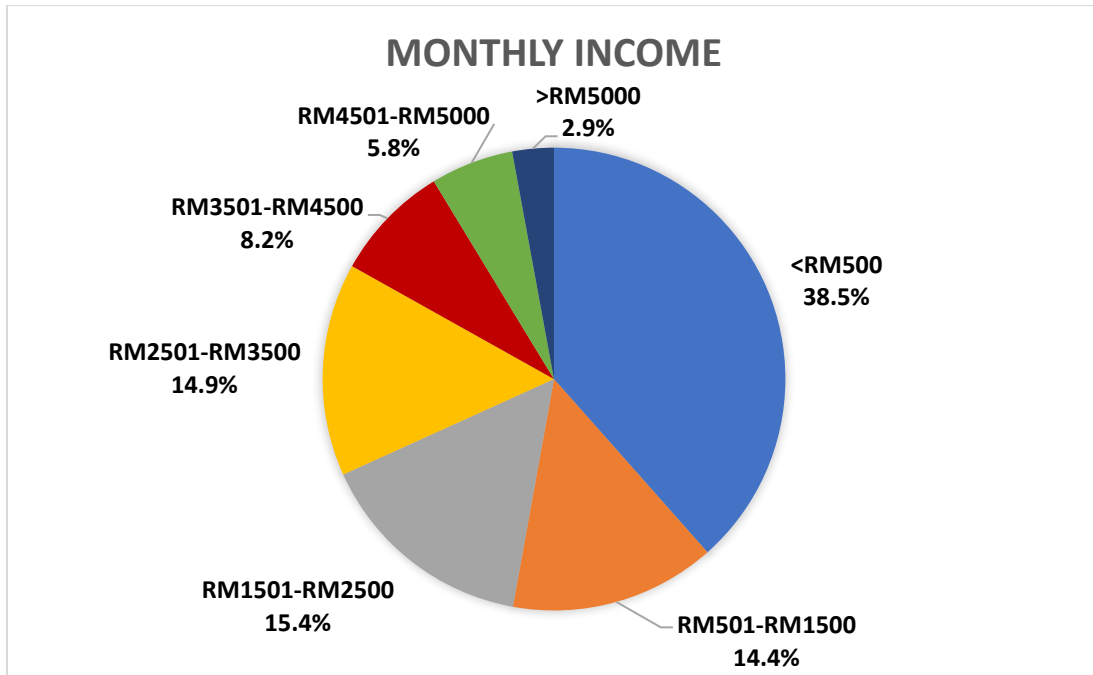
Table 4.4: Education Level

	Frequency	Percentage
Bachelor's degree	135	64.9
Diploma	33	15.9
Foundation	1	0.5
High School Certificate (SPM)	29	13.9
Master	8	3.8
STPM	2	1.0
PhD (Doctorate)	0	0
Total	208	100

Source: Developed for the research

The data above illustrate that the majority of respondents have Bachelor's degrees, with a percentage of 64.9% (135 respondents). While the lowest level is a PhD, none of the respondents have a PhD (Doctorate) education level. Others include SPM with a percentage of 13.9% (29 respondents), Diploma with 15.9% (33 respondents), Master with a percentage of 3.8% (8 respondents), Foundation with 0.5% (1 respondent), and STPM with a percentage of 1% (2 respondents).

Figure 4.5: Monthly Income



Source: Developed for the research

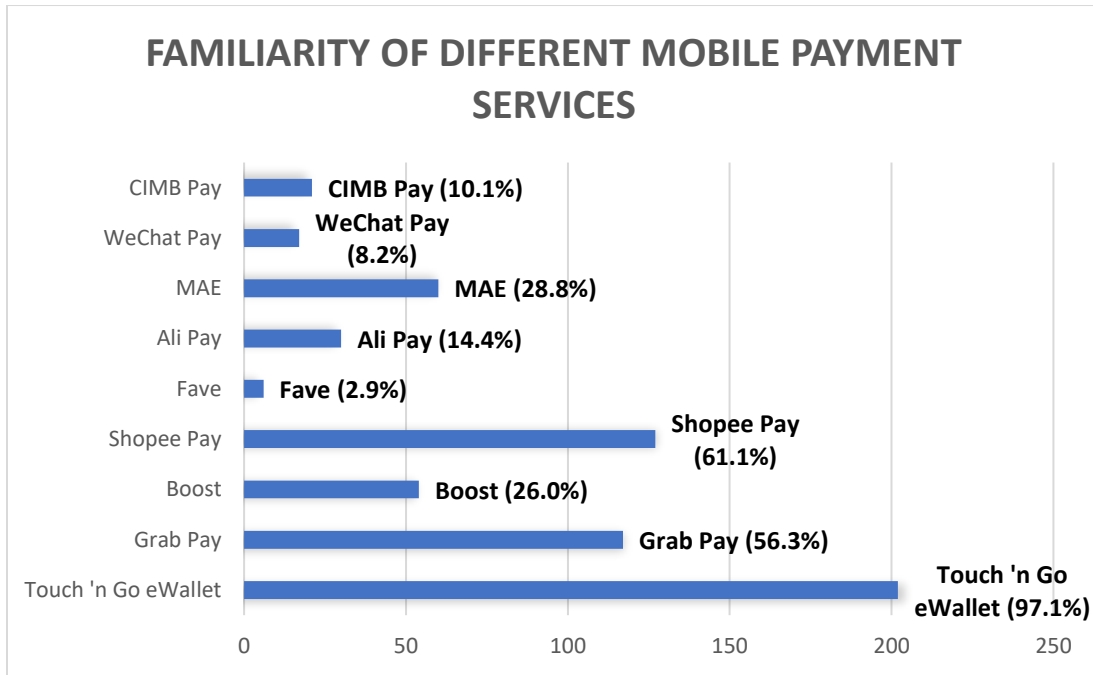
Table 4.5: Monthly Income

	Frequency	Percentage
<RM500	80	38.5
RM501-RM1500	30	14.4
RM1501-RM2500	32	15.4
RM2501-RM3500	31	14.9
RM3501-RM4500	17	8.2
RM4501-RM5000	12	5.8
>RM5000	6	2.9
Total	208	100

Source: Developed for the research

Data above indicate that the highest respondents have an income that is less than RM500, with 38.5% of respondents. The second highest at 15.4% of respondents have a monthly income between RM1501 to RM2500. The lowest number of respondents have monthly incomes that are higher than RM5000, at just 2.9%. Meanwhile, 14.4% of respondents have a monthly income between RM501 to RM1500, 14.9% of respondents have a monthly income between RM2501 to RM3500, 8.2% of respondents have a monthly income between RM3501 to RM4500, and just 5.8% of respondents have a monthly income that between RM4501 to RM5000, which is the second lowest.

