CASHLESS SOCIETY: A STUDY ON INTENTION TO ADOPT E-WALLET BY THE YOUNG ADULTS IN MALAYSIA

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A final year project submitted in partial fulfilment of the requirement for the degree of

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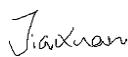DEPARTMENT OF BANKING AND RISK MANAGEMENT

APRIL 2023

DECLARATION

We hereby declare that:

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

(2) No portion of this FYP has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

(3) Equal contribution has been made by each group member in completing the FYP.

(4) The word count of this research report is ___26807_.

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DEDICATION

Absolutely, thanks to our FYP supervisor, Dr Foo Chuan Chew and FYP examiner, Ms Kong Yin Mei for patiently and guiding us through the whole researching process, it is giving and allowing us a chance to explore more about the research in the field of adopting E-wallet in the cashless society, thus it enhanced our professional knowledge.

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TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

LIST OF ABBREVIATIONS

BI   Behavioral Intention

BNM   Bank Negara Malaysia

DTPB   Theory of Planned Behavior

FC   Facilitating Conditions

ICT   Information Communication and Technology

IDT   Innovation Diffusion Theory

JENDELA   Jalinan Digital Negara

MDEC   Malaysia Digital Economy Corporation

MLR   Multiple Linear Regression

MM   Motivational Model of Computer Workplace

MPCU   Model of PC Utilization

NFC   Near Field Communication

PE   Performance Expectancy

PENJANA   Short-Term Economic Recovery Plan

PLS-SEM   Partial Least Squares Structural Equation Modelling

PR   Perceived Risk

PV   Price Value

RFID   Bluetooth, Radio, Frequency Identification

SCT   Social Cognitive Theory

SEM   Structural Equation Modelling

SI   Social Influence

SPSS   Statistical Package for Social Science

TAM   Technology Acceptance Model

TPB   Theory of Planned Behaviour

TRA   Theory of Reasoned Action

UTAUT   The Unified Theory of Acceptance and Use of Technology

VIF   Variance Inflation Factor

LIST OF APPENDICES

Page

PREFACE

As the world undergoes rapid digital transformation, cashless transactions are becoming increasingly prevalent. In Malaysia, E-Wallet adoption has surged among young adults who are the most frequent users of digital payment systems. This trend has been further accelerated by the Covid-19 pandemic, which has driven a greater emphasis on contactless payments.

The purpose of this study is to investigate the factors that influence young Malaysian adults' intention to adopt E-Wallets. Specifically, we will examine the role of social influence, convenience, price value, and perceived risk in determining the adoption of e-wallets among this demographic. By understanding these factors, we aim to contribute to the ongoing discussion on cashless transactions and financial technology in Malaysia.

We hope that the findings of this research could be useful for E-Wallet provider operators, government regulators, and academic institutions in developing policies and strategies to encourage the use of e-wallets in Malaysia. Additionally, this study may serve as a basis for future research on the topic and contribute to the development of a cashless society in Malaysia.

ABSTRACT

This study aims to identify factors influencing the adoption of E-Wallets among young adults in Malaysia, drawing on the Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2). We examine the significance of four factors, including social influence, facilitating conditions, price value, and perceived risk, on the behavioral intention of young adults in Malaysia. Data was collected from 309 young adults aged 18-40 via Google Forms, and a rigorous statistical analysis was conducted using SPSS 29.0 software to examine the reliability, accuracy, and relationship between the independent and dependent variables. Our analysis included multiple linear regression, inferential testing, multicollinearity testing, reliability testing, normality testing, and descriptive analysis. The research results indicate that social influence and facilitating conditions have a positive relationship with the behavioral intention of young adults in Malaysia to adopt E-Wallets, while perceived risk has moderate significance. However, the price value was found to be insignificant. Our research findings provide valuable implications for the government, E-Wallet companies, and academia to address the current state of E-Wallet adoption in Malaysia and promote the uptake of this technology. We also offer recommendations for future researchers to conduct more precise and accurate research in this area, overcoming the limitations of our study. Overall, our study provides new insights into the factors that shape the intention of young adults in Malaysia to adopt E-Wallets and contributes to the ongoing discussion on cashless transactions and financial technology in the country. By understanding the factors that shape the adoption of E-Wallets among young adults, stakeholders can develop effective strategies to promote the uptake of this technology and accelerate the country's transition towards a cashless society.

CHAPTER 1: INTRODUCTION

1.0   Introduction

Money has played a part in human history for no less than the last 5,000 years (Davies, 2016). The creation of money in form of coins or paper money is a pivotal moment in history as it accelerated the progress of civilization (Kiger, 2017). The standardized medium of exchange makes it easier to complete a transaction. Bartering system, or the direct exchanges of goods and services, was widely used prior to the invention of currency. Bartering has a long history; in some ways, it is even older than the history of man as it is known to us today (Davies, 2016). Readily traded items such as animal skin, salt, rice, wheat, weapons, etc. were commonly used as a type of currency in bartering exchange system (Taskinsoy, 2020).

One of the first standardized forms of metal coinage was the Spade, which was first introduced as a medium of exchange for transactions in China sometime around 640 BCE (Zhao et al., 2021). Around 1260 CE, the Yuan dynasty of China transitioned from utilising coins to paper money, and by the 16th century, paper banknotes began to replace metal coins in Europe. (Vogel, 2012). Banks in Europe also introduced financial innovations such as municipal bonds, insurance, and bill of exchange, which helped pave the way for paper money in the West (Surowiecki, 2012). In the 1950s, plastic money such as debit, charge, and credit cards were introduced and quickly gained popularity in the United States, leading to a revolution in card use (Guseva & Rona-Tas, 2014). With the rise in smartphone usage in the early 2010s, Google introduced E-Wallet in 2011, allowing payments to be made using smartphones via NFC (Near Field Communication) technology (Almuhammadi, 2020). As of now, digital money is the predominant form of payment (Ferreira & Perry, 2014).

Chapter 1 will provide the research background and problem statement. The problem statement will identify and explain the issues associated with the behavioral intention to adopt E-wallet in this research, while the background of study will provide context. The objectives of research, questions of research, as well as hypotheses will be defined clearly to guide the study. Also, the significance of this study will be discussed to demonstrate its contribution to the field. A brief overview of the study's structure will be included, and a summary of the main points for *Chapter 1* will be recapitulated in conclusion.

1.1   Research Background

Over the recent decades, the rapid development of information communication and technology (ICT) has boosted the innovation of the industry of information systems and technology including the financial sector (Hatzakis, Nair, & Pinedo, 2010). With the integration of wireless telecommunication, smartphones, and banking systems, the electronic payment ecosystem has been formed (S. K. Sharma, Mangla, Luthra, & Al-Salti, 2018), leading to the emergence of a new era of a cashless society. Smartphones which no longer just for communication purposes but are also able to perform various functions, including online transactions (Punwatkar & Verghese, 2018). The development of electronic payment has ushered in a new era of cashless transactions, leading to a decline in the popularity of cash transactions (Abdullah, Redzuan & Daud, 2020). According to Aldridge (2013), the electronic wallet (E-Wallet) is considered one of the technological innovations that have the potential to shape the landscape of a cashless society. The usage of E-Wallets is growing in the financial industry, and they have a great deal of potential to replace traditional cash and take over as the preferred method of transaction methods soon (T. T. Teoh, Melissa, Hoo & Lee, Jais, Chan & Zaidi, 2020).

E-Wallet, which is also known as mobile wallet or digital wallet, is an online payment technology that allows users to store money and conduct transactions using a smartphone (Rathore, 2016). The E-Wallet applications allow cashless transactions to individuals or merchants, and it is downloadable from App Store or Play Store in the smartphones (Kotecha, 2018; Bagla & Sancheti, 2018). Users can connect their existing bank account via debit or credit card to store and top-up funds or perform online transfers through banking systems. There are many banks and non-bank companies offer E-Wallet services and have been competing to offer their customers convenience in financial transactions (Bagla & Sancheti, 2018).

The prototype of the E-Wallet can be traced back to Michael Aldrich, an innovator, and entrepreneur who invented online shopping in 1979. (Gupta, 2021). E-Wallets successfully made people aware in the late 1990s when PayPal was used as a software solution for eBay users to facilitate the storage of their cards for online purchases (Kandimalla & Bari, 2020). However, due to the instability of the technology at the time, customers and retailers were slow to adopt it. Statistics show that by 2003, only 95 million mobile phone users worldwide had made purchases using their mobile devices (Kandimalla & Bari, 2020). It was not until 2011 when Google launched the first mobile wallet using NFC technology that E-Wallets began to gain momentum (Almuhammadi, 2020). In 2012, Apple launched Passbook, although it is not related to payments, it can help customers get used to E-Wallets in principle and thus facilitate the introduction of E-Wallets at a later stage. (Dapp et al., 2012). Two years later, Apple Pay was launched and quickly spread to the UK and China. Since then, other E-Wallets such as Grab Pay, Lazada Wallet, PayPal, and Touch n' Go have become popular methods of payment (Rohit Gupta & Sudhir Kumar Sahu, 2021).

Asia is a mobile-first region (Bischoff, 2014). The continent has witnessed explosive growth in mobile users, making it a popular choice for global businesses. Southeast Asia has experienced rapid growth in internet users, with a user base of 260 million in 2017, projected to reach 480 million by 2020, according to eCommerce SEO (2019). The increasing use of E-Wallets throughout Southeast

Asia has made Malaysia the focal point of the digital revolution. In keeping with Bank Negara's objective of transitioning Malaysia into a digital economy and cashless society, the country is poised for significant growth. There were more than 20 service providers at the end of the second quarter of 2020, with Boost, Touch n' Go, and GrabPay leading the market since the first E-Wallet service in Malaysia launched in January 2017 (Ojo, Fawehinmi, Ojo, Arasanmi & Tan, 2022). This growth is reflected in a MasterCard survey, which found that two out of five Malaysian consumers use E-Wallets, making the country the leader in Southeast Asia for E-Wallet adoption (Izwan, 2021). Similarly, according to the MasterCard 2020 Impact Study, Malaysia has the highest adoption rate of mobile or E-Wallets in Southeast Asia, at 40%, ahead of the Philippines (36%), Thailand (27%), and Singapore (26%) (Khan, 2020). Malaysia's e-wallet ecosystem has moved beyond its nascent stage and is heading towards adolescence as it is increasingly becoming second nature to consumer preferences. However, as an early leader in digital payments, the vast majority of e-commerce in China is dominated by digital wallets, which account for nearly 83% of e-commerce transactions, jumping by more than 10% in 2020 alone. In 2021, mobile wallets account for 28.6% of global pos transactions, or more than US$13.3 trillion, of which China alone accounts for 54% (Figure 1.1).

Figure 1.1:

"Digital/ Mobile Wallet Usage in Malaysia, India, and China during year 2021"
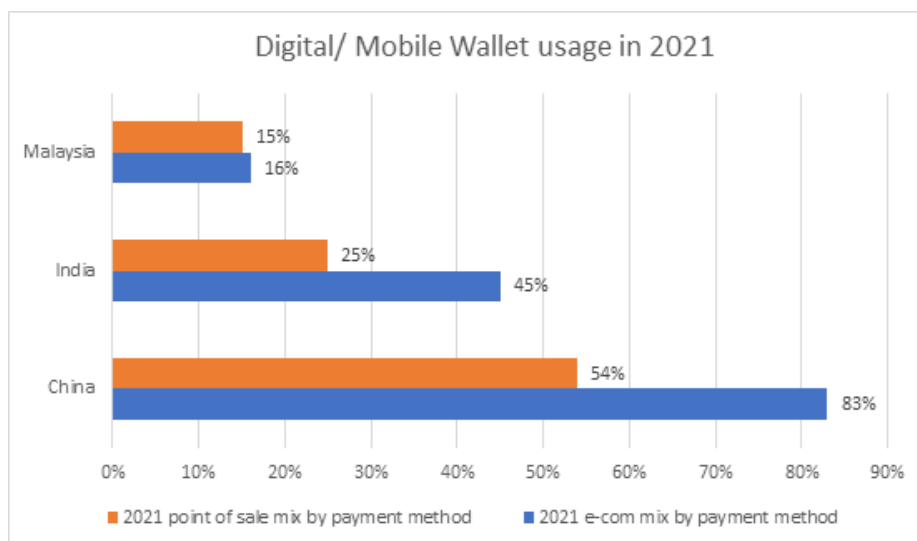
Note. The data are from "[GLOBAL PAYMENT TRENDS Powering the next payments frontier]", by FIS, 2022, (https://worldpay.globalpaymentsreport.com/en).

In the sector of digitalization of financial sector, the Malaysian government has put in effort to support and promote cashless payment. Considering the expensiveness of cash management, Bank Negara Malaysia (BNM) has taken the steps to reduce the country's paper-based transactions namely cash and cheques (Bagla & Sancheti 2018; Bank Negara Malaysia, 2018). The fee charged on Interbank GIRO (IBG) transactions made through Internet and mobile banking is capped at 10 cents as of 2 May 2013, down from originally being around RM2. Additionally, a new pricing policy was implemented with the effective of 2 January 2015 whereby RM0.50 will be charged as processing fee for each cheque (Bank Negara Malaysia, 2014).

In the year 2011, BNM has developed a Financial Blueprint 2011 – 2020, whereby one of the objectives is to improve the efficiency of the electronic payments (Bank Negara Malaysia, 2011). According to Bank Negara Malaysia (2022a), at the end of 2020, the e-payment transactions made per capita has increased to 170 as compared with 49 in 2011. In order for the Malaysian financial system to keep pace with emerging development, BNM has continued to launch a new Financial Blueprint for the year 2022 to 2026. One of the goals is to boost the country's financial sector digitalization, and one of the key strategies is to support digital payments adoption (Bank Negara Malaysia, 2022a). In addition, Jalinan Digital Negara (JENDELA) was launched by the government in 2020 with the goal of providing all Malaysians a quality access to digital connectivity countrywide, including rural areas. It is a comprehensive five-year digital infrastructure plan whereby it is designed to provide Malaysian citizens improved broadband quality and wider coverage as the country transitions to 5G technology. The national aspirations by 2025 is to achieve 100 Mbps speed, 100% of 4G coverage, and 9 million promises (Malaysian Communications and Multimedia Commission, 2022).

In the context of E-Wallets, the Malaysian government is actively promoting their use by offering various monetary incentives. e-Tunai Rakyat was introduced in January 2020 as part of the 2020 Malaysian budget. A total of RM450 million was allocated to this program to distribute RM30 electronic cash (e-cash) to 15 million eligible Malaysians. As stated by the Ministry of Finance, e-Tunai Rakyat aims to boost the usage as well as the adoption of E-Wallet and digital payments among Malaysian consumers and retailers, including SMEs (Khazanah Nasional Berhad, 2019). ePenjana was then continue implemented by the government in July 2020 under the Short-Term Economic Recovery Plan (PENJANA). It aims to boost consumer spending during the pandemic as well as inculcate cashless transaction practices by providing RM50 e-cash through E-Wallet to about 15 million eligible Malaysians (Pelan Jana Semula Ekonomi Negara, 2020). In addition, the e-cash programs eBelia and ePemula were respectively introduced in Budget 2021 and Budget 2022 (Kementerian Kewangan Malaysia, 2021; Bernama, 2022). Both programs were being put into place with the objectives of relieving financial burdens and encouraging cashless transactions among Malaysian youngsters between the ages of 18 and 20 as well as among full-time students in tertiary education. A total of RM300 million was allocated to each program with the expectation of benefiting 2 million Malaysian youths with RM150 e-cash provided to each of them. The government aims to maintain the popularity as well as the thrust of using e-cash during e-Tunai Rakyat and ePenjana. The programs were also implemented to encourage local businesses to incorporate electronic payment into their businesses (Bernama, 2022). Referring to Figure 1.2 below, we can notice a gradual increase in E-Money transactions in Malaysia from 2011 to 2021.

Figure 1.2:

"Value of E-Money Transaction in Malaysia from 2011 to 2021"

Value of E-Money Transaction in Malaysia

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Value in RM mil	3,477	4,244	4,919	5,284	5,995	7,689	9,096	10,96	17,62	27,74	49,83
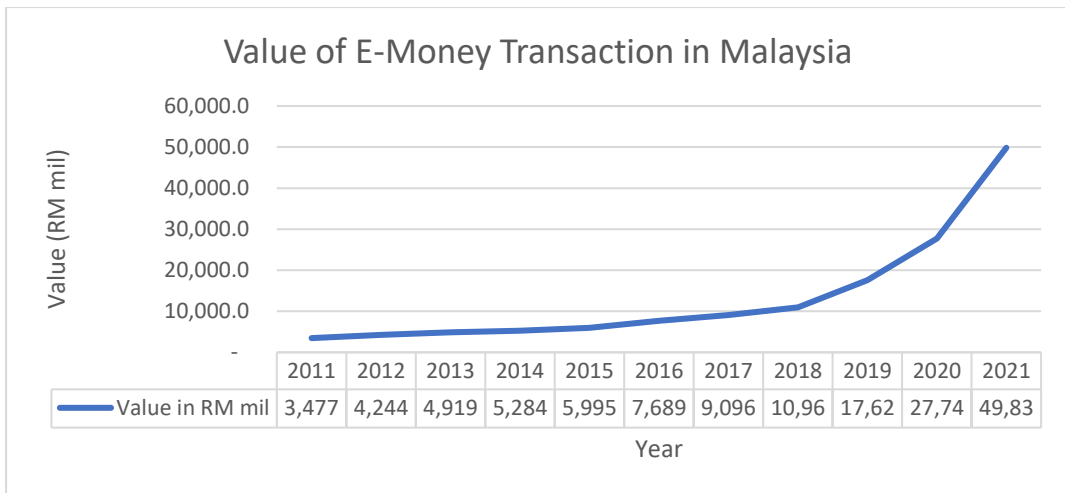
Note. The data for year 2021 to 2019 are from "[Malaysia's Payment Statistics]", by Bank Negara Malaysia, 2022b, (https://www.bnm.gov.my/payment-statistics). The data for the year 2014 to 2018 are from "[Financial Stability and Payment Systems Report 2018]", by Bank Negara Malaysia, 2019, (https://www.bnm.gov.my/documents/20124/856365/fs2018_book.pdf). The data for the year 2011 to 2013 are from "[Financial Stability and Payment Systems Report 2014]", by Bank Negara Malaysia, 2015, (https://www.bnm.gov.my/documents/20124/856377/fs2014_book.pdf).

Figure 1.3:

"E-Wallet usage in Malaysia"

E-Wallet usage- Generation (%)

	Gen Z (18-24 yrs)	Gen Y (25-39 yrs)	Gen X (40-54 yrs)	Baby Boomer (55-65 yrs)
1H19	17	28	14	1
2H19	22	46	31	13
1Q2020	67	70	57	21
2Q2020	55	62	40	12
3Q2020	71	60	59	43
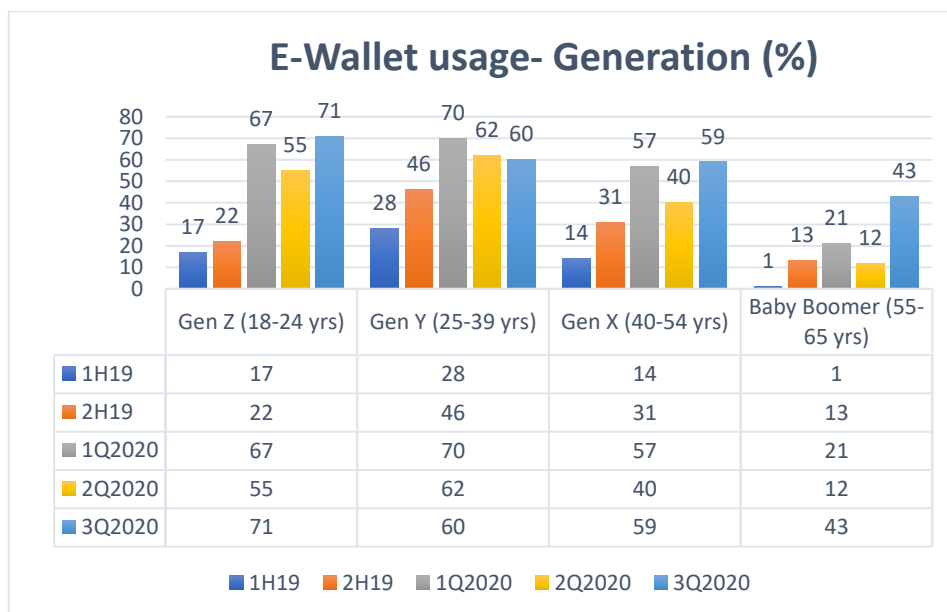
Note. The data are from "[E-Wallet Usage in Malaysia 2020: Thriving in Lockdown]", by Oppotus, 2020, (https://www.oppotus.com/e-wallet-usage-in-malaysia-2020/).

In a study by Binti Azman, Lih and Yahaya (2021) it was shown that Generation Y seems to be a potential mobile payment consumer as they are likely to increase their propensity to use electronic payment systems in the future. This finding is supported by a bar graph (Figure 1.3) from the Oppotus research group, which shows that younger, more tech-savvy users are more likely to use e-wallets. Gen Z and Gen Y are particularly frequent users of e-wallets compared to other generations, with e-wallet usage among these groups surpassing 50% in the first quarter of 2020 and reaching 71% for Gen Z and 60% for Gen Y in the third quarter of 2020. As a generation that has grown up with technology, Gen Z and Gen Y are particularly receptive to new technologies like E-Wallets. Therefore, to succeed in Malaysia's cashless society during the era of the industrial revolution 4.0, E-Wallet operators in Malaysia must identify the factors that can drive the readiness of Gen Z and Gen Y to adopt E-Wallet.

Young adulthood' encompasses a long-life span of at least 20 years (Monygomery & Amett, 2015). Chung (2018) proposed a psychosocial protection system with eight stages for the maturation process, with early and late young adulthood being two of them. Millennials, born between 1981 and 1997, and Generation Z, born in 1997 and beyond, represent young adults who have grown up in the age of new technology (Turner, 2015). The stages proposed above are like the thesis of Erik Eriksons' stage of human development. Erikson indicates that 'young adulthood' encompasses a long-life span of at least 20 years (Monygomery & Amett, 2015). For Erikson, early adulthood (18-40 years) includes early young adulthood, late young adulthood, and early middle young adulthood (Chung, 2018). While Generation Y has witnessed significant technological changes and has the highest rate of mobile users, Generation Z grew up with technology and the Internet and is technologically literate (Binti Azman et al., 2021; Cobanoglou et al., 2015; Persada et al., 2021).

Young adults are a key factor in determining the adoption of E-Wallets. Generation Z is often regarded as digital natives, having grown up in the digital age, while Generation Y are considered digital immigrants, having become accustomed to mobile technology later in life (Agárdi & Alt, 2022). Both generations represent a significant consumer group with substantial purchasing power, with the Edge Malaysia 2022 report stating that digital payment usage is highest in the 18-40 age group (Vanessa, 2022). They also have a strong preference for digital transactions, are heavy users of media, and are socially aware, tolerant, and innovative. Furthermore, they are enthusiastic about trying new applications and are concerned with ease of use, security, and privacy (Wood, 2013). Generation Z has a mobile phone penetration rate of 98% (Chad, 2020), highlighting their tech-savviness. With Generation Z and Y projected to dominate the global population, it is crucial for companies targeting this demographic to understand their unique characteristics to remain competitive (Agárdi & Alt, 2022).

1.2   Problem Statement

As mentioned above, the E-Wallet ecosystem in Malaysia has gone out of its infancy and is heading for adolescence, but the fact is that E-Payment in Malaysia still has some challenges. These include less knowledge of the Internet, E-Wallet is not widely accessible, security issue, etc. (Batrisyia Insyiraah, 2020), which has led to a slowdown in the growth of the E-Wallet adoption level in Malaysia. In addition, although the usage of E-Wallet in Malaysia is more than 40% ahead of other countries in Southeast Asia countries (Trotman, 2021), it is still far from China, which has adopted E-Wallet as the main payment method, which China alone accounts for 54% in the world (T. T. Teoh et al., 2020).

Furthermore, as mentioned above, we know that government give some incentives to the young adult. For instance, regarding to the **Bernama, 2022**, it stated that government Malaysia had launched ePemula programme to benefit the young adults. Therefore, the value of E-Money transaction will increase every time the government distributes the incentive, and there must be a small decrease after that. This is due to the e-Tunai Rakyat campaign, which government gave people a subsidy of RM30 to encourage people. At that time, the usage of E-Wallet went up, but after that the usage of E-Wallet dropped slightly back to 49%. However, it then rose back to 60% until the launch of the e-Penjana campaign and declined after that (Oppotus, 2021). Likewise, this phenomenon was repeated in the subsequent e-Belia campaign (Figure 1.4). Due to this, it will increase the usage of E-wallet. However, if there are no such government incentives, the usage of E-wallet will be decrease, vice versa. While it cannot be ruled out that the decline was partly due to the Covid-19 pandemic causing people to lower their daily expenses at the time, which will tend to reduce E-Wallet usage (Abd Samad et al., 2020). But we still hold that the incentives provided by the government will indeed attract people to adopt E-Wallet, and they may revert back to their original payment method after running out of government subsidy.

Figure 1.4:

"E- Wallet Usage (4th Quarter of 2019 to 2nd Quarter of 2021)"
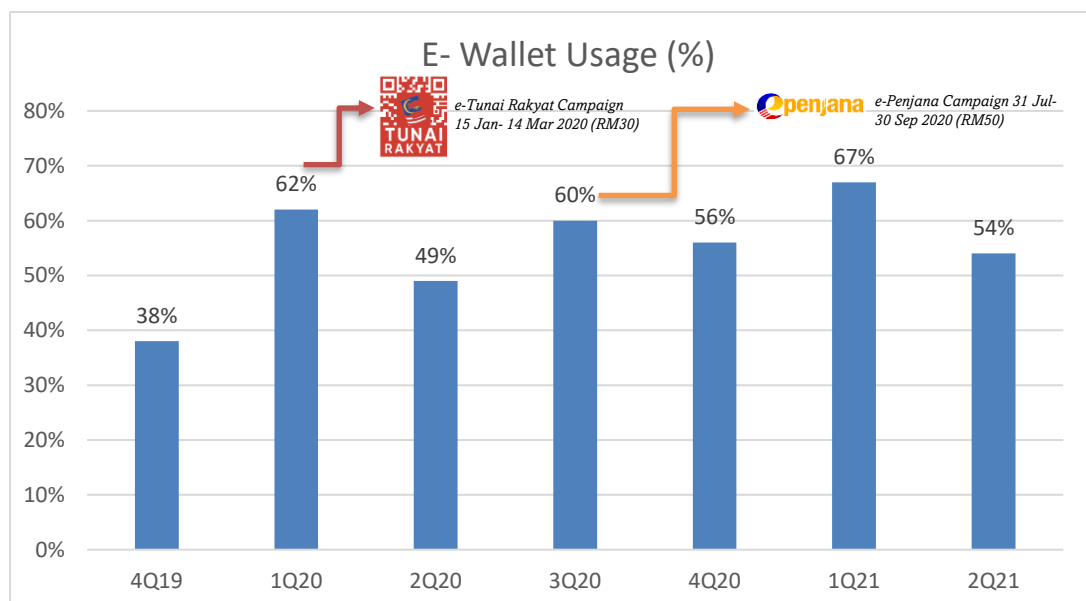
Note. The data are from "[Malaysian E-Wallet Usage as We Move Towards Recovery 2021]", by Oppotus, 2021, (https://www.oppotus.com/malaysian-e-wallet-usage-towards-recovery-2021/).

On the other hand, it is also said that E-Wallet is now an ongoing trend in Malaysia ("Best E-wallet comparison in Malaysia 2022," 2022), and it has the potential to revolutionize world business models. A good business not only provides its customers with high-quality products and services, but also considers the customer's payment experience and provides customers with fast and convenient payment methods (Moghavvemi, Tan, Seuk, & Suek, 2021). However, some consumers in rural areas do not agree with this statement, and even think that E-Wallet is just a burden. This is because the digital transaction cannot be separated from the smartphone (Batrisyia Insyiraah, 2020). This payment method is a hindrance for some consumers in the rural area, who do not have the ability to own a smartphone (Aris, 2019). At the same time, this phenomenon also caused most of the governments to distribute incentives, they did not receive this information (S. Agarwal, 2020), which indirectly led to the stagnation of E-Wallet in the rural area. Furthermore, the network connection in the rural area is also an obstacle to the development of E-Wallet (C. Y. Wong & Mohamed, 2020).

Moving on, Moorthy et al. (2020) found that 89% of people in Malaysia are still concerned about the safety of using E-Wallet. This is also one of the current major obstacles for E-Wallet (Abdullah et al., 2020; Alam, Awawdeh & Muhamad, 2021). They are concerned that there are opportunities for criminals in the use process (Teo, Law & Koo, 2020), such as lost transactions, leaked banking information, credit and debit card fraud, and fake websites disguised as mobile wallets. While according to Ahasanul, Mohammad, Md and Md (2020), it is all due to the fact that this network technology is developing too fast and there are too many uncertain factors, making them not confident to take this risk.

In terms of technology, Generation Y has witnessed the most technological changes and has recently become the group with the highest rate of mobile users (Cobanoglu, Yang, Shatskikh & Agarwal, 2015; Binti Azman et al., 2021). Since Gen Z grew up with the Internet and technology, thus it is no doubt that they have many unique characteristics, and are literate with technology (Persada et al., 2021). That wise, it is said that young adults are playing an essential role in this adoption of E-Wallet. In other words, Wei, Luh, Huang & Chang (2021) stated that the frequency of young adult's use of E-wallets will also be influenced by the people around them. Therefore, if no one around the young adult that is using an E-wallet, its usage is likely to drop, vice versa.

1.3 Objectives of Research

1.3.1 General Objectives

This general objective of this paper is to investigate the "behavioral intention to adopt Electronic Wallet (E-Wallet)" among the young adults in Malaysia and determine the variables that impact it.

1.3.2 Specific Objectives

The following specific objectives are defined in order to achieve our general objective:

1) "To investigate the relationship between Social Influence (SI) and the Behavioral Intention (BI) to adopt E-wallets in the young adults in Malaysia."

2) "To investigate the relationship between Facilitating Conditions (FC) and the Behavioral Intention (BI) to adopt E-wallets in the young adults in Malaysia.

3) "To investigate the relationship between Price Value (PV) and the Behavioral Intention (BI) to adopt E-wallets in the young adults in Malaysia."

4) "To investigate the relationship between Perceived Risk (PR) and Behavioral Intention (BI) to adopt E-wallets in the young adults in Malaysia."

1.4   Research Questions

1. Is there any significant relationship between Social Influence and Behavioral Intention to adopt E-wallet among Young Adults in Malaysia?

2. Is there any significant relationship between Facilitating Condition and Behavioral Intention to adopt E-wallet among Young Adults in Malaysia?

3. Is there any significant relationship between Price Value and Behavioral Intention to adopt E-wallet among Young Adults in Malaysia?

4. Is there any significant relationship between Perceived Risk and Behavioral Intention to adopt E-wallet among Young Adults in Malaysia?

1.5   Hypothesis of the Study

"H_1: There is a significant relationship between Social Influence (SI) and the Behavioural Intention (BI) to adopt E-Wallets among young adults in Malaysia."

"H_2: There is a significant relationship between Facilitating Condition (FC) and the Behavioural Intention (BI) to adopt E-Wallets among young adults in Malaysia."

"H_3: There is a significant relationship between Price Value (PV) and the Behavioural Intention (BI) to adopt E-Wallets among young adults in Malaysia."

"H_4: There is a significant relationship between Perceived Risk (PR) and the Behavioural Intention (BI) to adopt E-Wallets among young adults in Malaysia."

1.6   Significance of Study

The major objective of this research was to look into the underlying elements that influenced the uptake of E-wallets in Malaysia. According to the Economic Planning Unit Prime Minister's Department (2021), Malaysia's government intended to achieve a cashless society by 2022. Hence, the government could benefit from this study by getting a better grasp of the motivator for Malaysian young adults' intentions to utilize E-wallets. With this study, the government could formulate relevant effective policies or regulations to drive success in achieving its objectives after a greater view of the underlying drivers of E-wallet adoption. So, the government could employ its budget and funds to support the financial plan for boost the adoption rate of E-wallets in order to achieve the objective of a cashless society in an effective and efficient manner. Another contribution of this study was that it provides more beneficial information for the government on tactics how to boost contactless payments usage by using E-wallets among young adults in the event that a similar pandemic like the COVID-19 pandemic arises again in the

unforeseeable future. To realize the aims of a cashless society by spreading the adoption of E-wallets among young adults.