Figure 4.6: Familiarity of Different Mobile Payment Services



Source: Developed for the research

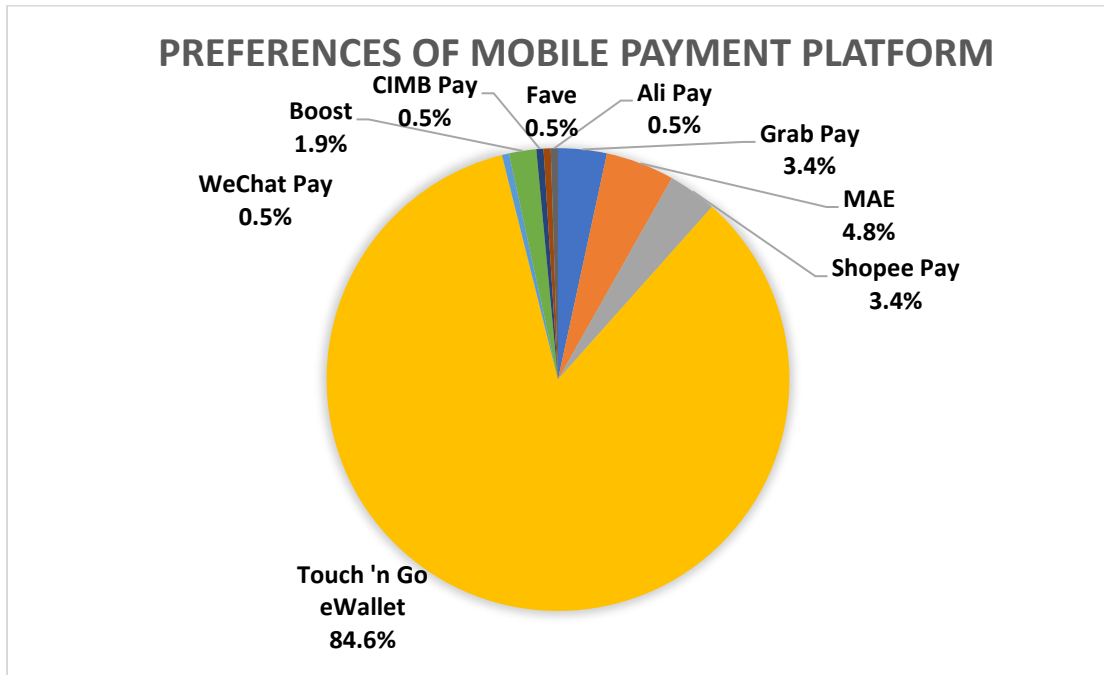
Table 4.6: Familiarity of Different Mobile Payments Services

	Frequency	Percentage
Touch 'n Go eWallet	202	97.1
Grab Pay	117	56.3
Boost	54	26.0
Shopee Pay	127	61.1
Fave	6	2.9
Ali Pay	30	14.4
MAE	60	28.8
WeChat Pay	17	8.2
CIMB Pay	21	10.1
Total	634	

Source: Developed for the research

Figure 4.6 and Table 4.6 illustrate that 202 respondents are familiar with Touch 'n Go eWallet, which is the highest at 97.1%. The second highest is Shopee Pay at 61.1%, which is 127 respondents. Grab Pay is in third place with 56.3% of respondents that are familiar with the platform. Then, it is followed by MAE with 28.8% of respondents. Subsequently, 26% of respondents were familiar with Boost, followed by Ali Pay at 14.4%, and CIMB Pay at 10.1%. WeChat Pay ranked second lowest at 8.2%, which is why only 17 respondents are familiar with the platform, and Fave has the lowest pick rate with only 2.9% of respondents being familiar with it.

Figure 4.7 Preferences of Mobile Payment Platform



Source: Developed for the research

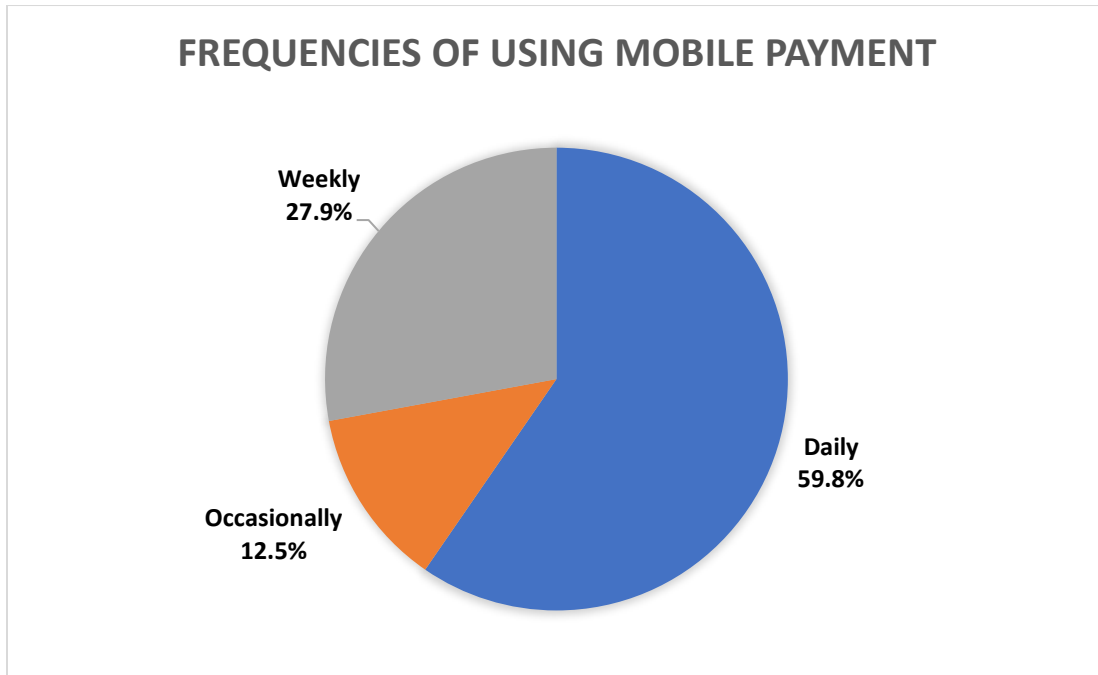
Table 4.7: Preferences of Mobile Payment Platform

	Frequency	Percentage
Ali Pay	1	0.5
Boost	4	1.9
CIMB Pay	1	0.5
Fave	1	0.5
Grab Pay	7	3.4
MAE	10	4.8
Shopee Pay	7	3.4
Touch 'n Go eWallet	176	84.6
WeChat Pay	1	0.5
Total		

Source: Developed for the research

Figure 4.7 and Table 4.7 show that Touch n'Go eWallet has the highest percentage at 84.6%. The second highest is MAE at 4.8%, which means 10 respondents prefer using MAE. Shopee Pay and Grab Pay both have the same percentage of 3.4% respectively. Then, it is followed by Boost with a percentage of 1.9%. Next, Ali Pay, CIMB Pay, Fave, and WeChat Pay all share the same percentage with 0.5% respectively, which is the lowest.

Figure 4.8: Frequencies of using Mobile Payment



Source: Developed for the research

Table 4.8: Frequencies of using Mobile Payment

	Frequency	Percentage (%)
Daily	124	59.6
Occasionally	26	12.5
Weekly	58	27.9
Total	208	100

Source: Developed for the research

Based on Figure 4.8 and Table 4.8, there are 59.6% of respondents use mobile payment daily, which is the highest among the three. Meanwhile, the second highest is at 27.9%, 58 respondents use mobile payment weekly. The lowest is at 12.5% which is 26 respondents who use mobile payment occasionally in their lives.

Table 4.9: Descriptive Statistics

	N	Mean	Std. Deviation	Variance	Ranking
Perceived Risk	208	12.8558	3.72851	13.902	5
Perceived Trust	208	15.0962	2.74705	7.546	4
Perceived Ease of Use	208	12.4471	2.23003	4.973	3
Perceived Usefulness	208	16.7740	2.85256	8.137	2
Intention to use Mobile Payment	208	12.8702	2.39110	5.717	1
Valid N	208				

Source: Developed for the research

Based on Table 4.9, perceived usefulness has the highest mean out of all the variables at 16.7740. The second will be perceived trust with a mean of 15.0962. Next, intention to use mobile payment ranked third where it has a mean value of 12.8702. Then, it is followed by perceived risk with a mean value of 12.8558. Lastly, perceived ease of use has the lowest mean at just 12.4471.

4.2 Scale Measurement

4.2.1 Reliability Test

Table 4.10: Reliability Test

No.	Constructs	Cronbach's Alpha	Number of Items	Ranking
1.	Perceived Risk	0.840	4	3
2.	Perceived Trust	0.723	4	5
3.	Perceived Ease of Use	0.824	3	4
4.	Perceived Usefulness	0.862	4	2
5.	Intention to use Mobile Payment	0.882	3	1

Source: Developed for the research

Based on Table 4.10, all 4 independent variables as well as 1 dependent variable exceed Cronbach's Alpha of 0.7, which means that all the variables are reliable. Intention to use mobile payment with 3 items has the highest Cronbach's Alpha among all the other variables with a value of 0.882. Then, the variable with the second highest Alpha value is perceived usefulness, with a value of 0.862. Then, the perceived risk with 4 items ranked third place with the Cronbach's Alpha value of 0.840. It is then followed by perceived ease of use, with only 3 items, and an alpha value of 0.824. Lastly, perceived trust with 4 items ranked the lowest among all the others with an alpha value of just 0.723.

4.3 Inferential Analysis

4.3.1 Pearson Correlation Analysis

Table 4.11 Pearson Correlation Analysis

		Correlations				
		Perceived Risk	Perceived Trust	Perceived Ease of Use	Perceived Usefulness	Intention to use Mobile Payment
Perceived Risk	Pearson Correlation	1	-.024	.067	.072	.037
	Sig. (2-tailed)		.730	.336	.302	.591
	N	208	208	208	208	208
Perceived Trust	Pearson Correlation	-.024	1	.541**	.506**	.520**
	Sig. (2-tailed)	.730		<.001	<.001	<.001
	N	208	208	208	208	208
Perceived Ease of Use	Pearson Correlation	.067	.541**	1	.737**	.791**
	Sig. (2-tailed)	.336	<.001		<.001	<.001
	N	208	208	208	208	208
Perceived Usefulness	Pearson Correlation	.072	.506**	.737**	1	.777**
	Sig. (2-tailed)	.302	<.001	<.001		<.001
	N	208	208	208	208	208
Intention to use Mobile Payment	Pearson Correlation	.037	.520**	.791**	.777**	1
	Sig. (2-tailed)	.591	<.001	<.001	<.001	
	N	208	208	208	208	208

** Correlation is significant at the 0.01 level (2-tailed)

Source: Developed for the research

Table 4.11 shows that the correlation of the independent variables such as perceived trust, perceived ease of use, and perceived usefulness are significant at 0.01 level (2-tailed) toward the intention to use mobile payment. In this research, perceived ease of use has the highest level toward the intention to use mobile payment with r value of 0.791. Then, perceived usefulness has a r value of 0.777. It is then followed by perceived trust, and the r value is 0.520. The lowest will be perceived risk where the r value is only at 0.037. This indicates that perceived ease of use has the strongest association with the intention to use mobile payment, while perceived risk has the weakest association with the intention to use mobile payment. In this Pearson Correlation Analysis, perceived risk is insignificant because the sig value is above 0.05, while the remaining independent variables including perceived trust, perceived ease of use, and perceived usefulness are significant because sig values are below 0.05.

4.3.2 Multiple Regression Analysis

Table 4.12: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.844 ^a	.712	.706	1.29646
a. Predictors: (Constant), Perceived Usefulness, Perceived Risk, Perceived Trust, Perceived Ease of Use				
b. Dependent Variable: Intention to Use Mobile Payment				

Source: Developed for the research

Table 4.12 indicates that the *r* square mentioned above is 0.712. This indicates that the four independent variables (perceived risk, perceived trust, perceived ease of use, and perceived usefulness) contribute to 71.2% of the variance in the intention to use mobile payments. This means that 71.2% can be explained by the independent variables, whereas only 28.8% cannot be explained by four of the independent variables. Hence, additional variables might exist to explain and influence the intention to use mobile payment among young adults in Malaysia.