This study provided important information to relevant authorities and E-wallet payment service providers in order to develop effective strategies for increasing E-wallet adoption in Malaysia. As a result of this research, they will be able to implement some enhancements that will boost the usage of E-wallets. Furthermore, this study could aid E-wallet developers by providing them with preferences and perspectives on E-wallet adoption among Malaysian young adults. E-wallet developers could successfully promote their functions and services in Malaysia in order to increase sales. Furthermore, our research provides new insights for E-wallet developers to give better and more valuable services and packages to customers in order to enhance E-wallet payment system adoption. Furthermore, this study enabled them to target individuals' behavioral intentions in order to determine their propensity to embrace E-wallets. They could also use the study's findings to create marketing strategies that boost E-wallet willingness and intention toward consumers. It enables them to have a better understanding of the effects of determinants such as social influence (SI), facilitating conditions (FC), price value (PV), and perceived risk (PR). All of these factors will have a significant impact on behavioral intent to embrace an E-wallet. By explicitly articulating the effects of the determinants described above, public readers of this study could obtain some thoughts on how the determinants directly influence the adoption of new financial technologies such as E-wallets.

The significance of this study is that it will enrich the existing literature by exploring hitherto undiscovered aspects of acceptance and willingness to embrace E-wallets in terms of the variables in the theoretical framework. We utilized a relatively new framework called UTAUT2 suggested by Venkatesh, Morris, Davis & Davis (2003) Instead of using the conventional theoretical frameworks such as Technology Acceptance Model (TAM). In this framework, we only used 3 existing variables which are social influence (SI), facilitating conditions (FC), price value (PV), and added a new extra variable which is perceived risk (PR) incorporated by

modification from other models. This is because these variables were vital in the behavioral intention of individuals in their decision-making process within E-wallets (Venkatesh et al., 2003). Hence, the behavioral intention to adopt E-wallets of the young adult in Malaysia could be understood more comprehensively by using this improved framework. By implementing the findings from this study in the research field of adopting E-wallets which facilitated students and academics to conduct their future research for academic purposes.

1.7   Structure of the Study

There were five chapters composed in this research proposal which were "introduction, "literature review, research methodology, research results, and discussion and conclusion". In *Chapter 1*, we discussed the research background and the problem statement which explained the overview of our topic and research area. Then, we constructed the "research objectives, research questions, and hypotheses of the study in this segment as well. The "significance of study" also had been highlighted to explain the importance of conducting our study.

Chapter 2 consisted of a review of relevant previous studies on the behavioral intention to adopt E-wallets, as well as a review and findings of all of our variables. The underpinning theory of the conceptual framework employed in our research was then included. Lastly, we also proposed some hypothesis development to examine the results of our study.

Next, *Chapter 3* introduces about the methodology of research. This chapter highlighted the research instrument and design, sampling design and technique, data collection, and constructs measurement of the study. Moreover, the steps in data processing and analysis are also illustrated in the proposal.

Chapter 4 is used to present the research results collected from the respondents analyzed. The analyzed research results are vital for achieving the research objectives. The major components of Chapter 4 are the outcomes of descriptive analysis, scale measurement, diagnostic test, and inferential statistics.

Last but not least, this research proposal is ended with *Chapter 5*. Chapter 5 summarized the outcomes obtained from data analysis in detail. This segment also highlighted the implication of the study. Then, recommendations are given to relevant authority parties as to suggest how they should utilize the discussion findings provided. We also stated there still requires further investigation to overcome these limitations of research.

1.8   Conclusion

To summarise *Chapter 1*, E-Wallets were currently undergoing rapid development and their adoption rate of them has significantly increased in several countries. Numerous variables affected "the behavioral intention to adopt E-Wallets" in the cashless environment during the cashless era. Consequently, individuals' behavioral intention toward the adoption E-Wallet was important. However, E-Wallets was still not as widely used in Malaysia as expected. It is possible that there were some undiscovered factors that prevent individuals from using E-Wallets. Hence, the purpose of this study was to find out and gain a better understanding of the factors influencing the behavioral intentions of young adults in Malaysia. This research study emphasized the investigation of factors including social influence (SI), facilitating conditions (FC), price value (PV), and perceived risk (PR).

CHAPTER 2: LITERATURE REVIEW

2.0   Introduction

After had a basic introduction and understanding of our topic in *Chapter 1*, moving on we are going to do a comprehensive literature review and discuss more details about it in *Chapter 2*. At the beginning we will start with explaining our *"underpinning theory"*, which is UTAUT 2 model to explain on the adoption of the technology. Moving on, the *"relationship between dependent variable and independent variables"* will be discussed. While dependent variable refers to consumers' behavioral intention to adopt E-Wallet, and independent variables refers to perceived risk (PR), facilitating condition (FC), social influence (SI), and price value (PV). Then, followed by *"conceptual framework"*, and *"hypothesis development"* will be discussed accordingly.

2.1   Underpinning Theory

2.1.1 Unified Theory of Acceptance and Use of Technology

Figure 2.1

"Unified Theory of Acceptance and Use of Technology"
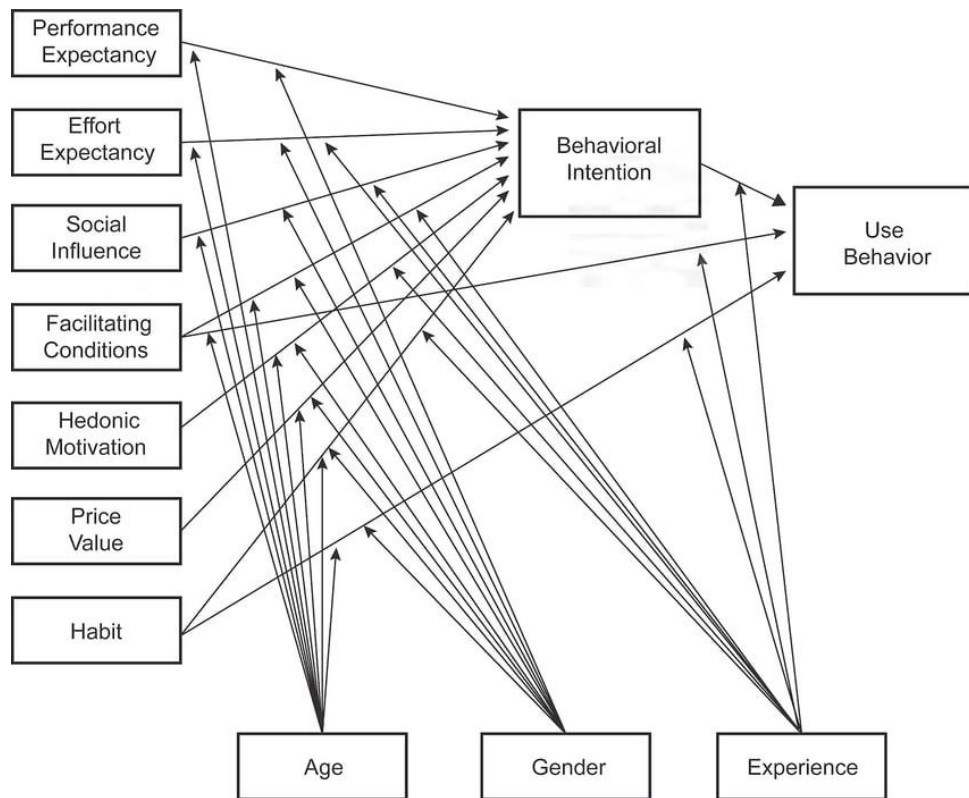
Note. "The relationship is hypothesised as significant in the UTAUT2 (Venkatesh, Thong & Xu, 2012)

The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed by Venkatesh, Morris, Davies. G, Davies. F (2003) to integrate and synthesize eight theoretical models including the Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Innovation Diffusion Theory (IDT), Theory of Planned Behavior (TPB), Model of PC Utilization (MPCU), Motivational Model of computer workplace (MM), Theory of planned behavior (DTPB), and Social Cognitive Theory (SCT) (Venkatesh et al., 2003). This comprehensive model has been found to be an effective tool for predicting adoption behavior and behavioral intention, with Performance Expectancy (PE) and voluntariness being the most prominent drivers of acceptance (Tarhini, El- Masri, Ali, & Serrano, 2016).

The UTAUT was developed to integrate the fragmented theory and research on individual acceptance of information technology used into a unified

theoretical model (Dwivedi et al., 2017). However, some researchers have argued that the UTAUT construct may not be sufficient to explain user acceptance of new technologies in voluntary situations, as the initial UTAUT research focused on large organizations in commercial settings, limiting its explanatory power. Thus, UTAUT2 was developed to broaden the theoretical horizon and to capture the three originating moderators of the new price-value variables used with consumer technology texts (Chang, 2012).

UTAUT 2 differs slightly from the original UTAUT in that instead of including one of the general moderators (voluntariness), the extended UTAUT includes three other moderating components (age, gender, and experience) to address three new constructs (hedonic motivation, price value, and habit) (Chang, 2012). Besides, one of the new constructs, 'habit', was included due to the emphasis on the role of behavioral intentions (Huang & Kao, 2015). These newly added constructs have been consistently validated in previous studies as key determinants of user technology adoption and provide a more comprehensive theoretical perspective on user technology acceptance in terms of intentional behavior.

UTAUT 2 is currently being used by researchers in a wide range of areas such as smart mobile acceptance (Eneizan, Mohammed, Alnoor, Alabboodi, & Enaizan, 2019), e-government technology use (Kalamatianou & Malamateniou, 2017), electronic health record portals adoption (Tavares, Goulão, & Oliveira, 2018), adoption of mobile social networking services (N. Gharaibeh, M. Gharaibeh, O. Gharaibeh & Bdour, 2020), exploring mobile wallet adoption (Megadewandanu, 2016), and others.

2.2   Literature Review

2.2.1 Dependent Variables

2.2.1.1 Behavioral Intention to Adopt E-Wallet (BI)

An intention can be defined as a predetermined course of action that a person aims to achieve (Karim, Haque, Ulfy, Hossain, & Anis, 2020). Intention to adopt is the consumer's intention to effective use by the consumer on new services or products (O. K. Tan et al., 2020). The intention to adopt new products or services refers to the way a person behaves in the future (Fishbein & Ajzen, 1975) and is a crucial predictor of behavior (Venkatesh, 2003). The intention to adopt an electronic wallet, as a type of technology adoption, refers to the actual use of the electronic wallet service (Tella & Olasina, 2014).

The Malaysian government has encouraged Malaysians to move towards a cashless society through many policies. BNM launched the Financial Sector Blueprint 2011-2020 (FSBP) as a driver for the e-payment agenda, which aims to develop and manage the future of Malaysia's financial markets and payment systems (Bank Negara Malaysia, 2011). The Malaysian Government collaborates with the three major Malaysian E-Wallet operators such as Grab, Boost, and Touch 'n Go E-Wallet. They have earmarked RM300 million in the 2022 Budget for the e-Pemula project, which aims to help promote cashless transactions among young Malaysians aged 18 to 20 or full-time university students (Kementerian Kewangan Malaysia, 2022).

In the current era, there is a growing trend of cashless transactions in Malaysia, with Malaysia Digital Economy Corporation (MDEC) and BNM paving the way to drive cashless adoption as part of the ongoing efforts to support the fintech sector in the country (Malaysia Digital Economy Corporation, 2022). The prospect of E-Wallet is receiving a lot of attention in Malaysia as it will significantly impact the country's business model. As Malaysia is moving toward "Fintech 4.0", the emergence of its E-Wallet is considered one of the vital transaction methods for cashless transactions in that era now, the latest contactless payment method apart from credit cards (Karim et al., 2020). In 2021, Malaysia completed 7.2 billion transactions through electronic payments (E-Wallet), making it the highest growth year since 2006 (MDEC, 2022).

As the Malaysian population becomes increasingly familiar with electronic payment channels and the convenience of digital financial services, the population's relationship with finance will continue to shift permanently to "digital first" as the new normal. Rahman, Ismail and Bahri (2020) report that cashless payments can be perceived as a complex technology and that understanding the factors that influence consumer adoption of cashless payments is a necessary process to enable electronic payments and comply with the global trend towards a cashless era. Besides, the concept of a cashless payment system has not yet reached a mature stage among Malaysian consumers, despite the efforts to encourage cashless transactions, consumers still lack the behavioral intention to consistently adopt E-Wallet as an intermediate payment method for conducting transactions to achieve a cashless society culture (Abdul-Halim, Vafaei-Zadeh, Hanifah, Teoh, & Nawaser, 2021). Understanding the factors that influence consumer adoption of cashless payments is necessary to enable electronic payments and comply with the global trend towards a cashless era (Rahman, Ismail, & Bahri, 2020). Consumers' perceptions of the value of money, perceived technological security, social impact, hedonic motivation, amenities, and performance expectations can all influence the adoption of E-Wallets (Rahman, Ismail, & Bahri, 2020). Further research is required to address

this general issue and promote the adoption of cashless payments in Malaysia.

2.2.2 Independent Variables

2.2.2.1 Social Influence (SI)

Social Influence (SI) was defined as the potential influences from individuals' surroundings on their behavioural intention to adopt new technologies such as E-wallets payment system (Nysveen et al., 2005). According to Venkatesh et al. (2003), SI occurred when individuals' intentions and behaviour are affected by the perceived influence of significant others. Indeed, SI mostly refers to the influence and motivation generated by the opinions or actions of significant others which encompassed family, friends, peers, and spouse. Hence, SI was believed to be one of the crucial contributors of E-wallet adoption among young adults in Malaysia (O. K. Tan et al., 2020).

Thai and Kuwa (2021) study discovered that individual intention behaviours toward E-wallet adoption were influenced by others. According to Chua, Lim and Khin (2020), SI had a positive effect on consumer behavioural intentions on the acceptance of E-wallet payment services. Furthermore, SI has been demonstrated to have a favourable and significant association with individual intention to embrace E-wallets (Yang, Mamun, Mohiuddin, Nawi & Zainol, 2021). SI was the most significant motivator in influencing consumer attitudes toward new technology such as E-wallets. People utilized E-wallets because SI may be defined as an encouragement or

persuade from their surroundings (Halim, Efendi, Butarbutar, Malau, & Sudirman, 2020). In fact, the adoption of E-wallets was facilitated by SI.

Xu et al. (2017) emphasized that E-wallet payment services consisted of financial activities, so individuals may be relied more on reliable user experience and correct information such as the opinion or suggestions given by their surroundings. Shafie et al. (2020) mentioned that people tend to believe important others or close people on their intentions to try exciting technologies since these people will not be cheated or offered them misleading information. Hence, it followed that SI will undoubtedly affecting on customer intentions about adopting new technology as well as E-wallets. Malaysian consumers' willingness and intention to use E-wallets may be influenced by the suggestions or feedback of significant others and surroundings, such as family or friends (T. T. Teoh et al., 2020). According to Patil, Tamilmani, Rana, & Raghavan (2020), consumers were sensitive of SI which will take the expectation of reference group into their account when adopting E-wallets. Thus, SI could be found that is one of the most influential and crucial aspects driving E-wallet adoption.

On the contrary, there are several studies pointed out that there is negative and insignificant relationship between the SI and the behavioural intention of adoption in E-wallets. According to Prasarry, Astuti, & Suyadi (2015), and as well as Shin and Lee (2021) claimed that SI does not significantly affect behavioral intention in the adoption of E-wallet. User's SI has no effect on the use and acceptance toward E-wallet because people less interested in some E-wallet application. They tend to use an application with multifunctional such as WeChat Pay which is a combination of social media platform and a payment services system (Intarot & Beokhaimook, 2018). SI were found to have no significant effect towards the behavioural intention on the working adults in e-payment adoption (Muda, Mohd, & Hassan, 2015). It had insignificant influence on the working adult's behavioural

intention on e-payment adoption since they were less influence by their peers rather than follow the crowd on the technology choices.

Previously, researchers employed a variety of different sampling methods, sample sizes, and groups to study whether SI affects individual behavioural intentions to embrace E-wallets in Malaysia. The average sample size was depended on the population of the study respectively. The most commonly sampling method was non-probability method which were convenient sampling method and purposive sampling method to collect data via distributed questionnaire (Thai & Kuwa, 2021; Indrawati & Putri, 2018; Shafie et al., 2020; Lee & Jais, 2022). The data collecting coverage location was undertaken in West Peninsular Malaysia in order to obtain data from Malaysians. Several studies collected data from undergraduate students at colleges and private or local universities in West Malaysia (Cha, Cheng, Cheu & Fan, 2021; Shin & Lee, 2021). Furthermore, Moorthy et al. (2020) focused on the population of working people in Malaysia who own a smartphone and was conducted in Klang Valley, Malaysia.