Table 4.13: ANOVA

ANOVA ^a						
Model		Sum of Square	df	Mean Square	F	Sig
1	Regression	842.290	4	210.572	125.280	<.001 ^b
	Residual	341.205	203	1.681		
	Total	1183.495	207			
a.	b. Dependent Variable: Intention to use Mobile Payment					
c.	d. Predictors: (Constant), Perceived Usefulness, Perceived Risk, Perceived Trust, Perceived Ease of Use					

Source: Developed for the research

Table 4.13 shows that the F value is 125.280 and the significant value is <0.01. The significant value is less than 0.05 which indicates that all of the 4 independent variables which are perceived risk, perceived trust, perceived ease of use, and perceived usefulness have crucial meaning towards the dependent variable which is the intention to use mobile payment.

Table 4.14: Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	St. Error	Beta		
1	(Constant)	.344	.671		.512	.609
	Perceived Risk	-.013	.024	-.021	-.552	.581
	Perceived Trust	.057	.040	.066	1.435	.153
	Perceived Ease of Use	.487	.062	.455	7.804	<.001
	Perceived Usefulness	.344	.048	.410	7.222	<.001
a. Dependent Variable: Intention to Use Mobile Payment						

Source: Developed for the research

Based on Table 4.14, perceived risk has an unstandardized coefficient of -0.013. This indicates that the perceived risk and the intention to use mobile payment have a negative relationship. Intention to use mobile payment will decrease by 0.013 if perceived risk increases by 1 unit while other variables are unchanged. Next, perceived trust has an unstandardized coefficient of 0.057. This means that with 1 unit of perceived trust increase, the intention to use mobile will also increase by 0.057. Moreover, perceived ease of use has an unstandardized coefficient of 0.487. This indicated that with the increase of 1 unit in the perceived ease of use, the intention to use will also increase by 0.487. Lastly, perceived usefulness has an unstandardized coefficient of 0.344. If perceived usefulness increases by 1 unit while other independent variables remain unchanged, the intention to use mobile payment will increase by 0.344.

Next, a larger standardized coefficient beta value will relate to a bigger t -value. Based on the table above, perceived ease of use has the biggest coefficient beta value at 0.455 as well as the biggest t -value at 7.804. This indicates that perceived ease of use has the biggest impact on the intention to use mobile payment. Moreover, perceived usefulness has the second-highest standardized beta of 0.410, and the t -value is 7.222. It is then followed by the perceived trust with a standardized beta of 0.066 and a t -value of 1.435. Lastly, perceived risk is the only variable with a negative standardized beta value at -0.021 and a negative t -value of -0.552.

On the other hand, based on Table 4.14, perceived risk and perceived trust have insignificant p -values that are above 0.05. On the other hand, perceived ease of use and perceived usefulness show a significant relationship with the intention to use mobile payment as the significant value is below 0.05.

4.3.3 Hypothesis Testing

Hypothesis 1

H0: There is no significant relationship between perceived risk and the young adults' intention to use mobile payment in Malaysia.

H1: There is a significant relationship between perceived risk and the young adults' intention to use mobile payment in Malaysia.

Reject H0, if $p \text{ value} > 0.05$

The significant value of perceived risk is 0.581 stated in Table 4.14. Hence, the significant value is higher than the p -value of 0.05. This means that H0 will be accepted while H1 will be rejected. This shows that there is no significant relationship between perceived risk and young adults' intention to use mobile payment in Malaysia.

Hypothesis 2

H0: There is no significant relationship between perceived trust and the young adults' intention to use mobile payment in Malaysia.

H2: There is a significant relationship between perceived trust and the young adults' intention to use mobile payment in Malaysia.

Reject H0, if $p \text{ value} > 0.05$

The significant value of perceived trust is 0.153 stated in Table 4.14. Hence, the significant value is higher than the p -value of 0.05. This means that H_0 will be accepted while H_2 will be rejected. This shows that there is no significant relationship between perceived trust and young adults' intention to use mobile payment in Malaysia.

Hypothesis 3

H_0 : There is no significant relationship between perceived ease of use and the young adults' intention to use mobile payment in Malaysia.

H_3 : There is a significant relationship between perceived ease of use and the young adults' intention to use mobile payment in Malaysia.

Reject H_0 , if p value > 0.05

The significant value of perceived ease of use is <0.001 stated in Table 4.14. Hence, the significant value is lower than the p -value of 0.05. This means that H_0 will be rejected while H_3 will be accepted. This shows that there is a significant relationship between perceived ease of use and young adults' intention to use mobile payment in Malaysia.

Hypothesis 4

H0: There is no significant relationship between perceived usefulness and the young adults' intention to use mobile payment in Malaysia.

H4: There is a significant relationship between perceived usefulness and the young adults' intention to use mobile payment in Malaysia.

Reject H0, if $p \text{ value} > 0.05$

The significant value of perceived usefulness is <0.001 stated in Table 4.14. Hence, the significant value is lower than the p -value of 0.05. This means that H0 will be rejected while H4 will be accepted. This shows that there is a significant relationship between perceived usefulness and young adults' intention to use mobile payment in Malaysia.

4.4 Conclusion

In this chapter, the demographic as well as the general information of the respondents has been interpreted in the descriptive analysis on section 4.1. Furthermore, reliability test has also been conducted where it shows all the variables are reliable. Inferential analysis has been calculated to test the significance relationship between independent as well as the dependent variables. After the analysis, perceived risk and perceived trust are not significant to the intention to use mobile payment, whereas perceived ease of use and perceived usefulness are significant.

CHAPTER 5: DISCUSSION, CONCLUSION, & IMPLICATIONS.

5.0 Introduction

This chapter will summarize the statistical analyses performed in the research. The major findings of this study will also be discussed in this chapter. In the following section, management implications will be discussed. Last but not least, recommendations, as well as the limitations of the research will also be discussed.

5.1 Summary of Statistical Analysis

5.1.1 Descriptive Analysis

There are 216 responses collected for this research. However, only 208 responses were accepted while the remaining 6 responses were rejected. Based on the information gathered for this study, most of the respondents are female with a percentage of 76.9%. Furthermore, respondents aged between 18 – 22 years old have the highest percentage at 48.1% for this research. Meanwhile, Chinese make up most of the respondents with a percentage of 74%. Moreover, 64.9% of the participating respondents hold a education level Bachelor's degree. Finally, most of the respondents' income levels are less than RM500 per month at 38.5%.

As for general information, 97.1% of those who responded are familiar with the Touch 'n Go mobile payment services. Also, 84.6% of respondents stated that Touch 'n Go eWallet is their preferred choice when using mobile payment. Furthermore, as for the frequency of using mobile payment, 59.8% of the respondents use mobile payment daily in their lives.

5.1.2 Scale Measurement

All of the 18 items in this study have been conducted with the reliability test. The dependent variable which is the intention to use mobile payment has the highest alpha value at 0.882. Then, perceived usefulness ranked second with an alpha value of 0.862, followed by perceived risk with an alpha value of 0.840. Moreover, perceived ease of use ranked fourth with an alpha value of 0.824. Lastly, perceived trust has the lowest alpha value at just 0.723. Hence, all the alpha values are reliable in this study as Cronbach's Alpha values are above 0.7.

5.1.3 Inferential Analysis

5.1.3.1 Pearson Correlation

Pearson Correlation is to indicate the association between the independent and the dependent variable. Perceived ease of use has the strongest association with the intention to use mobile payment, the r value for the perceived ease of use is at 0.791. Subsequently, perceived usefulness has an r value of 0.777, followed

by the perceived trust with an r value of 0.520. Perceived risk has the weakest association with the intention to use mobile payment, with the r value of just 0.037. In short, the result stated in this Pearson correlation is that perceived risk is insignificant towards the dependent variable, while the other remaining variables which are perceived trust, perceived ease of use, and perceived usefulness are significant towards the dependent variable (intention to use mobile payment).

5.1.3.2 Multiple Regression Analysis

In Multiple Regression Analysis, the independent and dependent variables are tested for positive and negative correlations. Based on Table 4.12, the value r square is 0.712. This means that 71.2% can be explained by the independent variables, whereas only 28.8% cannot be explained by four of the independent variables. Hence, there may be other variables influencing and explaining the intention to use mobile payment among young adults in Malaysia. Based on the table 4.14, the multiple regression equation is formed:

$$\text{Intention} = 0.344 - 0.013 (\text{perceived risk}) + 0.057 (\text{perceived trust}) + 0.487 (\text{perceived ease of use}) + 0.344 (\text{perceived usefulness}).$$

Based on Table 4.14, the regression coefficients of perceived risk, perceived trust, perceived ease of use, and perceived usefulness are -0.013, 0.057, 0.487, and 0.344 respectively. Perceived ease of use has the highest standardized coefficient beta value at 0.455, and the highest t value at 7.804. This indicates that perceived ease of use has the biggest impact on intentions to use mobile payment. Subsequently, perceived usefulness has a standardized beta of 0.410,

and t value of 7.222, followed by perceived trust with a standardized beta of 0.066 and t value of 1.435. Lastly, perceived risk has a negative standardized beta value of -0.021 and a negative t value of -0.552. In this study, the significant values of perceived risk and perceived trust are 0.581 and 0.153 respectively, which is higher than 0.05. Hence, perceived risk and perceived trust have an insignificant relationship towards the intention to use mobile payment, whereas perceived ease of use has a significant relationship towards the intention to use mobile payment as the significant values are lower than 0.05. H3 and H4 will be accepted in this study.

5.2 Discussions of Major Findings.

Table 5.1: Summary of Research Objectives, Hypothesis and Results.

Research Objectives	Hypothesis	Results	Achieved
To examine the relationship between perceived risk and the young adults' intention to use mobile payment in Malaysia.	There is a significant relationship between perceived risk and the young adults' intention to use mobile payment in Malaysia.	$t = -0.552$ ($P > 0.05$) $P = 0.581$	No

<p>To examine the relationship between perceived trust and the young adults' intention to use mobile payment in Malaysia.</p>	<p>There is a significant relationship between perceived trust and the young adults' intention to use mobile payment in Malaysia.</p>	<p>$t = 1.435$ $(P > 0.05)$ $P = 0.153$</p>	<p>No</p>
<p>To examine the relationship between perceived ease of use and the young adults' intention to use mobile payment in Malaysia.</p>	<p>There is a significant relationship between perceived ease of use and the young adults' intention to use mobile payment in Malaysia.</p>	<p>$t = 7.804$ $(P < 0.05)$ $P = <0.01$</p>	<p>Yes</p>
<p>To examine the relationship between perceived usefulness and the young adults' intention to use mobile payment in Malaysia.</p>	<p>There is a significant relationship between perceived usefulness and the young adults' intention to use mobile payment in Malaysia.</p>	<p>$t = 7.222$ $(P < 0.05)$ $P = <0.001$</p>	<p>Yes</p>

5.2.1 Perceived Risk

The results of the research stated that the significant value is 0.581, which is above the value of 0.05. Therefore, perceived risk and young adults' intention to use mobile payments are not significantly related. H1 is rejected.

Several studies have found an insignificant association between perceived risk and mobile payment intentions. The study by Malik & Annuar (2021) examines the usage intentions of Malaysian youth ages 18-30 when it comes to e-wallets. Based to the results, perceived risk has no impact on the intention to use an e-wallet. Additionally, Altounjy et al. (2020) reported that from a merchant's perspective, the perceived risk does not have a significant influence on their decision to accept mobile payments.

Although perceived risk is generally considered a major factor in the intention to use mobile payments, it can be less influential in certain contexts. While respondents in this study might find mobile payments to be extremely useful and easy to use, they may overlook their perceived risks. Mobile payments can sometimes outweigh concerns about security because of their convenience and efficiency.

Therefore, the research objective and the research question “Does perceived risk significantly influence young adults’ intention to use mobile payment?” were not attained because of the insignificant relationship from the findings.

5.2.2 Perceived Trust

According to Table 4.14, it show that perceived trust has a significant value of 0.153, and the value is bigger than 0.05. Therefore, it can be concluded that perceived trust is not significantly associated with Malaysian young adults' intention to use mobile payments. Hence, H2 is rejected.

The findings of this study are consistent with other studies as well. Many studies in the field of social commerce demonstrate an insignificant relationship between trust and purchase intentions (Chen et al., 2019; Lal, 2017; Wang & Herrando, 2019). In addition, Meja-Delgado & Paredes (2023) found no significant relationship between trust disposition and purchase intentions. Similarly, according to Bianchi, & Andrews (2012), Chilean consumers' propensity to trust was not significant in predicting online purchase intentions.

In this research, participants may not consider perceived trust to be important since the platforms are familiar to them. People may become habituated to using mobile payment systems without overly considering trust factors in regions such as Malaysia where mobile payment systems are deeply embedded into daily life. It is possible that a sense of trust is implicit rather than explicitly evaluated as a result of familiarity with the technology and positive experiences, so perceived trust does not affect the intention to use mobile payments.