Aside from that, several statistical methods have been employed on earlier studies to analyze the correlation between SI and behavioral intention for E-wallet adoption. Firstly, the most common used statistical method in prior investigations was "Structural Equation Modeling (SEM)" (Junadi & Sfenriato, 2015; Islam et al., 2017; Migliore, Wagner, Cechella, & Liébana-Cabanillas, 2022; Alalwan, Dwivedi et al., 2017). Secondly, "Partial Least Squares Structural Equation Modelling (PLS-SEM)" has been applied in earlier investigations (Yang et al., 2021; Halim et al., 2020; Shin & Lee, 2021; M. Y. Leong, Kwan & Ming, 2021). Following that, "Multiple Linear Regression (MLR)" was utilized to evaluate the relationship between the dependent explanatory variables with determinant factors (Thai & Kuwa, 2021; Chua et al., 2020; Abdullah et al., 2020). Then, many past studies employed SPSS software to conduct the research, including SPSS Versions

20, 22, 25, and 26 (Shafie et al., 2020, Ooi, Hartini, & Loo, 2021; Yeow, Khalid & Nadarajah, 2017; Cha et al., 2021).

In conclusion, previous studies still existed inconsistent results on the relationship between SI and individual behavioral intention of the adoption of E-wallets in Malaysia. The majority of research revealed significant and positive results which proved the association between them. However, a few research studies demonstrated the insignificant results of SI on behavioral intention to adopt E-wallets. These inconsistencies could be attributed to various targeted sample groups or sizes in the study. It could also be due to individual differences such as age, education level, economic level, and gender. As a result of the inconsistency of relationships and results, there was a research gap in the study of the SI towards the behavioral intention of the adoption of E-Wallets.

2.2.2.2 Facilitating Conditions (FC)

Facilitating conditions (FC) was defined as the availability of appropriate resources and assistance for users to use technology smoothly (Neslin & Shankar, 2009). According to Venkatesh et al. (2003) stated that FC is the extent to which a person or consumer felt that uses E-wallet by conducting technological infrastructure exists to facilitate usage of the system. However, individuals may be prevented from adopting Internet technology by a lack of support, a delay in help, a limit of accurate information, and a lack of resources (Kamaghe, Luhanga, & Michael, 2020). Therefore, by its interactive and transactional capabilities, FC is a key component that promoted the adoption of mobile payments for small retail services and online goods purchases. Numerous studies have shown that the intention to use E-wallet was significantly impacted by FC, and they have also verified that consumers' knowledge of FC has a beneficial influence on their choice

to make an online payment (C. Y. Wong & Mohamed, 2021). FC included the degree of network connection, operation of E-wallet provider, government's support and others, all these will influence the adoption of E-wallet in the young adults in Malaysia. However, its impact on customers' intentions to use E-wallets is still arguable because a small, limited amount of research has concluded that it has little bearing on such intentions.

In accordance with Alalwan et al. (2017), Rahman et al. (2020) and Manrai, Goel, & Yadav, (2021) studies declared that favourable circumstances are expected to have a significant influence on Malaysian consumers' adoption of E-wallet payments. If consumers had the resources and knowledge required to adopt cashless transactions, they were more likely to adopt E-wallet service payments. While based on this result, Islam et al., (2017) and have the same insight. Bommer, Rana and Milevoj (2022) stated that the association between the antecedents and the desire to use E-wallets was expected to be weaker when the antecedent conditions were bad, such as low FC. Meanwhile, Putri (2018) study consumers gave the factor of FC good ratings. Chauhan, Yadav and Choudhary (2021) study concluded that one of the important predictors of desire to utilize cashless services is FC. This demonstrated that factors such as quick transactions, conveniently accessible online information, and the ability to contact customer care representatives online work as enabling factors for E-wallet services.

As Migliore Wagner, Cechella, & Liébana-Cabanillas, (2020) study examined from the respondents in the Chinese sample, FC have a substantial impact on their desire to utilize mobile payment. Mobile payment involved both physical infrastructure, such as dependable internet access, and human qualities, such as a sense of security while making purchases with a smartphone. They would anticipate a smaller correlation between the antecedents and the desire to use E-wallets when the antecedent conditions are poor, such as when the FC are low. Mombeuil (2020) study determined the relative benefits or convenience of several elements will promote the

adoption of mobile payments. Users of E-wallets should be aware that by prioritizing convenience above security, they may potentially jeopardize security and privacy protection. New technologies like E-wallet would be challenging to deploy without accompanying infrastructure. O. K. Tan et al. (2020), Moorthy et al. (2020) and Halim et al. (2020) studies with the aim to use an E-wallet, FC are strongly correlated. According to Ooi et al. (2021) study's findings, Malaysian youth frequently use smartphones, and could access a variety of information online. FC had a smaller impact on intentions than the other contextual factors. In other words, Sapian and Ismail (2021) researchers have shown that the most important factor influencing how well cashless transactions work with payment systems is the supporting environment. Additionally, the favorable effect of enabling circumstances on effort expectations and behavioral intentions suggests that mobile service providers could offer the training and support initiatives that might improve users' comprehension and use of mobile apps (Patil, Tamilmani, Rana, & Raghavan, 2020). Thus, FC could be found that is one of the most influential and crucial aspects driving E-wallet adoption.

On the contrary, there are still some previous studies on FC that are negative relationship. Government support also included as one of the FC to the adoption of E-wallet. Since the Malaysian government has assisted E-wallets recently, respondents from Thai and Kuwa (2021) felt that the providers of these services will operate in their best interests. However, the present analysis indicates that government support has a negligible effect on the uptake of E-wallets. Regarding to Wong et al. (2021) study, in demographic, FC is important. The desire for the convenience provided by an E-wallet is shared by consumers, but the final analysis showed that it is insignificant to FC. According to research by Yang et al. (2021), favourable circumstances can influence a consumer's decision to utilize an E-wallet with an online platform. In fact, because the current infrastructure cannot support such services, FC in some cultures and places cannot have a big impact. Furthermore, Lui, Zainuldin, Yii, Yii, & Go, (2021) stated that the FC factor wasn't a direct factor in how widely Alipay (one of the E-wallet

used in China) was used. This suggested that unless customers thought that adopting Alipay would improve their payment performance through mobile devices, FC might not be the key priority. While based on this result, Slade, Williams, Dwivedi & Piercy (2014), Oliveira, Thomas, Baptista, & Campos, (2016), Cha et al. (2021) and Wei et al. (2021) also have the same insight. From these previous studies examined that adoption is not considerably impacted by the facilitating situation. The skill, expertise, internet-based mobile technology equipment and endorsement from the Chamber of Trade and Industry are all positively rated by SME owners, but this does not prompt them to immediately adopt M-Commerce. The youthful generation's use of mobile payments is positively impacted, according to the marginal effect estimate of FC that shows the impact of infrastructural support. However, the impact is negligible. There also has another situation which is Intarot & Beokhaimook (2018) study stated that the adoption and usage of an E-wallet are no effect by the FC.

Previously, researchers employed a variety of different sampling methods, sample sizes, and groups to study whether FC affects individual behavioral intentions to embrace E-wallets in Malaysia. The average sample size is depending on the population of the study respectively. The most commonly sampling method is non-probability method which are convenient sampling method and purposive sampling method to collect data via distributed questionnaire (Putri, 2018; Halim et al., 2020; Wong et al., 2021; Bommer et al., 2022). Indeed, most researches will only concentrate on a specific location or school owing to financial or time limitations. Of course, there is no question that this will have some impact on the study's findings, but it is unavoidable. However, some researchers will still make every effort to broaden the area of their work. In order to conduct surveys and take into account the features of E-wallet in this region with quicker growth and higher acceptability of E-wallet, Abdullah et al. (2020) conduct study from students and staff of public universities in specific valley, which is Klang Valley. While it is feasible to calculate the necessary sample size using comparable techniques, various circumstances call for different sample

sizes. As an illustration, (Slade et al., 2014) gathers 244 valid and useable responses; (Alalwan et al., 2017) gathers 343 responses; (Ooi et al.,2021) gathers 402 responses from Gen Z, etc.

In addition, several mathematical techniques been put to use in past research to analyse the connection between FC and behavioral intention to adopt an E-wallet. First off, "Structural Equation Modeling (SEM)" was the statistical technique that was most frequently utilized in earlier studies (Chauhan et al., 2021; Yang et al., 2021; Migliore et al., 2022). Second, past works used "Partial Least Squares Structural Equation Modelling (PLS-SEM)" (Wong et al, 2021; Putri, 2018; Lui et al., 2021; Halim et al., 2020). The reliability between the dependent explanatory variables and determinant factors was then evaluated using the Cronbach Alpha test (Rahman et al., 2020; O. K. Tan et al., 2020; Intarot & Beokhaimook, 2018). Previously, many prior studies used SPSS software, including SPSS Versions 20, 22, 25, and 26, to perform the research (Sapian & Ismail, 2021; Patil et al., 2020; Ooi et al., 2021). Hedges and Olkin's Q test, meta analyses, and correlation matrix were employed in the study that came after Bommer et al. (2022) to analyse the data.

As a result, there are still conflicting findings from earlier studies about the association between FC and specific behavioral intentions regarding the use of E-wallets in Malaysia. The bulk of studies produce significant and encouraging findings that support the relationship between them. Nevertheless, a few studies show that FC had little impact on peoples' decision to use E-wallets. These discrepancies might be related to the study's differing targeted sample populations or sizes. It could also be brought on by individual variables including age, education, income, location, and gender. The study of the FC on the behavioral intention to use E-wallets has a research gap due to the inconsistent correlations and outcomes.

2.2.2.3 Price Value (PV)

Price value (PV) can be defined as a trade-off between what benefits a person gain from technology and what it costs them to use it (Venkatesh et al., 2012). Its influence on consumers' behavioral intention to adopt E-Wallet is still controversial, as there are a small number of researchers found that it is insignificant in affecting consumers' behavioral intention to adopt E-Wallet. However, PV combines the statement of cost and benefit, it is discussing their trade off. If the cost is more than the benefit, the PV will decrease; if the benefit is more than the cost, the PV will increase (Chauhan et al., 2021). While before the "price value" of UTAUT 2 appeared, some researchers used "perceived cost" or "perceived benefit" to measure whether these two factors would affect the behavioral intention of consumers to adopt E-Wallet. Both terms are representing each cost and benefit respectively that has combined in "price value". For example, cost can be transaction cost, switching cost for using them, etc. (Baptista & Oliveira, 2015). While benefit can be promotional price, voucher, discount, rebate, cashback, etc (Jun, Yoo, & Choi, 2018). Nonetheless, some researchers also used "discount received", "rewards", etc. to represent "price value" to measure the behavioral intention of consumers to adopt E-Wallet. Next, we will discuss the findings of these researchers accordingly.

Regarding this, Alalwan et al. (2017) stated that further financial costs in mobile banking, such as smartphones, 4G services, facilities, Wi-Fi, etc. make consumers pay more attention to the term of PV. On the top of this, Luarn and Lin (2005) and Yu (2012) mentioned that this is because consumers have a budget constraint, so they will have this concern. While the same, E-Wallet also has this situation too. This is because this kind of technology need to include all these costs to be able to pay smoothly, which is inevitable. However, based on this result, Bommer et al. (2022) and Teng and Kok (2021) have the same insight. Therefore, they emphasize that the

E-Wallet service provider can offset these inevitable financial costs by giving users discount vouchers or rewards, thereby increasing the PV of E-Wallet and prompting consumers to adopt it.

Nonetheless, according to the research results of Migliore et al. (2022) and M.Y. Leong et al. (2021), they proposed that PV does affect consumers' adoption intention. Migliore et al. (2022) has found that consumers choose to use the payment method when the benefits they get are more than what they need to bear. In addition, according to the researcher's further understanding, they also found that the users who widely adopted the technology will be particularly sensitive to price, and then the more concerned about the PV before using the technology (Frank, Enkawa, Schvaneveldt, & Herbas Torrico, 2015). As a result, L. Leong, Hew, Ooi and Wei (2020) proves that it is a good way to promote this cashless society by continuously giving consumers some benefits, such as monetary rewards, lower charges, etc., to let consumers slowly accept and change their payment methods.

Moving on, in the term of "perceived cost" that included in price value, Humbani & Wiese (2018) found that it has a significant negative relationship with the behavioral intention of consumer to adopt E-Wallet. The findings of this study are similar to (Migliore et al., 2022), which unless E-Wallet service providers can provide consumers with superior benefits, they will not succeed in persuading consumers to abandon current cash payment methods. Therefore, Cuong et al. (2020) stated that E-Wallet service providers can actively cooperate with relevant product/service providers to allow users to enjoy discounts when using the E-Wallet, thereby stimulating their desire to adopt E-Wallet. Not only that, since this has an impact on consumers, E-Wallet service providers can also focus on attracting the target customer group to adopt its E-Wallet service by providing targeted creative promotions to the target customer group.

On the other hand, there is a significant positive relationship between perceived benefit and consumers' behavioral intention to adopt E-Wallet (Ng & Ng et al., 2022). However, this perceived benefit generally affects only specific age groups, but for those over the age of 31, the effect on their behavioral intention to adopt E-Wallet by this factor decreases with age Sand rewards factor. Both of these factors have a significant positive relationship with consumers' behavioral intention to adopt E-Wallet (Sabli, Pforditen, Supian, Azmi & Zafar, 2021; Wei et al., 2021; Lee et al., 2020). In their research, N. Singh, Sinha and Liébana-Cabanillas (2020) found that mobile transaction providers increased their users by 38% in just one year (from 2017 to 2018) because they offered users cashback and service tax exemption. E-Wallet users in Malaysia also agree that E-Wallet does give them a lot of attractive incentives (Subaramaniam, Kolandaisamy, Jalil & Kolandaisamy, 2020).

However, there are still several researchers claimed that E-Wallet service providers should focus on improving security, performance, promotion, etc., which factors those consumers pay more attention to (Chua et al., 2020). This is because they found an insignificant correlation between PV and consumers' behavioral intention to adopt E-Wallets (Cha et al., 2021; Oliveira et al., 2016). For example, some respondents may not be users of E-Wallets and do not have much knowledge of E-Wallet, so they do not know what resources they need to use for mobile payments (Yang, Lu, Gupta, Cao & Zhang, 2012; Slade et al., 2014). In addition, the method of distribute questionnaire to collect data will cause respondents to not have an accurate cost judgment when answering the questionnaires, which will lead to inaccurate data collected (Chia, Wei, Ching, Vian & Yee, 2014).

In order to study the relationship between PV and the behavioral intention to adopt E-Wallet, different researchers use a set of sampling method, sample size, and location that they think is the most suitable for data collection. Among them, the most used sampling methods are convenience

sampling (Humbani et al., 2018; Sabli et al., 2021; Slade et al., 2014; Salloum, Al-Emran, Khalaf, Habes & Shaalan, 2019), followed by proposition sampling (Lee et al., 2020; Chua et al., 2020), judgmental sampling (Chauhan et al., 2021), snowball sampling (Migliore et al., 2022), and quota sampling (Cha et al., 2021), etc. However, due to funding or time constraints, most researchers will only focus on a single area or school. Of course, there is no doubt that this will affect the results of the study to some extent, but it is indeed inevitable. But even so, some researchers will still try their best to expand the scope of their research. Among them, M.Y. Leong et al. (2021) and T. T. Teoh et al. (2020) conduct research on multiple states in Malaysia, and considering the characteristics of E-Wallet, choose to conduct surveys in those places with faster growth and higher acceptance of E-Wallet. While as for the sample size, it is possible to determine the number of samples required by related methods, and the sample size required for different situations is different. For example, Oliveira et al. (2016) collects 301 responses, Abrahão, Moriguchi and Andrade (2016) collects 605 responses, Indrawati & Putri (2018) collects 120 responses, etc.

Furthermore, there are various statistical methods to test the relationship between PV and the behavioral intention to adopt E-Wallet. First, the statistical method most commonly used by researchers is structural equation modelling (SEM), which includes Migliore et al. (2022), Oliveira et al. (2016), Chauhan et al. (2021), Abrahão et al. (2016), and Alalwan et al. (2017). Next is the partial least squares structural equation (PLS-SEM), which used by M.Y. Leong et al. (2021), Wei et al. (2021), Salloum et al. (2019), and T. T. Teoh et al. (2020). Third, Multiple Regression Analysis (MLR) used by Humbani et al. (2018), Ng and Ng, (2022), Chua et al. (2020), and Kee et al. (2022). Finally, Norhaila et al. (2021) use Pearson Correlation Analysis. From the results of these researchers, we can observe that some of them conclude that there is a significant relationship between PV and consumers' behavioral intention to adopt E-Wallet, and some of them are not. For example, SEM is also used, but Chauhan et al. (2021) concludes that the PV will affect consumers' behavioral intention to adopt

E-Wallet, while Oliveira et al. (2016) is the opposite. Similarly, M.Y. Leong et al. (2021) and Abdullah et al. (2020) which also have the same problem with PLS-SEM.

In conclusion, we can conclude that these inconsistent results may be caused by the characteristic of respondents, sample size, sampling technique or other issues, not necessarily because of the use of different statistical methods.

2.2.2.4 Perceived Risk (PR)

Perceived risk (PR) is one of the major factors that will affect the consumers' intention towards the adoption of E-Wallet. Even though PR is not covered in any technology acceptance related models such as TAM, UTAUT or UTAUT2, it is a commonly used extension factor in many other studies (M, Williams, Rana, Dwivedi & Lal, 2011). It affects the intention to adopt negatively, which differs among the UTAUT2 constructs. Bauer (1960) was the first who put out the idea of perceived risk when analyzing consumer behavior. It was then increasingly addressed and described as a relevant dimension by the researchers in the study of e-commerce (Liébana-Cabanillas Higueras-Castillo, Molinillo, & Montañez, 2019). The analysis by Bauer (1960) has divided PR into the consumers' uncertainty and the beliefs of subsequent negative consequences. In addition, according to Cunningham (1967), the overall PR is defined by performance and psychological altogether, which are the amount that is at risk if the results were unfavorable and the individual's subjective perceptions that those results will be unfavorable. PR is one of the essential aspects to look into when determining the consumers' attitude toward the acceptance of mobile payment (Malik & Annuar, 2021).

According to the study done by Thakur and Srivastava (2014), security risk and privacy risk have been identified as a significant role in the subdimension of perceived risk. Security risk refers to the consumers' perceptions towards the safety of payment process and the storing and transmission of information by the mechanism (Kolsaker & Payne, 2002). According to Liu (2015), users have the concerns of their mobile devices might be hacked through Bluetooth, radio frequency identification (RFID) or the download and scanning of QR codes. Users too have security concerns with the PIN and authentication mechanisms while performing transactions (Liao & Cheung, 2002; Thakur & Srivastava, 2014). On the other hand, privacy risk is referring to the perception of consumers that the relevant authorities might invade their privacy by using their information without their permission (Nyshadham, 2000). For instance, the transaction records, personal information such as mobile phone numbers, billing address, card details, identity card numbers, as well as other private information are in concern to be invaded (Thai & Kuwa, 2021). There are a number of past studies have concluded both security and privacy risk to be significant factors inhibiting the adoption of mobile payment technologies (Loh, Lee, Tan, Ooi, & Dwivedi, 2020; Mombeuil, C., 2020; Wong & Mohamed, 2021). Hence, in our study, PR is explained through the composition of security and privacy risk.

In the context of the E-Wallet adopting intention in Malaysia, many studies discovered the significant impact of PR. With TAM as the based theory model, Karim et al. (2020) obtained the result of security and privacy risk have significant negative influence towards behavioral intention of young adults in Malaysia to use E-Wallet. Consistent with the findings by Lee et al. (2020) that focuses on youths in Malaysia; Chelvarayan, Sook, Han and Hashim (2022) that focuses on Malaysia university students; and Teo et al. (2020) that focuses on Sarawak. Karim et al. (2020) mentioned their findings of privacy and security have a significant relationship with the

young adults' behavioral intention to use E-Wallet in Malaysia. In addition, they emphasized that the use of E-Wallet will be resisted by consumers if privacy and security are not adequately protected.

Similarly, the recent study conducted by Sabli et al. (2021) revealed that perceived security would exert adverse impact to the usage of E-wallet payment services in Malaysia. Although Sabli et al. (2021) admitted their limitation of sampling methods that could not represent the general population of Malaysia, they still claimed that attention needs to be given on the perceived security with a distinct research standpoint. On top of that, Batra and Kalra (2016) concluded that consumers' top concerns were related to the security of financial transactions. In other words, as the E-Wallet systems gets more secure, more people will be motivated to adopt it. However, the findings from Osman and Leong (2021) regarding intention of Universiti Putra Malaysia students to adopt E-Wallet showed that security has a moderate significance as some of their respondents perceived E-Wallet to be secure.

Anyhow, on the contrary, there are quite number of research argued that PR are not significant in influencing the adoption of new electronic payment method (Ng & Ng, 2022; Thai & Kuwa, 2021). Abdullah et al. (2020) and T. T. Teoh et al. (2020) have claimed the insignificant effect of perceived security and perceived risk respectively, in spite the fact that both of them recognized those as one of the relevant constructs to be included in the testing of E-wallet adoption. T. T. Teoh et al. (2020) argued that most of their respondents are Gen Z, and this may be the case as Gen Z are not likely to have such concerns about risks while trying out the new technology. The users might not yet be aware of the possibility of having their financial or personal information stolen by fraudsters online (Chan, Leong & Lim, 2020). Trocchia and Janda (2000) claimed that younger users mainly focus on the usefulness as they are more experienced on the Internet, as compared with the older ones, who usually perceive higher level of risk due to the

inexperience. On top of that, M. Y. Leong et al. (2021) claimed that the usefulness of E-Wallet would not be affected although consumers are wary of possible risks on the new technology.

Past researchers have recruited their sample group with different sampling methods in different locations with different total sample size to investigate the relationship between PR and the behavioral intention to adopt E-Wallet in Malaysia. Most frequently used sampling methods are convenient sampling (Shafie et al., 2020; Thai & Kuwa, 2021) and purposive sampling (Chan et al., 2020; Chua et al., 2020; Loh et al., 2020). In order to obtain a sample group best represent the whole nation population, Ishak, Mohamed, & Muhammad, (2020) and T. T. Teoh et al. (2020) distributed their online questionnaires to Malaysia cities in the Central, Northern, Southern, and East Coast Regions. There are several studies only focuses on specific university or private institution with the sample size ranging from 100 to 400. For instance, Chan et al. (2020) collected 233 responds from E-Wallet users in Malaysia, Osman and Leong (2021) collected 200 responds of students from a university in Selangor.

In addition, past researchers have utilized different statistical methods to analyse the collected data, therefore it led to inconsistent results on the relationship between PR and behavioral intention to adopt E-Wallet. The most frequently used statistical methods are multiple linear regression (MLR) (Chelvarayan et al., 2022; Chua et al., 2020; Moorthy et al., 2020; Thai & Kuwa, 2021), structural equation modelling (SEM) (Barkhordari, Nourollah, Mashayekhi, Mashayekhi & Ahangar, 2016; Chauhan et al., 2021; Migliore et al., 2022) and partial least squares structural equation (PLS-SEM) (Karim et al., 2020; Loh et al., 2020; M. Y. Leong et al., 2021). For instance, Chelvarayan et al. (2022) and Moorthy et al. (2020) who utilized MLR analysis have concluded that PR significantly influenced university students' intention to adopt E-Wallet. On the other hand, Barkhordari et al. (2016) and Migliore et al. (2022) utilized who utilized

SEM have concluded the insignificant relationship of PR and behavioral intention to adopt. However, Thai and Kuwa (2021) found out insignificant relationship between them by using MLR meanwhile Loh et al. (2020) found out significant relationship by using PLS-SEM as their statistical method. On the contrary, Abbasi, Sandran, Ganesan and Iranmanesh (2022) have claimed that qualitative comparison analysis should be utilized so as to capture and examine the combined effect of the relevant factors. They have resulted an insignificant relationship between security and continuance use intention of E-Wallet. It is suggested that the results are determined by a number of complicated casual relationships.

In short, by reviewing past studies, we can conclude that there are inconsistent findings on the relationship between PR and behavioral intention to adopt E-Wallet. Most of the studies have resulted significant negative relationships between them yet insignificant results still exist. It could be due to the different demographics of respondents, such as age, gender, occupation, cultural background, and family status, that will result in different view and preferences on the usage of new technology. Besides, it could be due to the different sampling methods as well as the different statistical methods. Hence, it is clear that there is a research gap in the study of relationship between PR and behavioral intention to the adoption of E-Wallet.

2.3   Conceptual Framework

Figure 2.2

"Conceptual Framework"

"Independent Variables"   "Dependent

Variable"
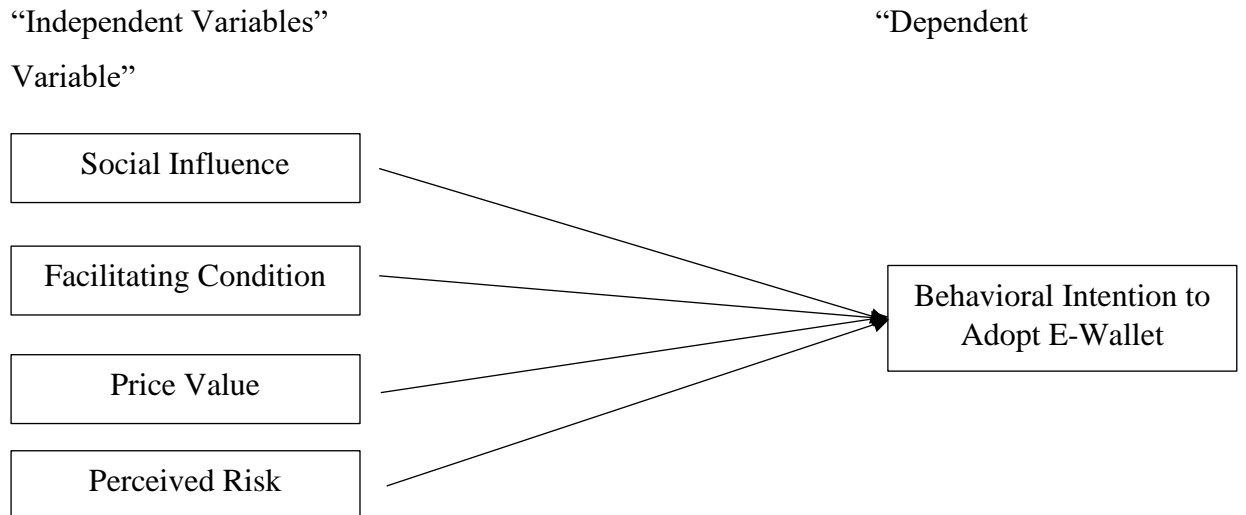
After reviewed UTAUT2 and other past studies, we proposed a conceptual framework (Figure 2.2) to investigate the behavioral intention to adopt E-Wallet among young adults in Malaysia. We adopt three factors from UTAUT2, namely Social Influence, Facilitating Condition, and Price Value, to conduct our study. In addition, according to various past studies, perceived risk has claimed to be one of the significant factors inhibiting the adoption of E-Wallet in Malaysia. Hence, we extended the framework by adding perceived risk as one of the independent variables even though it is not included in UTAUT2.

In short, the four independent variables that introduced in this conceptual framework are Perceived Risk, Facilitating Condition, Social Influence, and Price Value. We will be using this framework to construct the hypotheses for our study in the following section.

2.4   Hypothesis Development

2.4.1 Social Influence (SI) and Behavioral Intention to adopt Electronic Wallet (E-Wallet)

Social Influence (SI) has proved to have a substantial effect on the behavioral intention of E-wallet adoption. SI occurred when individuals' behavioral intentions were impacted by others. Oliveira et al. (2016) shows that individuals are significantly affected by the opinions of those around them. SI was discovered to be more significant when forming the adoption of new technologies (Shafie et al., 2020). SI was the degree of individuals believed that important people in their life which including family, friends, and peers that believed they should utilize a specific technology (Hirnissa, Zariyawati, & Fadilla, 2021). Several studies have found that SI has a very strong and favorable impact on the behavioral adoption of new technology by the people surrounding them (Alalwan et al., 2017; Oliveira et al., 2016; Manrai et al., 2021). People frequently believed the advice or recommendations of significant others or those in their close surroundings since they know that they won't be deceived or given misleading information. Thus, SI had a significant impact on individuals' intent to embrace E-wallets, since people preferred to seek feedback from their peers about their user experiences (Shafie et al., 2020). Prior study has found that SI has a major impact on human behavioral intention when it came to adopting new technology systems such as E-wallets. As a result, the findings show that SI had a substantial positive link with E-wallet adoption (T. T. Teoh et al., 2020). Thus, SI such as ideas or feedback from the surroundings could impact individuals' propensity to embrace E-wallets. Based on the abovementioned literature, the following hypothesis was formed:

"H1: There is a significant relationship between Social Influence (SI) and the Behavioral Intention (BI) to adopt E-wallets in the young adults in Malaysia."

2.4.2 Facilitating Conditions (FC) and Behavioral Intention to adopt Electronic Wallet (E-Wallet)

Venkatesh et al. (2003) had shown that FC was the extent to which an individuals should believe that utilizes an E-Wallet by undertaking technological infrastructure exists to enable utilization of the system. Regarding Kamaghe et al. (2020), it mentioned that people may be deterred from using electronic items by a lack of assistance, a delay in assistance, a lack of correct information or a lack of resources. The results of the Yuan, Tan, Ooi, & Lim, (2021) study shown that Malaysian adults commonly use mobile phones and accessing to a huge range of internet resources and payments. Previous researchers' analysis of the results tried to argue that the impact of FC on the BI to adopt an E-wallets and concluded that there is a significant influence of those conditions in a variety of developing nations, including Malaysia, Jordan, and India (Mohamad & Kassim, 2019; Alalwan, Dwivedi, Rana & Williams, 2016; Latha & Vatchala 2019). As a result, all of the previous studies discovered a significant impact between the FC and adults in Malaysia's behavioral intention to adopt E-wallets. In the end, this study developed the following second hypothesis:

"H2: There is a significant relationship between Facilitating Conditions (FC) and the Behavioral Intention (BI) to adopt E-wallets in the young adults in Malaysia."

2.4.3 Price Value (PV) and Behavioral Intention to adopt Electronic Wallet (E-Wallet)

There were many findings has claimed that Price Value (PV) has a significant impact on the behavioral intention of the adoption of E-wallet. PV is regarded as one aspect that will strongly impact the effect of

behavioral intention to embrace E-wallets among Malaysian adolescent adults. PV can be defined as a trade-off between the benefits acquired by an individual and the cost of employing new technology, such as an E-wallet. Frank et al. (2015) claimed that people who accept new technology tend to be very price sensitive, which causes them to be more concerned about the PV of new technology before embracing it, such as E-wallets. Given that some people may be reluctant to use an E-wallet due to concerns about the high adoption's costs against benefits (Luarn & Lim, 2005; Yu, 2012). This is due to the inevitability and necessity of including all potential fees such as opportunity cost associated with using an E-wallet rather than a traditional payment method (Bommer et al., 2022; Teng & Kok, 2021). Baptista and Oliveira (2015) has mentioned that these potential costs may include transaction fees or switching fees associated with shifting from traditional payment methods to E-wallets. However, if individuals received benefits or rewards for using an E-wallet, it might raise its PV of E-wallet and boost user contentment, which would have a significant impact on how widely adopted it becomes (S. Singh & Srivastava, 2020). Thus, the following hypothesis is proposed:

"H₃: There is a significant relationship between Price Value (PV) and Behavioral Intention (BI) to adopt E-wallets in the young adults in Malaysia."

2.4.4 Perceived Risk (PR) and Behavioral Intention to adopt Electronic Wallet (E-Wallet)

According to the research above, Perceived Risk (PR) has a considerable impact on the behavioral intention towards the adoption of E-wallet among the young adults in Malaysia. Regarding to Pham and Ho, (2015), services are seen as riskier than products due to the higher degrees of uncertainty that were connected to them. The perception of danger has been examined in

earlier research as a barrier of the mobile payment's adoption. The subjective anticipation of a loss or sacrifice when adopting a dangerous technology is referred to as PR. From Hubert, Blut, Brock, Backhaus, & Eberhardt, (2017) research on consumer behavior generally agreed that one key element affecting a consumer's choice is PR. There were three different risk factors which are financial, performance, and security concerns were taken into account as antecedents of mobile buying behaviour. Additionally, it was shown that young people's online buying habit is discouraged by perceived hazards. There are four factors such as performance risk, financial risk, psychological risk, and social risk on which perceived hazards might be built (D. F. Cox, 1967). Hence, there were postulated the first hypothesis in this research:

"H$_4$: There is a significant relationship between Perceived Risk (PR) and the Behavioral Intention (BI) to adopt E-wallets in the young adults in Malaysia."

2.5   Conclusion

After completing this chapter, we have had a better understanding of the variables that we proposed and doing so will help our further research to be able to conduct more accurate studies. In addition, by reviewing various past studies, we found that there are inconsistent results of Facilitating Condition (FC), Social Influence (SI), and Price Value (PV). At the same time, we are also trying to close the gap in terms of including the perceived risk (PR) in our study, which we believed will be a contribution to UTAUT 2.

CHAPTER 3: RESEARCH METHODOLOGY

3.0   Introduction

In *Chapter 3*, we will discuss the research methodology for this study after developing the conceptual framework and hypothesis in *Chapter 2*.