Hence, the research objective and the research question of this study “Does perceived trust significantly influence young adults’ intention to use mobile payment?” was not fulfilled due to the insignificant relationship discovered in this study.

5.2.3 Perceived Ease of Use

The result stated that the perceived ease of use has a lower p value than 0.05. The significant value is <0.01 . Young adults' intention to use mobile payment in Malaysia appears to be heavily influenced by perceived ease of use. Hence, H3 will be accepted.

The findings of this research show a significant relationship between perceived ease of use and intention to use mobile payment, are aligned with other studies as well. A study by Islam et al. (2020) discovered that perceived ease of use is related directly to intentions to adopt mobile payments. Furthermore, studies from Koenig-Lewis et al., (2015); Teo et al., (2015) demonstrate a substantial impact of perceived ease of use on mobile payment usage.

According to a study conducted by Abrazhevich (2001) a mobile payment system is simple to use and understand will attract more consumers to try mobile payment in Malaysia. Thus, based on the statement above, it is understandable why respondents in this study believe perceived ease of use is an important factor in their decision to use mobile payment. An easy-to-use system can make the payment process more efficient by saving users time and effort. Mobile payment adoption can be encouraged by this efficiency.

Consequently, the research objective and the research question “Does perceived ease of use significantly influence young adults’ intention to use mobile payment?” were fulfilled.

5.2.4 Perceived Usefulness

As stated above in Table 5.1, the significant value for perceived usefulness is <0.001 . As a result, there is a significant correlation between perceived usefulness and the intention of young adults in Malaysia to use mobile payment services as the significant value is lower than 0.05. Hence, H4 will be accepted in this study.

An individual's perception of the usefulness of mobile payments is very important since it directly influences their intention to use them. Consumers who think mobile payment services are useful are more likely to use them because of the integration with other services. In addition to mobile payments, mobile payment platforms often integrate with other services like parking payments, renewals of road tax and car insurance, and utility bill payments, making them more useful for users. By integrating multiple financial services into a single app or platform, users can streamline their financial activities. Hence, when respondents perceive mobile payment services to be useful, they will be more likely to use them.

Moreover, several researches have shown a significant correlation between perceived usefulness and mobile payment intention. In a study conducted by Koenig-Lewis et al. (2015) concerning mobile payment service users in France, perceived usefulness was found as a significant factor in explaining their intention to use such services. Moreover, a study by Slade et al. (2015) found that perceived usefulness is among the strongest predictors of mobile payment intentions among U.K. individuals. Other studies also stated that the perceived usefulness of mobile payments is also shown to influence behavioral intentions to adopt them (Hongxia et al., 2011; Chong, 2013).

A study from Shaw (2014) suggests that perceived usefulness significantly influences mobile wallet usage decisions. According to the results, individuals would use the system as a result of achieving a desired outcome. Fast transactions can be performed more easily using mobile phones since they are readily available, as participants in the mobile payment scenario indicated. Furthermore, mobile payments offer an opportunity to collect bonuses and benefits, making them more appealing to more users.

Thus, the research objective and research question “Does perceived usefulness significantly influence young adults’ intention to use mobile payment?” was fulfilled because of the significant relationship.

5.3 Implications of Study

In light of these findings, stakeholders involved in the financial service ecosystem, such as mobile payment service providers, marketers, managers, developers of mobile payment systems, and consumers, will gain valuable insights into how mobile payments can be improved. Based on the theoretical implications of this research, perceived trust and perceived risk were successfully integrated into the TAM model. Moreover, the proposed model was able to capture 71.2% of the factors affecting the adoption intentions to use mobile payment systems. Thus, the conceptual framework presented in this research is more effective at describing the intentions generally and mobile payments specifically.

This study found that perceived risk does not affect young adults' intentions to use mobile payment. However, some respondents may still perceive mobile payments as high risks. According to Slade et al. (2015), consumers' perception of risk is based on feelings of uncertainty or anxiety about their behavior and their concerns about possible negative consequences. However, mobile payment service providers can still eliminate end-user concerns by creating a sound banking platform that incorporates good security practices to reduce the risks for users, even though the current study did not find perceived risk to affect end-user intentions to use mobile banking. It is possible to introduce several strategies to prospective users to reduce their risk of using mobile banking in a secure and protected manner.

In this study, perceived trust also has no significant effect on young adults' intention to use mobile payments. Especially young adults who grew up in the digital age may be comfortable and familiar with technology. Consequently, when adopting new digital services, including mobile payments, they might be more concerned with convenience, speed, and novelty than trust. They might put their trust in themselves more than in the

service provider because they are confident in their ability to navigate technology. Nevertheless, marketers can still address minority users' concerns by utilizing effective advertising. Users' security concerns may be reduced by trust-building strategies such as the establishment of certified authorities that test control systems. In addition, managers can also implement strategies that are more focused on establishing trust and improving brand image with consumers by leveraging positive past experiences.

On the other hand, the findings in this research imply that perceived ease of use has the strongest relationship with intention to use mobile payments. Consequently, service providers need to develop technologies that are perceived as being easy to use in order to promote mobile payments. According to Tan, and Lau (2016), mobile payment systems that are perceived as easy to use will be accepted more rapidly by potential users due to the fact that there is little learning required. Providing user-friendly mobile technology features and communicating the tangible benefits of mobile payments through marketing campaigns can enhance perceived ease of use, thus improving the perception of mobile payments.

It has been shown that perceived usefulness is significantly related to intention to use mobile payments. According to Slade et al. (2015), since consumers are likely to use a combination of payment instruments to make purchases, mobile payments must provide a higher realized value in order to compete with other payment methods. Since perceived usefulness is a significant predictor of mobile payment intention, marketers should design their campaigns accordingly. Marketers can use utilitarian messages to emphasize the practical benefits and functionality of their services. Mobile payment systems should also be designed to incorporate unique features, such as proximity and remote payment systems, that enhance their usefulness.

5.4 Limitations of the Study

It should be noted that this research has some limitations. To begin with, this study targets only young adults as its target audience. It is still necessary to use other populations of mobile payment for further generalization of the research findings to other mobile payment users, despite the fact that young adults may represent a large proportion of the mobile payment population. An analysis of mobile payment adoption and usage patterns involving a wide range of age groups, socioeconomic backgrounds, and cultural contexts would provide valuable insights.