Firstly, we will be discussing "*Research Design*" of the study, followed by "*Data Collection*" and "*Sampling Design*". Moving on, the "*Research Instrument*" and "*Constructs Measurement*" will be addressed to indicate the details of the questionnaire designing for the study. Last but not least, we will be addressing "*Data Processing*" and "*Data Analysis*" in *Chapter 3*.

3.1   Research Design

Research design was referred as the tool and detailed proposal utilized to tackle the problem of research efficiently (Zikmund, Babin, Carr & Griffin, 2013). Our study investigated the variables that influenced young adult Malaysian individuals' behavioural intentions toward the adoption of E-Wallets. There were two sorts of research designs which were quantitative research and qualitative research.

Quantitative research entailed numerical measurement and statistical analysis of data in numerical form. Quantitative research focused on identifying the correlation between all of the variables and the objective of the study. Statistical method can be utilized to measure all of the variables for analysing all of the data. The value measured using the quantitative method will be expressed in a numerical value instead of their characteristics, allowing us to execute mathematical calculations

with it to obtain the outcome (Rasinger, 2013). In essence, we could employ this quantitative data to perform statistical tests on or interpret the data (Rahman, 2016). Therefore, by performing all these statistical analyses, we will be able to extract crucial information from our research data, such as demographics, group differences, and preference trends.

In this study, we applied quantitative research methods. The questionnaire's questions were using a 5-point Likert Scale and a closed-ended response structure to let the respondents only can selects from a limited selection of choices (Sidek, 2015). As a result, our questionnaire will be designed as a fixed alternative with closed-ended questions for the respondents. This form of questionnaire allowed the participant to choose their answers from a predetermined list of possible options (Hruschka et al., 2004).

3.2   Data Collection

The collection of data samples was a critical phase in this research. Researchers might not be capable of investigating the interests of the entire population in a quantitative study. Consequently, samples from the subset of the overall population will be used by researchers (Khalid, Abdullah, & Kumar, 2012). The information and data sources acquired were classified as primary or secondary data (Sekaran & Bougie, 2016). Although primary data collection required more time and effort than secondary data collection, but it delivered more accurate and detailed data as needed. Thus, we will collect primary data in order to conduct the research in this study. The purpose of this study was to collect primary data on the factors that influence young adults' behavioral intentions regarding the adoption of E-wallets in Malaysia.

3.2.1 Primary Data

Primary data is information that has been obtained by the researchers themselves through surveys, interviews, experiments, etc. to better understand and address the research problems (Benedictine University Library, 2023). In this study, primary data is being used to study the variables by employing a questionnaire to collect sample data. In order to accomplish the research goals and gather information pertinent to the investigation, the quantitative primary data in this study was collected via distributing a closed-ended questionnaire.

According to Zikmund et al. (2013), the questionnaire is more reliable than other approaches because it is constructed in written form and provides respondents with multiple options for each question. A questionnaire is a collection of questions designed to elicit information from respondents about their experiences or opinions. A well-designed set of closed-ended questions can assist researchers in immediately grasping the data while also making it simple for respondents to answer (Bhandari, 2021). Daniel (2016) has stated that the questionnaire replies are kept completely anonymous, private, and confidential.

The questionnaire in this study contains a series of questions about behavioral intentions regarding the adoption of E-Wallets. The questionnaire method was chosen because it could swiftly reach people, saving time and money (Cleave, 2021; Zikmund et al., 2013). There are also several previous research employed the questionnaire method to study the factors that influence E-Wallet adoption in Malaysia (Chan et al., 2020; Thai et al., 2021; Wong et al., 2021).

3.3 Sampling Design

3.3.1 Target Population

Target population is the demographic of the researchers intended to conduct research in and develop findings from (Barnsbee et al., 2018). The chosen targeted population has to be depending on the literature and practices, the study's objectives, and the contextual information. The researchers have to make sure that the chosen targeted population is able to provide them the correct data for the study.

The objective of this study is to investigate the factors determining the intention to adopt E-Wallet among young adults in Malaysia. Hence, our targeted population of this study is young adults in Malaysia that are aged between 18 and 40 years old.

3.3.2 Sampling Location

Sampling location refers to the place where the data collection of a research study is conducted. This study is targeted to investigate young adults in Malaysia; hence the sampling location will be covering both West and East Malaysia. According to Department of Statistics Malaysia (2022), Selangor, state that located in central region of Malaysia, has the largest population density in Malaysia, followed by Penang which located in northern region of Malaysia. On the other hand, Selangor, Johor, and Sabah were the three states with the greatest population composition in 2022, accounting for 21.6%, 12.3%, and 10.4% respectively. In addition, it is reported that Cyberjaya in Selangor, Penang Island, and Iskandar Puteri in Johor have

shown both the crystallization of technology advancement and involvement in the ecosystem that drives Malaysia's digital economy (MDEC, 2021). These states are the best representative to represent the targeted population of Malaysia young adults who able to provide us the desired information for our study. Therefore, we collected data by focusing on states Penang (Northern region), Selangor (Central region), Johor (Southern region), and Sabah (East Malaysia).

3.3.3 Sampling Elements

A sampling element is referred to the object about or from which the information is desired. Researchers will select a subset of the population with certain desired elements to be studied by employing a specific sampling technique. The main target respondents of this study are individuals aged between 18 and 40 years old, who are smartphone users, E-Wallet users or individuals who are considering using E-Wallet in the future.

3.3.4 Sampling Technique

In statistics, sampling refers to the process of selecting a representative sample of a larger population to utilize in a study. There are two major techniques in sampling which are probability sampling and non-probability sampling. Probability sampling refers to a random sampling which allows every individual to have an equal chance of presence in the sample, while non-probability will not provide such a basis (Etikan & Bala, 2017).

Quota sampling (under non-probability; purposive sampling) has been chosen to be the sampling methods for this study. It is a sampling technique whereby the researcher selects respondents from targeted groups based on predetermined characteristics or quota (Taherdoost, 2016). As a result, we are able to focus on particular groups of people who can provide the needed information as they meet certain criteria that the researcher has developed for the study (Sekaran & Bougie, 2016). According to Yang and Banamah (2014), non-probability sampling methods do not adhere to any principles hence quota sampling can be utilized without a sampling frame. Depending on the aim of the study, each non-probability sampling technique has its own set of guiding principles and standards. Furthermore, it has been asserted that quota sampling is similar to stratified sampling (probability sampling) because it guarantees that all population subgroups are suitably fairly represented in the sample, despite the fact that the subjects are chosen in a non-random manner.

Quota sampling technique has been used by numerous past researchers to investigate the behavioral intention to adopt E-Wallet. Chan et al. (2020) have utilized quota sampling to choose respondents who had used web-based mobile payment but not the smartphone E-Wallet application. It is also employed by Lee and Jais (2022) to gather responses from new E-Wallet users for their study. On the other hand, Ramadhani, Astuti, & Nasirun (2022) from Indonesia have also applied quota sampling and included a filter question to their questionnaires to make sure the respondents fit their study's requirements. Quota sampling is utilized as it enables the researchers to approach respondents that are matched with their aim of study.

In short, we adopted quota sampling technique in this study to select respondents based on predetermined characteristics, who are smartphone users and E-Wallet users or are considering using E-Wallet in the future. Besides, we set sampling location subgroups of the four selected states

(Penang, Selangor, Johor, Sabah) and collected respondents based on the weightage of each state's population.

3.3.5 Sampling Size

G*Power statistical software has been adopted to calculate the minimum sample size for this study. The G*Power software allows us to calculate sample size and power for a variety of statistical methods, such as F-test, t-test, χ^2-test, z-test, and exact tests. Researchers can use this software to estimate sample size and conduct power analysis. This software is helpful for researchers to estimate the sample size. Hence, we will be using G*Power software to determine the sample size required for our study.

We set our effect size as medium impact ($f^2=0.15$), significance level at 5%, statistical power at 0.80 (Abdul-Halim et al., 2021), with four predictors according to our research framework. After using G*Power 3.1.9.7 to perform calculation, we got the result of 85 as our required minimum sample size. However, in order to provide a better result in the later progress, we will be targeting to collect 300 sample size. The sample size of 300 is thought to be adequate to represent a large population (Saunders, Lewis & Thornhill, 2016).

3.4 Research Instrument

3.4.1 Questionnaire

In this study, we had collected primary data to conduct the regression. Primary data refers to the data that are collected by the researchers themselves through surveys, interviews, or experiments, etc., that are specially designed to have a better understanding and solve the study topic (Benedictine University Library, 2023). Although primary data collection takes more time and effort to conduct as compared with secondary data collection, it provides more accurate and specific data as per needed. Besides, primary data is collected in real time, and we can have full control over the data collection (Formplus Blog, 2020). Furthermore, we also had conducted quantitative primary data collection through distributing a closed-ended questionnaire. The questionnaire referred to a set of questions intended to collection information from respondents about their experiences or opinions (Bhandari, P.,2021). According to Bhandari, P. (2021), a set of closed-ended questions that are well-designed could benefit the researchers to understand the result quickly at the same time it is also easier for the respondent to answer. Besides, questionnaires could reach out to people quickly which it would be timesaving and cost-saving (Cleave, P., 2021).

Our questionnaire consisted of three parts which were Section A, B, and C. Section A collected data regarding demographic profile of respondent data. There was a total of 10 questions under this section, while the first five questions were about personal information which including "gender, age, education level, current working status, and ethnicity", and the other five questions are about other information related to our topic of study. On the other hand, our Section B was regarding dependent variables (Behavioral Intention to Adopt E-Wallet), and it consisted of 5 questions. As Section C, we set a total of 21 questions under this section, which was to determine our independent variables (Social Influence, Facilitating Conditions, Price Value, and Perceived Risk).

Both Section B and C were in Likert scale. This is because Likert scale questions are considered as one of the most common tools to measure respondent's attitude or opinion towards a certain topic. Respondents were asked to response how much they agree or disagree the statement between the scale range from 1 to 5, where 1 indicates "Strongly Disagree", 2 indicates "Disagree", 3 indicates "Neutral", 4 indicates "Agree" and 5 indicates "Strongly Agree".

3.4.2 Pilot Test

Pilot testing can be said to be a simplified version of formal research. Its' process, procedures, methods, objects are usually to be the same in our future main research ("Pilot Test," 2018). It is usually done before we conduct our main research to ensure our research can run smoothly and get a result with the least error. By conducting a pilot testing, we could avoid the situations where the respondent doesn't understand our question, the wording of the question leaks the answer and result in a biased result, the research period takes longer than expected, asking an unimportant question, etc (Malmqvist, Hellberg, Möllås, Rose, & Shevlin, 2019). This is because if we find errors during the pilot test, we can correct them immediately during our formal large-scale research. Other than that, the circumstance that spending a lot of manpower and material resources but obtaining a poor research result also can be avoided too (Matt Wright & Nick So, 2021).

We started our pilot test on 10th September 2022, and we took about 1 week to complete. First, regarding the sample size, as Browne (1995) mentioned that 30 of sample size is enough for a pilot test, so we collected 30 responses from our target respondents, which is young adult, by sending google form link to them. While, after we had collected the data we need in pilot test, we used software SPSS 29.0 to test the reliability and accuracy of the data. We

continued to collect the remaining data before our main research after we passed the Cronbrach alpha test in the pilot test.

3.5   Constructs Measurement

Construct measurement is essential for maintaining the reliability of the findings and outcomes in this study. Researchers focused a lot of their effort on construct measurement (Boyd, Bergh, Ireland & Ketchen, 2013). Over than 50% of earlier studies used the questionnaire approach, according to researchers (Mohammad & Siti & Aidi, 2015). It is employed to demonstrate the reliability of all the findings and outcomes.

3.5.1 Measurement Scale

Measurement scale is the process of assigning symbols, such as numerical value to an object's attributes in accordance with predetermined rules (Sekaran & Bougie, 2016). Understanding the various levels of measurement is essential for the researcher because these levels of measurement, together with how the research question is framed, determine what statistical analysis is acceptable (M. N. Williams, 2021). Using the scale of measurement, the variables were grouped and quantified for measurement. Therefore, the nominal scale, ordinal scale, and interval scale are the three measuring scales utilized in this study.

3.5.1.1 Scale of Nominal

A fundamental quantitative strategy is described as "nominal scale". According to Blumberg, Cooper and Schindler (2014), the collection of nominal data entails gathering details about a variable which may be divided into two or more categories that are mutually exclusive and collectively exhaustive. When the data comes from significant subsets of the population, nominal data is frequently employed in surveys. Nominal data are categorized according to things like the respondents' marital status, gender, country, and other relevant characteristics (S. Dalati, 2018). The nominal scale was categorized in Section A of this survey, as followed.

"Example of nominal scale:"

"Gender"
- o "Male"
- o "Female"

3.5.1.2 Scale of Ordinal

Non-parametric statistics are often regarded as the best alternative for analysis when the data are ordinal (Bishop & Herron, 2015). Not only may data be categorized using an ordinal scale, but it can also be ranked using one (Mistrik, Soley, Ali, Grundy & Tekinerdogan, 2016). An ordinal scale, however, provides little to no information on how much the two measurement points differ from one another (Mistrik et al., 2016). Generally, there is not an equal ordinal between two subsequent measurement places on an interval scale (MacKenzie, 2013). This scale was used in Section A. According to Forthofer, Lee, & Hernandez, (2006), age group identified

using an ordinal scale. As a result, the age group for this study had indicated using the ordinal scale as follows:

"Example of ordinal scale:"

Age (years old) :
( ) 18 – 25   ( ) 26 – 40

3.5.1.3 Scale of Interval

According to Wu et. al. (2017) stated its overall score is treated as an interval statistic based on some Likert-like queries. This is because the values are considered to have a uniform distance between directionality and thus qualify to be classified as interval statistics. In the past, Lord (1953) argued that the most important factor in a statistical analysis was its meaning. Stevens (1946) did concur that considering ordinal scales as interval scales produced a number of productive and meaningful results, and this was reiterated in Knapp (1990). Measurements that represent a case's relative importance are interval scale. Examples might be attitudes or opinions (such as strongly agree and strongly disagree). With interval measurement, one may effectively organize the values by knowing the relative differences between them. From Matthews (2017), he was describing how the interval scale, which ranges in rank by 1 (Strongly Disagree) to 5 scales (Strongly Agree), may be used as an example of an interval scale using the model. Only the answers to the questions that were posed were permitted for respondents to choose from the scale. He also concluded that researchers can make correct decisions using the interval scale (Matthews, 2017). This puts us in a position to use the scale of interval in the research to pose the

questions listed below about the dependent variables and independent variables.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	I intend to use an E-Wallet in my daily life.	1	2	3	4	5

3.5.2 Origin of Construct

Table 3.1

"Summary of Measures Used for Pilot Test"

Variables	Items	Adapted from	Scale
Dependent Variable: Behavioral intention to adopt E-Wallet	5 items	Kim et al. (2010), Indrawati et al. (2018), Chern et al. (2018), Abrahão et al. (2016), and Yang et al. (2021)	Strongly Disagree (1) to Strongly Agree (5)
Independent Variables 1: Social Influence (SI)	5 Items	Aydin and Burnaz (2016), T. T. Teoh et al. (2020), and Indrawati and Putri, (2018)	Strongly Disagree (1) to Strongly Agree (5)
Independent Variables 2:	5 Items	Patel (2016), Cha et.al. (2021), Wei et.al., (2021)	Strongly Disagree (1)

Facilitating Conditions (FC)			to Strongly Agree (5)
Independent Variables 3: Price Value (PV)	5 Items	Cha et al. (2021), Goh (2017), and Sabli et al. (2021)	Strongly Disagree (1) to Strongly Agree (5)
Independent Variables 4: Perceived Risk (PR)	5 Items	Aydin and Burnaz (2016), De Luna et al. (2019), Loh et al. (2020) and Razif et al. (2020)	Strongly Disagree (1) to Strongly Agree (5)

3.5.3 Operation Definition: Measurement of DV and IV

The present study identifies four key determinants that influence the behavioral intention to adopt e-wallets, namely: Perceived Risk (PR), Convenience (FC), Social Influence (SI), and Price Value (PV). All items were measured using a standardized Five Point Likert Scale.

3.5.3.1 Behavioral intention to Adopt E-Wallet

The concept of E-Wallet adoption pertains to the willingness of individuals to embrace and subsequently utilize electronic wallet services (Tella & Olasina, 2014).

The measurement of the "Behavioral Intention to Adopt E-Wallet" construct in this study was based on a set of five items adapted from previous studies,

including Kim et al. (2010), Indrawati et al. (2018), Chern et al. (2018), Abrahão et al. (2016), and Yang et al. (2021). Examples of the sample items used in this study for measuring the Behavioral Intention to Adopt E-Wallet are *"I intend to use an E-Wallet in my daily life"*, *"I intend to use an E-Wallet because I realized it is beneficial."*, *" I intend to use the E-Wallet for regular financial management and transaction"*, *" Five years from now, I intend to pay for purchases with the E-Wallet"*, and *" I think it will be worth it for me to adopt E-Wallet when it's available."*.

3.5.3.2 Social influence (SI)

Social Influence (SI) is believed to be one of the crucial contributors of E-wallet adoption among young adults in Malaysia (O. K. Tan et al., 2020). SI refers to the potential influences from individuals' surroundings on their behavioural intention to adopt new technologies such as E-wallets payment system (Nysveen, Pedersen, Thorbjørnsen, & Berthon, 2005). Indeed, SI mostly refers to the influence and motivation generated by the opinions or actions of significant others which encompasses family, friends, peers, and spouse.

In this research, SI is measured by five items. These items are adapted from Aydin and Burnaz (2016), T. T. Teoh et al. (2020), and Indrawati & Putri, (2018). The sample item for SI are *"I easily get influenced by my surroundings (family, friends, peers, etc.)"*, *"I tend to seek feedback and suggestion from my surroundings (family, friends, peers, etc.) regarding their user experiences before deciding to adopt E-Wallet payment services"*, *"My surroundings (family, friends, peers, etc.) are using E-wallet payment services"*, *"I am more likely to adopt an E-wallet payment system when more of my surroundings (family, friends, peers, etc.) begin to use E-wallet payment services"*, and *"When my surroundings (family, friends, peers, etc.)*

*are satisfied with E-wallet payment services, they recommend and persuade
me to adopt them".*

3.5.3.3 Facilitating Conditions (FC)

Facilitating conditions (FC) is defined as the availability of appropriate
resources and assistance for users to use the technology successfully (Neslin
& Shankar, 2009). FC also refers to the extent to which a person or
consumer perceives that the E-Wallet facilitates the use of the system by
carrying out the technological infrastructure (Vankatesh et al., 2003)

The present study assessed Facilitating Conditions using a set of five items
that were adapted from previous research by Patel (2016), Cha et al. (2021),
and Wei et al. (2021). Examples of the sample items used to measure FC
include *"I have stable Internet access to support when I utilize the E-Wallet
transaction.", "I have Enough Knowledge about E-Wallet when I utilize E-
Wallet.", "Many retailers and government are encouraging and
accepting mobile payment services nowadays.", "E-Wallet live chat able to
help me if I ran into any problems.", and " Instructions of E-Wallet is
simple to understand (such as the application's handbook and the
information guide) when utilities E-Wallet.".*

3.5.3.4 Price Value (PV)

Price Value (PV) can be defined as a trade-off between what benefits a
person gain from technology and what it costs them to use it (Venkatesh et
al., 2012). Migliore et al. (2022) has found that consumers choose to adopt

E-Wallet payment method when the benefits they get are more than what they need to bear.

In this research, PV is measured by five items. These items are adapted from Cha et al. (2021), Goh (2017), and Sabli et al. (2021). Those sample item for PV are *"E-Wallet service provider always held cashback rebate activity for its users. (Eg: Make any transfer RM5 to get RM0.50 cashbacks)", "E-Wallet service provider always held discount activity for its users (Eg: Enjoy 10% discount if using TNG E-Wallet)", "I think that E-Wallet provider will provides more promos and vouchers in the future", "I think that E-Wallet saves more time and cost.",* and *"E-Wallet does NOT require me to pay other extra cost (subscription fee, service charges, etc.), and it is worth to utilise it.".*

3.5.3.5 Perceived Risk (PR)

Perceived risk (PR) is one of the main factors influencing consumer adoption of e-wallets. According to Cunningham (1967), perceived risk is defined by a combination of performance and psychological, which are the amount that is at risk if the outcomes are unfavourable, and the individual's subjective perception that these outcomes will be unfavourable.

In this study, perceived risk was assessed using a set of five items. These items were derived from previous research conducted by Aydin and Burnaz (2016), De Luna et al. (2019), Loh et al. (2020), and Razif, Misiran, Sapiri, & Yusof (2020). Sample items used to measure perceived risk include: *"I believe there is a low risk of misuse of consumer information (e.g., names of business partners, payment amount) when using E-wallet payment"," I feel secure when using my billing information (credit card number, bank*

account data, etc.) in E-Wallet systems.", " I have control over my personal information when utilizing an E-Wallet.", and " E-Wallet platform service providers are able to secure transactions for users.".

3.5.4 Questionnaires Designing

The questionnaire used in this study comprised three main sections, labelled as Section A, B and C. Section A's questionnaire used in this study included 10 questions related to demographic data, with the first five questions gathering personal information such as age group, gender, education level, current employment status, and ethnicity. The collected data were measured using both nominal and ordinal scales. Additionally, the remaining five questions were dichotomous in nature, requiring respondents to answer "yes" or "no," such as whether they owned an E-Wallet account.

In section B, there were 5 questions for the dependent variable that related to the behavioural intention towards the adoption of E-wallets. The Likert scale was utilized as the scale of measurement which is an interval scale. The scale ranges from 1 to 5. In the questionnaires, 1 illustrates "Strongly Disagree", 2 indicates "Disagree", 3 indicates "Neutral", 4 indicates "Agree" and 5 indicates "Strongly Agree". The reliability of the surveys was assessed using SPSS 29.0 software after the data was collected through the questionnaire.

In section C, there were 21 questions related to the selected variables which determined the intention to adopt E-wallets which are SI, FC, PV, and PR. The interval scale was used as the measurement scale, while the Likert Scale is employed to design the questions. Similar to Section B, respondents must select the most appropriate answers on a scale of 1 to 5.

3.6   Processing of Data

3.6.1 Data Checking

Data checking is a process to ensure that the data collected is error-free (Sulaiman, 2009). There is an urge to perform data checking to ensure the accuracy and quality of data. Data inaccuracies that happen during data entry will impose disastrous effects on the outcomes of a statistical analysis (Sulaiman, 2009; Barchard & Verenikina, 2013). It might be caused due to incomplete responses, inconsistent responses, and confusing questions. As such, we carried out pilot test to make sure the respondents could understand the questions and to pretest the reliability of the questionnaire. Any shortcomings found can be corrected before the test is actually administrated, as such reduces bias. The quality of our data affects the conclusions drawn from the research. To put it briefly, researchers must ensure the data to be accurate, complete, as well as suitable for future analysis (Sekaran & Bougie, 2016).

3.6.2 Data Editing

Data editing is the process of identifying and fixing illogical, inconsistent, or illegal data and omissions in the questionnaire that respondents have submitted (Sekaran & Bougie, 2016). Editing data is crucial since it will enable researchers to confirm the data collected is accurate and completed,

free from any errors. The researchers should examine the raw data and spot any inaccuracies that the respondents may have made, and then correct them by performing data editing (Cox et al., 2011). With that, it can prevent researchers from drawing wrong outcomes from the data.

3.6.3 Data Coding

Data coding is defined as a process whereby transforming of the raw qualitative data of the questionnaire into a communicative coding is conducted (Linneberg & Korsgaard, 2019). The data collected from the respondents should be given a number so that they are able to enter into the database (Sekaran & Bougie, 2016). This will speed up and simplify the data entering process as it avoids confusion, particularly when handling a big volume of responses. The coding of the questionnaire will be shown in the following. The data will then be entered into SPSS 29.0 for data analysis.

Table 3.2:

"Coding for Section A (Demographic)"

No	Question	Coding
1.	Gender	"Male" = 1
		"Female" = 2
2.	Age	"18-25 years old" = 1
		"26-40 years old" = 2
3.	States	"Penang" = 1

		"Selangor" = 2
		"Johor" = 3
		"Sabah" = 4
4.	Education Level	"Secondary" = 1
		"A-level/Foundation/Diploma" = 2
		"Bachelor's Degree" = 3
		"Master's Degree" = 4
		"Doctorate / PhD" = 5
		"Other" = 6
5.	Working Status	"Students" = 1
		"Part-time" = 2
		"Full- time" = 3
		"Self- employed" = 4
		"Retired" = 5
		"Unemployed" = 6
6.	Ethnicity	"Malay" = 1
		"Chinese" = 2
		"Indian" = 3
		"Other" = 4
7.	Do you own a smartphone?	"Yes" = 1
		"No" = 2

| 8. | Do you have an E-Wallet account? | "Yes" = 1 |
| | | "No" = 2 |

9.	Which E-Wallet payment services do you prefer most of the time?	"Apple Pay" = 1
		"Boost" = 2
		"Grab Pay" = 3
		"QR Pay (MAE)" = 4
		"Shopee Pay" = 5
		"Touch 'n Go eWallet" = 6
		"Other" = 7

10.	How frequently do you use E-Wallet in a week?	"No" = 1
		"Seldom" = 2
		"Monthly" = 3
		"Weekly" = 4
		"Daily" = 5

11.	How much money do you load in E-Wallet on a monthly basis?	"Less than RM500" = 1
		"RM500 – RM1,000" = 2
		"More than RM1,000" = 3

As for Section B, there are 5-point Likert Scale will be used to code each of the questions. Coding as below:

"Strongly Disagree (SD)"   = 1

"Disagree (D)"   = 2

"Neutral (N)"   = 3

"Agree (A)"   = 4

"Strongly Agree (SA)"   = 5

3.7   Data Analysis

After processing of data, the results were analysed to determine if the study's hypotheses were accepted or denied. The procedure aids in addressing the suggested questions of research (Sekaran & Bougie, 2016). Among this study, statistical software named SPSS 29.0 used to analyse the data. Regarding to Hossain and Lim (2016), they utilized this program in their empirical investigation. This program was useful because it enables the study of data using multiple linear regression, inferential test, multicollinearity test, reliability test, normality test, and descriptive analysis.

3.7.1 Descriptive Analysis

The most fundamental data analysis for each research effort is descriptive analysis, according to this definition (Zikmund et al., 2013). It condenses and streamlines vast volumes of data and makes it more approachable (Loeb, Dynarski et al, 2017). It also is defined as any statistical procedure that condenses the obtained data into a manageable amount of information (Aldrich, 2019). Furthermore, specifically helpful statistical methods for description include measures of variation (such as range and standard deviation), central tendency measurements (such as mean, median, and mode), and fundamental frequency analyses (Loeb et al, 2017). Thus, tables

prepared in this study that show the mean, standard deviation, frequency, and percentage of the data. Pie graphs were also produced for the data from Section A.

3.7.2 Scale Measurement

3.7.2.1 Reliability Test

The use of reliability test is to determine whether the scale is reliable. According to Glen (2022), when there are multiple Likert scale questions in a survey, there will be more likely to have errors in the final results, as this kind of question is totally depending on respondents' neurosis, rigor, or openness at the time. However, in real life, all these latent variables are hard to be measured (Tavakol & Dennick, 2011). From the empirical literature, Pallant (2020) shown that only if the scales passed the reliability test, it can be considered that they are not affected by random errors. While to measure whether the scales pass the reliability test, we measured it by using Cronbach's Alpha (Glen, 2018). This was also further supported by Tavakol and Dennick (2011);tava Ursachi, G., Horodnic, I. A., and Zait, A. (2015), as they mention that Cronbach's Alpha coefficient is arguably the most common and convenient tool to measure the reliability.

Table 3.3

"Cronbach's Alpha" Thumb Rule

Cronbach's Alpha	Internal Consistency

α ≥ 0.9	Excellent
0.9 > α ≥ 0.8	Good
0.8 > α ≥ 0.7	Acceptable
0.7 > α ≥ 0.6	Questionable
0.6 > α ≥ 0.5	Poor
0.5 > α	Unacceptable

(B. Sharma, 2016; Wadkar, Singh, Chakravarty & Argade, 2016)

Table 3.3 showed that the Cronbach's Alpha result's thumb rule. Cronbach's Alpha will always in positive figure, while if there is a negative figure, it might have some error in the data (Moran, 2021). Theoretically, a larger Cronbach's Alpha indicates a more reliable result. Due to Table 3.3, when the Cronbach's Alpha is equal or larger than 0.9, it is considered as an excellent internal consistency; between 0.9 and 0.8, it is considered as a good internal consistency; between 0.8 and 0.7, it is considered as an acceptable internal consistency; between 0.7 and 0.6, it is considered as a questionable internal consistency; between 0.6 and 0.5, it is considered as a poor internal consistency; less than 0.5 is considered as an unacceptable internal consistency. In general rule, since the Cronbach's Alpha value is above 0.7, it can be considered good enough. However, there are still some researchers might suggest having a higher Cronbach's Alpha of 0.8 or 0.9 above (Glen, 2022).

3.7.3 Preliminary of Data Screening

3.7.3.1 Multicollinearity

The issues of multicollinearity must be detected in the initial stage of the preliminary data screening. When the correlation between the independent variables was high, multicollinearity occurred which indicating that the error term's value is rising. As a result, the regression analysis results will be unreliable (Sekaran & Bougie, 2016). Therefore, it is essential to find this serious issue first before conducting the regression analysis.

The best method for determining multicollinearity issues was Multiple Linear Regression (MLR) (Pallant, 2020; Spector, 2006). The variance inflation factor and tolerance value are two computations in the MLR that are used to diagnose multicollinearity issues. SPSS software can also calculate both of these. To begin, a variance inflation factor exceeds than 5 between 10 signals implies strong multicollinearity. Second, Sekaran and Bougie (2016) stated that a tolerance value less than 0.25 implied that there was a substantial level of multicollinearity.

3.7.3.2 Normality

The subsequent step in the preliminary data screening process involves conducting normality tests. A variety of inferential statistical techniques cannot be applied unless the assumption of normality is fulfilled. The normality assumptions should be met in order to avoid the error of statistical analysis and provide more accurate and trustworthy results (Ghasemi & Zahediasl, 2012). Hence, it is necessary to ensure and met the normality assumption. Since it is impossible to obtain exact and reliable outcomes that allow us to make conclusions about the parameters of population when the data is not distributed normally. Tests had to be performed to ascertain in case the data distribution is normal. (Ghasemi & Zahediasl, 2012).

Firstly, skewness and kurtosis can test the assumption of normality in the study. When the number of respondents exceeds 300, skewness values between -2 and +2 and kurtosis values between -7 and +7 imply that the data was normally distributed. Second approach is to examine the histogram diagram. The histogram will be symmetrical and bell-shaped if the data distribution was normal (Pallant, 2020).

3.7.4 Data Analysis

3.7.4.1 Inferential Analysis

According to Blaikie (2003), inferential analysis is used to extend the findings of a random probability sample to the larger population from which the sample was taken. It enables researchers to establish population characteristics based on sample characteristics. This analysis is necessary only when a large sample size is selected through random sampling and a high response rate is achieved. Descriptive analysis can only summarize sample characteristics; thus, inferential analysis is useful for further exploration (Bhandari, 2020). By using data from our random sample of 300 young adults from different regions in Malaysia, we can evaluate the behavioral intention to adopt E-Wallets of all young adults in Malaysia.

3.7.4.2 Multiple Linear Regression Analysis

Multiple linear regression (MLR) is a statistical analysis technique commonly used in various industries, including business, engineering, and social sciences, to investigate the relationship between a dependent variable and independent variables (Sanford, 2014; S & Fidell, 2019; Hair, Black, Babin, & Anderson, 2014). MLR aims to construct a mathematical model that describes the relationship between the variables and predicts the dependent variable based on the independent variables (Field, 2013).

To evaluate the overall fitness of the model, various tables, including the "Model Summary Table," "Coefficients Table," and "ANOVA Table," were used upon completion of the multiple linear regression analysis. The "Model Summary Table" was used to examine the R-squared value, which measures how much of the Y variable's variation can be explained by the X variables in the model (Kutner, Nachtsheim, Neter, & Li, 2005). The "Coefficients Table" was used to determine the change in the Y variable associated with a one-unit change in the corresponding X variable while holding all other independent variables constant. If the P-value is less than the 5% significance level, it indicates that the exogenous variable is significantly related to the endogenous variable (Tabachnick & Fidell, 2019). Lastly, the "ANOVA Table" employed the F-statistic and its associated P-value to test the overall significance of the model. A P-value of less than 0.05 for the F-statistic indicates that at least one of the independent variables in the model has a statistically significant relationship with the dependent variable, validating the entire model as a significant predictor of the dependent variable (Tabachnick & Fidell, 2019).

"The multiple linear regression equation used in this study is as follows":

$$BI_i = \beta 0 + \beta 1\ SI_i + \beta 2\ FC_i + \beta 3\ PV_i + \beta 4\ PR_i + \mu_i$$

Where, BI_i = Behavioural Intention to adopt E-Wallet

SI_i = Social influence

FC_i = Facilitating Conditions

PV_i = Price Value

PR_i = Perceived Risk

μ_i = Error term

The equation below will serve as the basis for the multiple linear regression analysis used in this study. The dependent variable is the mean of the behavioral intention; while the independent variables are all the control and external variables, which is the same as how the hypothesis developed in Chapter 2.