Furthermore, this study has the limitation of focusing exclusively on Malaysian mobile payment services' users. The findings of this study may have limited generalizability and external validity since it only focuses on Malaysians. Therefore, the findings may not be applicable to people living in other countries. In addition, this study is restricted to only four independent variables which are perceived risk, perceived trust, perceived ease of use, and perceived usefulness regarding intention to use mobile payment. Intentions to use mobile payment may also be influenced by other variables. Mobile payment services may be perceived and reacted to differently by the same group of individuals from other states or countries. It was found that the proposed model explained 71.2% of the variance in intention to use mobile payments, which indicates that other predictors and moderating factors had not been taken into account. To gain a deeper understanding of mobile payment behavior in Malaysia, future research may consider including other variables.

5.5 Recommendations

In terms of future research recommendations, due to the fact that this study has only been conducted among youths. Expanding the target respondents to older consumers can be an option for future research. Consumers who are older may be more worried about sharing their private information. As a result of their lack of trust, it's likely that older adults will have to devote more time and effort to developing trust in mobile payment platforms. It may be the result of different effects of usage intentions and behaviors.

Furthermore, future studies can utilize a larger sample size, including non-Malaysians. The validity of the study will be enhanced by a larger sample size. Thus, larger sample sizes have the advantage of producing more accurate and reliable results. By collecting more data points, researchers are able to produce more reliable statistical estimates, which reduces the possibility of random variability influencing their results. In this way, researchers can have more confidence in the results of their studies and be able to calculate parameters like mean intention scores or correlation coefficients more precisely.

Alternatively, researchers could add a variable such as perceived enjoyment to the study since there is a limited amount of research in Malaysia using this variable for mobile payment. Researchers could also apply qualitative methodologies in future research to analyze secondary data collected from online communities.

5.6 Conclusion

The main purpose of this research was to explore the key drivers of mobile payment adoption amongst young people. This study makes a contribution by not only adopting the TAM model in the context of mobile payment services, but more importantly extending the model by including perceived risk as well as perceived trust in the study.

As for conclusion, this study hopes to provide some insight and complete the literature which currently exists with regard to perceived usefulness, perceived ease of use, perceive risk, and perceived trust among Malaysian youth toward the intention to use mobile payment.

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APPENDICES

Appendix 3.1: Questionnaire



UNIVERSITI TUNKU ABDUL RAHMAN
FACULTY OF ACCOUNTANCY AND MANAGEMENT
BACHELOR OF INTERNATIONAL BUSINESS (HONOURS)

Young Adults' Intention to Use Mobile Payment in Malaysia.
Survey Questionnaire

The purpose of this survey is to conduct a research to investigate the "Young Adults' Intention to Use Mobile Payment in Malaysia".

All information provided will be assured to keep it private and confidential. The information gathered was used solely for academic purposes.

Instruction:

1. There are THREE (3) sections in this questionnaire. Please answer ALL questions in ALL sections.
2. Completion of this form will take up your 10 to 15 minutes.
3. The contents and responses of this questionnaire will be kept strictly confidential.

Your kind participation and cooperation are greatly appreciated.

Should you have any inquiries, kindly contact:

Name & Student ID: Alvin Chow Mun Sing, 2101733

Email: alvin.ac.ca@utar.my

Section A: General Information

In this section, please read each question attentively. Please *tick* (✓) your answer accordingly or fill in the blanks provided for each question given below. Each question can choose **ONLY ONE** answer.

Q1. Do you use mobile payments?

- Yes
- No (Thank you for your participation)

Q2. Which of the following mobile payments services are familiar to you? (* can choose more than one answer)

- Touch 'n Go eWallet
- Grab Pay
- Boost
- Shopee Pay
- Fave
- Ali Pay
- MAE
- CIMB Pay
- WeChat Pay

Q3. Based on your answer in Q2, which mobile payments services do you use the most?

- Touch 'n Go eWallet
- Grab Pay
- Boost
- Shopee Pay

- Fave
- Ali Pay
- MAE
- CIMB Pay
- WeChat Pay

Q4. How often do you use mobile payments?

- Daily
- Weekly
- Occasionally

Section B: Construct Measurement

This section is seeking your opinion regarding young adults' intention to use mobile payment in Malaysia. Respondents are asked to indicate the extent to which they agreed or disagreed with each statement using Likert scale.

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

For each of the following statements, kindly circle **ONLY ONE** number that represent your opinion the most.

No.	Statements	SD	D	N	A	SA
Perceived Risk						
1.	In general, I believe that using mobile payment to conduct a payment transaction will be risky.	1	2	3	4	5
2.	I believe that there will be high potential for loss associated with using mobile payment (for instance, loss of my financial details to thieves).	1	2	3	4	5
3.	I believe that there will be too much uncertainty associated with using mobile payment (for instance, money does not get through to the received due to a network problem).	1	2	3	4	5

4.	I believe that using mobile payment will involve many unexpected problems (for instance, overcharging from merchants or credit card providers).	1	2	3	4	5
Perceived Trust						
1.	Mobile payment system is trustworthy.	1	2	3	4	5
2.	I believe that all the transactions data are confidential.	1	2	3	4	5
3.	I believe that I would get an immediate confirmation message when the transaction is completed.	1	2	3	4	5
4.	I would expect that the mobile payment system to be reliable.	1	2	3	4	5
Perceived Ease of Use						
1.	I believe that when I use mobile payment, the process will be clear and understandable.	1	2	3	4	5
2.	I believe that it is easy for me to become skillful at using mobile payment.	1	2	3	4	5
3.	I believe that mobile payment is easy to use.	1	2	3	4	5
Perceived Usefulness						
1.	Using mobile payment would enable me to pay more quickly.	1	2	3	4	5
2.	Using mobile payment makes it easier for me to conduct transactions.	1	2	3	4	5
3.	Using m-payment would be advantageous.	1	2	3	4	5

4.	I would find mobile payment a useful possibility for paying.	1	2	3	4	5
Intention to use Mobile Payment						
1.	I intend to use the mobile payment system in the future.	1	2	3	4	5
2.	I expect that I will use the mobile payment system in my daily life	1	2	3	4	5
3.	I expect to use the mobile payment system frequently.	1	2	3	4	5

Section C: Demographic Profile

In this section, we would like you to fill up some of your personal details. Please tick (✓) your answer accordingly or fill in the blanks provided for each question given below. *Your details will be kept private and confidential.*

Q1. Gender:

- Male
- Female

Q2. Age:

- 18 years old to 22 years old
- 23 years old to 27 years old
- 28 years old to 32 years old
- 33 years old to 39 years old

Q3. Ethnicity:

- Malay
- Chinese

- Indian
- Others: _____

Q4. Education Level:

- High School Certificate (SPM)
- Diploma
- Bachelor's degree
- Master
- PhD (Doctorate)
- Others: _____

Q5. Monthly Income:

- \leq RM500
- RM 501- RM 1500
- RM 1501-RM 2500
- RM 2501-RM 3500
- RM 3501-RM 4500
- RM 4501-RM 5000
- \geq RM 5000

Appendix 4.1: SPSS Output: Reliability Test

➔ Scale: Perceived Risk

Case Processing Summary

		N	%
Cases	Valid	208	100.0
	Excluded ^a	0	.0
	Total	208	100.0

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

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.840	.841	4

➔ Scale: Perceived Trust

Case Processing Summary

		N	%
Cases	Valid	208	100.0
	Excluded ^a	0	.0
	Total	208	100.0

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

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.723	.727	4

➔ **Scale: Perceived Ease of Use**

Case Processing Summary

		N	%
Cases	Valid	208	100.0
	Excluded ^a	0	.0
	Total	208	100.0

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

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.824	.826	3

➔ **Scale: Perceived Usefulness**

Case Processing Summary

		N	%
Cases	Valid	208	100.0
	Excluded ^a	0	.0
	Total	208	100.0

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

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.862	.866	4

➔ **Scale: Intention to use Mobile Payment**

Case Processing Summary

		N	%
Cases	Valid	208	100.0
	Excluded ^a	0	.0
	Total	208	100.0

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

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.882	.883	3

Appendix 4.2: SPSS Output: General Questions' Frequencies

Q1. Do you use mobile payments?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	208	100.0	100.0	100.0

Q3. Based on your answer in Q2, which mobile payments services do you use the most?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ali Pay	1	.5	.5	.5
	Boost	4	1.9	1.9	2.4
	CIMB Pay	1	.5	.5	2.9
	Fave	1	.5	.5	3.4
	Grab Pay	7	3.4	3.4	6.7
	MAE	10	4.8	4.8	11.5
	Shopee Pay	7	3.4	3.4	14.9
	Touch 'n Go eWallet	176	84.6	84.6	99.5
	WeChat Pay	1	.5	.5	100.0
	Total	208	100.0	100.0	

Q4. How often do you use mobile payments?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Daily	124	59.6	59.6	59.6
	Occasionally	26	12.5	12.5	72.1
	Weekly	58	27.9	27.9	100.0
	Total	208	100.0	100.0	

Appendix 4.3: SPSS Output: Demographic Profile's Frequencies

Q1. Gender:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	160	76.9	76.9	76.9
	Male	48	23.1	23.1	100.0
	Total	208	100.0	100.0	

Q2. Age:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 years old to 22 years old	100	48.1	48.1	48.1
	23 years old to 27 years old	73	35.1	35.1	83.2
	28 years old to 32 years old	21	10.1	10.1	93.3
	33 years old to 39 years old	14	6.7	6.7	100.0
	Total	208	100.0	100.0	

Q3. Ethnicity:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Chinese	154	74.0	74.0	74.0
	Indian	27	13.0	13.0	87.0
	Malay	27	13.0	13.0	100.0
	Total	208	100.0	100.0	

Q4. Education Level:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor's degree	135	64.9	64.9	64.9
	Diploma	33	15.9	15.9	80.8
	Foundation	1	.5	.5	81.3
	High School Certificate (SPM)	29	13.9	13.9	95.2
	Master	8	3.8	3.8	99.0
	STPM	2	1.0	1.0	100.0
	Total	208	100.0	100.0	

Q5. Monthly Income:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	≤ RM500	80	38.5	38.5	38.5
	≥ RM 5000	6	2.9	2.9	41.3
	RM 1501-RM 2500	32	15.4	15.4	56.7
	RM 2501-RM 3500	31	14.9	14.9	71.6
	RM 3501-RM 4500	17	8.2	8.2	79.8
	RM 4501-RM 5000	12	5.8	5.8	85.6
	RM 501- RM 1500	30	14.4	14.4	100.0
Total	208	100.0	100.0		

Appendix 4.4: SPSS Output: Descriptive Statistic

Descriptive Statistics			
	Mean	Std. Deviation	N
PR	12.8558	3.72851	208
PT	15.0962	2.74705	208
PEOU	12.4471	2.23003	208
PU	16.7740	2.85256	208
ITUMP	12.8702	2.39110	208

Appendix 4.5: SPSS Output: Pearson's Correlation Analysis

		Correlations				
		PR	PT	PEOU	PU	ITUMP
PR	Pearson Correlation	1	-.024	.067	.072	.037
	Sig. (2-tailed)		.730	.336	.302	.591
	N	208	208	208	208	208
PT	Pearson Correlation	-.024	1	.541**	.506**	.520**
	Sig. (2-tailed)	.730		<.001	<.001	<.001
	N	208	208	208	208	208
PEOU	Pearson Correlation	.067	.541**	1	.737**	.791**
	Sig. (2-tailed)	.336	<.001		<.001	<.001
	N	208	208	208	208	208
PU	Pearson Correlation	.072	.506**	.737**	1	.777**
	Sig. (2-tailed)	.302	<.001	<.001		<.001
	N	208	208	208	208	208
ITUMP	Pearson Correlation	.037	.520**	.791**	.777**	1
	Sig. (2-tailed)	.591	<.001	<.001	<.001	
	N	208	208	208	208	208

** . Correlation is significant at the 0.01 level (2-tailed).

Appendix 4.6: SPSS Output: Multiple Regression Analysis

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Durbin-Watson	
						F Change	df1	df2		
1	.844 ^a	.712	.706	1.29646	.712	125.280	4	203	<.001	2.114

a. Predictors: (Constant), PU, PR, PT, PEOU

b. Dependent Variable: ITUMP

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	842.290	4	210.572	125.280	<.001 ^b
	Residual	341.205	203	1.681		
	Total	1183.495	207			

a. Dependent Variable: ITUMP

b. Predictors: (Constant), PU, PR, PT, PEOU

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error				Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.344	.671		.512	.609	-.980	1.667		
	PR	-.013	.024	-.021	-.552	.581	-.061	.035	.988	1.012
	PT	.057	.040	.066	1.435	.153	-.021	.136	.678	1.475
	PEOU	.487	.062	.455	7.804	<.001	.364	.611	.418	2.390
	PU	.344	.048	.410	7.222	<.001	.250	.438	.440	2.272

a. Dependent Variable: ITUMP