3.8   Conclusion

To summarize, we have addressed the research methodology utilized in the study in *Chapter 3*. Quota sampling is applied to conduct this quantitative research by targeting a total of 300 respondents from states in Malaysia including Penang, Selangor, Johor, and Sabah. In addition, pilot test is carried out before we administered the actual research by distributing the online questionnaire. After collecting and processing the data, we employed multiple linear regression analysis for the analysis of data. The analysis outcomes will be addressed in the following *Chapter 4*.

CHAPTER 4: RESEARCH METHODOLOGY

4.0   Introduction

In *Chapter 4*, the data collected by respondents will be analyzed for research results. The descriptive analysis will be performed initially. The reliability test will then be carried out to validate the reliability of the scale. Following that, a preliminary data screening test will be performed to diagnose non-normality and multicollinearity issues. In addition, the Multiple Linear Regression Analysis is carried out. The research data is analyzed using SPSS 29.0 version.

4.1   Analysis of Descriptive

An analysis of descriptive is carried out to make the particulars gathered from respondents more understandable. Section A collected the demographic profile data of respondents, as well as the intention factor data collected in Sections B and C, will be subjected to descriptive analysis. The descriptive analysis results will be illustrated using tables and a pie chart.

4.1.1 Respondent's Demographic Profile

This study consisted of six categories of demographic profile, which includes "gender, age group, state, education level, frequency of E-Wallets

used and Amount Top-up in Monthly Basis of E-Wallets". These categories
will be analyzed in detail in each of the following sections.

4.1.1.1 Gender

Table 4.1

"Descriptive Analysis for Gender"

Gender	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Frequency (%)
Male	129	41.7%	129	41.7%
Female	180	58.3%	309	100%

Figure 4.1

"Descriptive Analysis for Gender"
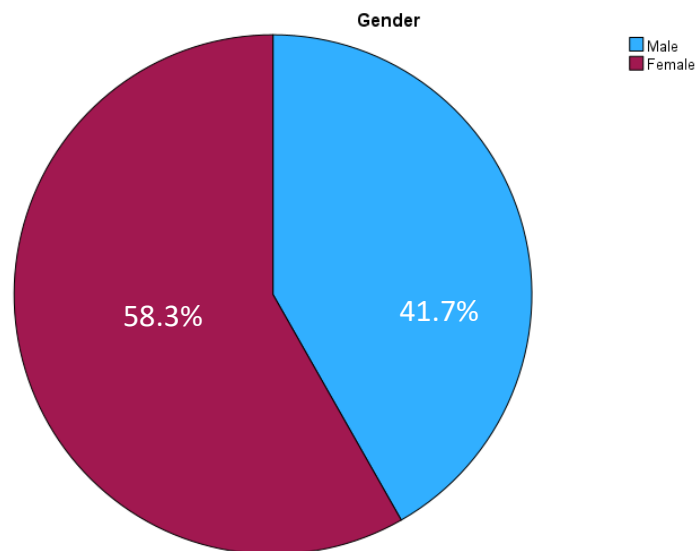
Initially, the participants were categorized based on their gender, where 309
individuals took part in this questionnaire survey. Out of the total
participants, 129 of them (41.7%) were identified as male, while the
remaining 180 respondents (58.3%) were identified as female. These
findings are presented in "Table 4.1" and "Figure 4.1". Thus, it can be

concluded that the number of female respondents was higher than that of male respondents in this survey.

4.1.1.2 Age Groups

Table 4.2

"Descriptive Analysis for Age Groups"

Age Groups	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Frequency (%)
18 – 25 years old	235	76.1%	235	76.1%
26 – 40 years old	74	23.9%	309	100%

Figure 4.2

"Descriptive Analysis for Age Groups"
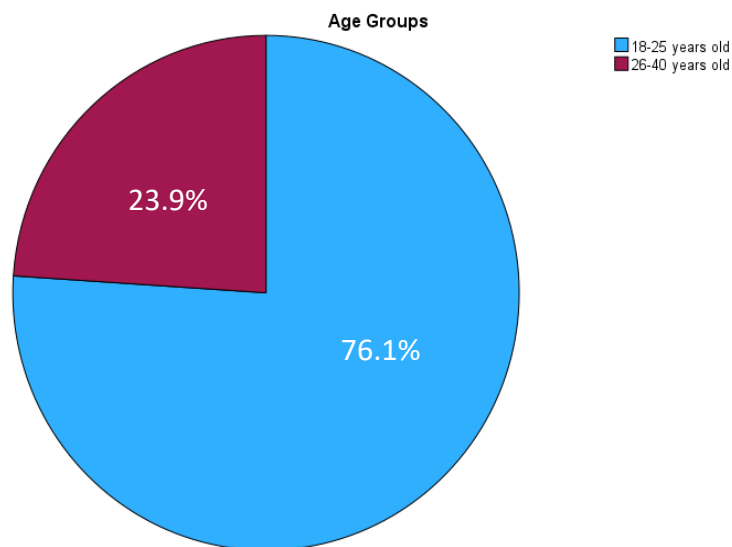
Apart from gender, the respondents are also classified based on their age group. Out of the 309 respondents, 235 respondents (76.1%) are from 18 to 25 years old while the remaining 74 respondents (23.9%) are from 26 to 40 years old as illustrated in "Table 4.2" and "Figure 4.2". Hence, the

respondents from 18 to 25 years old is participated more in this survey instead of respondents from 26 to 40 years old.

4.1.1.3 States

Table 4.3

"Descriptive Analysis for States"

States	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Frequency (%)
Penang	60	19.4%	60	19.4%
Selangor	99	32.0%	159	51.4%
Johor	100	32.4%	259	83.8%
Sabah	50	16.2%	309	100%

Figure 4.3

"Descriptive Analysis for States"
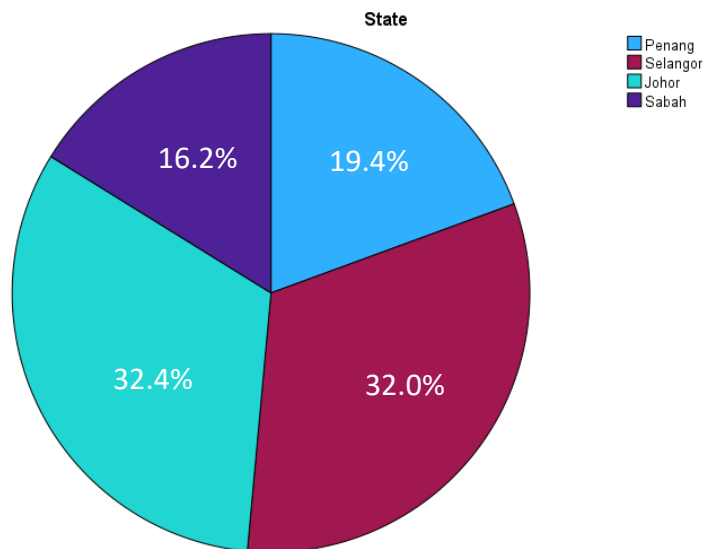
Apart from that, the respondents are also classified according to their states they are living currently. Out of the 309 respondents, 100 respondents (32.4%) are from Johor, 99 respondents (32.0%) are from Selangor, 60 respondents (19.4%) are from Penang while the remaining 50 respondents (16.2%) are from Sabah as illustrated in "Table 4.3" and "Figure 4.3". Thus,

it has shown that the majority respondents in this survey are from Johor and Selangor.

4.1.1.4 Education Level

Table 4.4

"Descriptive Analysis for Education Level"

Education Level	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Frequency (%)
Secondary	50	16.2%	50	16.2%
A-level/ Foundation/ Diploma	49	15.9%	99	32.1%
Degree	201	65.0%	300	97.1%
Master	6	1.9%	306	99.0%
PhD	2	0.6%	308	99.6%
Others	1	0.3%	309	99.9%

Figure 4.4

"Descriptive Analysis for Education Level"
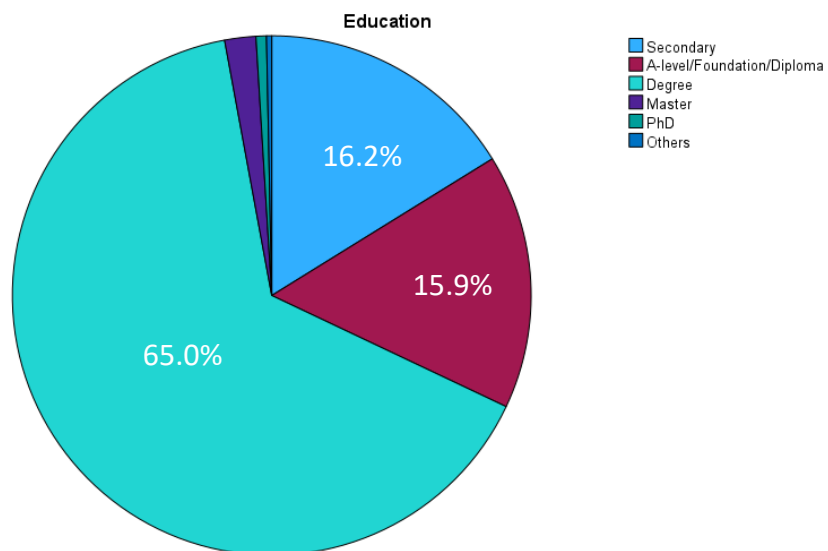
By looking into the education level in "Table 4.4" and "Figure 4.4", the majority of respondents' education level is Degree holders which is 201

respondents (65.0%) out of the total 309 respondents. Next, 50 respondents (16.2%) are secondary school holders and followed by 49 respondents (15.9%) who are A-level/ Foundation/ Diploma holders.

4.1.1.5 Frequency of E-Wallets Used

Table 4.5

"Descriptive Analysis for Frequency of E-Wallets Used"

Frequency of E-Wallets Used	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Frequency (%)
No	4	1.3%	4	1.3%
Seldom	5	1.6%	9	2.9%
Monthly	23	7.4%	32	10.3%
Weekly	84	27.2%	116	37.5%
Daily	193	62.5%	309	100%

Figure 4.5

"Descriptive Analysis for Frequency of E-Wallets Used"
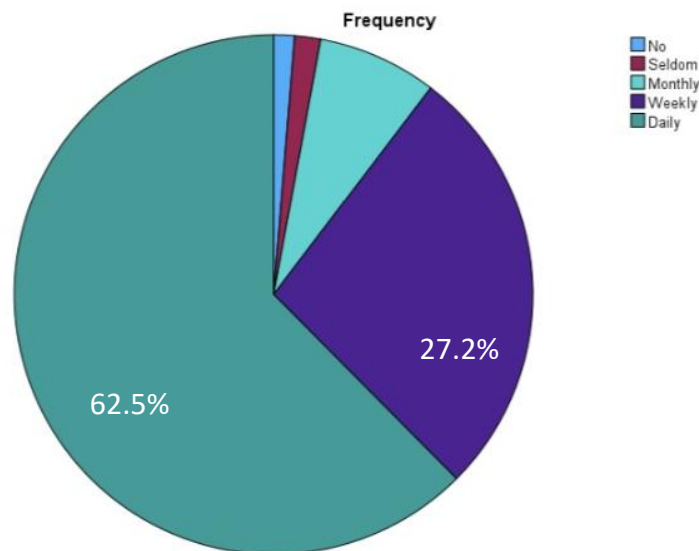
"Table 4.5" and "Figure 4.5" illustrated the frequency of E-Wallets used by the respondents in this survey. The majority of respondents which are 193

respondents (62.5%) used E-Wallets daily basis. Then, there are 84 respondents (27.2%) and 23 respondents (7.4%) used E-Wallets weekly and monthly respectively. Following that, there are 5 respondents (1.6%) who seldom used E-Wallets. Lastly, there are only 4 respondents (1.3%) didn't use E-Wallets out of 309 total respondents.

4.1.1.6 Money Amount Top-up Monthly basis of E-Wallets

Table 4.6

"Descriptive Analysis for Money Amount Top-up Monthly Basis of E-Wallets"

Amount Top-up in Monthly Basis of E-Wallets	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Frequency (%)
Less than RM500	202	65.4%	202	65.4%
RM500 – RM1000	80	25.9%	282	91.3%
More than RM1000	27	8.7%	309	100%

Figure 4.6

"Descriptive Analysis for Money Amount Top-up Monthly Basis of E-Wallets"
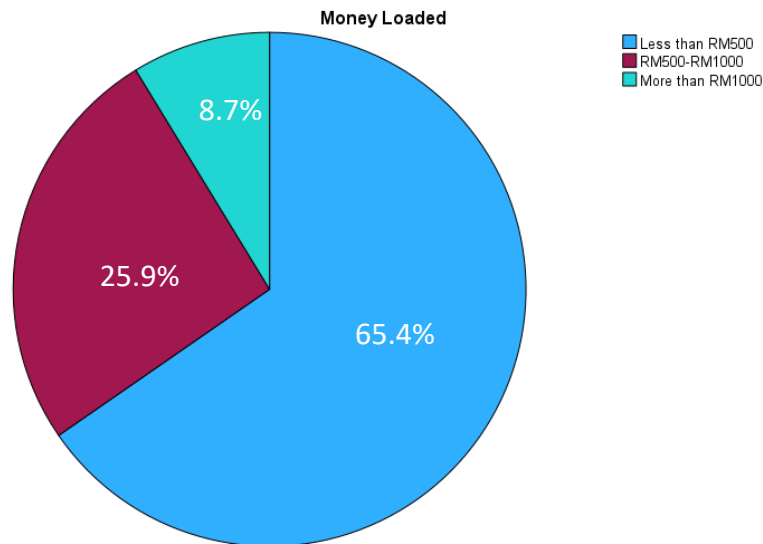
"Table 4.6" and "Figure 4.6" illustrates the money amount top-up of respondent's E-Wallets monthly basis. As illustrated, there are 202 respondents (65.4%) who top up E-Wallets for less than RM500 monthly basis. Then, there are 80 respondents (25.9%) who top up E-Wallets between RM500 to RM1000 monthly basis. Lastly, there are only 27 respondents (8.7%) who top up E-Wallets for more than RM1000 monthly basis.

4.1.2 Central Tendencies and Dispersion Measurement of Constructs

The analysis of data collected in Sections B and C, which include both dependent and independent variables, involves the measurement of central tendencies using means, dispersion measures, and standard deviation. The results for each variable will be presented in their respective sections.

4.1.2.1 Behavioural Intention to adopt E-Wallets

Table 4.7

"Central Tendencies Measurement of Behavioural Intention to Adopt E-Wallets"

Question	Statement	N	Mean	S.D.	Mean Ranking	S.D. Ranking
BI 1	I intend to use an E-Wallet in my daily life.	309	4.33	0.912	2	1
BI 2	I intend to use an E-Wallet because I realized it is beneficial.	309	4.36	0.816	1	5
BI 3	I intend to use the E-Wallet for regular financial management and transaction.	309	4.22	0.909	5	2
BI 4	Five years from now, I intend to pay for purchases with the E-Wallet.	309	4.28	0.92	4	3
BI 5	I think it will be worth it for me to adopt E-Wallet when it's available.	309	4.33	0.853	2	4

First, there are five items in the "Table 4.7" which is all of the questions that related to behavioural intention are analyzed. B1 2 has the largest mean which is 4.36 whereas BI 3 has the smallest mean which is 4.22. BI 1 and

BI 5 have the same mean which are 4.33 while the mean of BI 4 is 4.28. The respondents generally agreed with all the items since their means ranged from 4. However, the largest mean of BI 2 has the lowest standard deviation of 0.816, whereas BI 1 has the highest standard deviation of 0.912 compared to other items. The standard deviation of BI 3, BI 4, and BI 5 is 0.909, 0.902, and 0.853 accordingly.

4.1.2.2 Social Influence

Table 4.8

"Central Tendencies Measurement of Social Influence"

Question	Statement	N	Mean	S.D.	Mean Ranking	S.D. Ranking
SI 1	I easily get influenced by my surroundings (family, friends, peers, etc.)	309	3.83	1.020	4	2
SI 2	I tend to seek feedback and suggestion from my surroundings (family, friends, peers, etc.) regarding their user experiences before deciding to adopt E-Wallet payment services.	309	3.72	1.070	5	1
SI 3	My surroundings (family,	309	4.25	0.850	1	5

	friends, peers, etc.) are using E-Wallet payment services.					
SI 4	I am more likely to adopt an E-Wallet payment system when more of my surroundings (family, friends, peers, etc.) begin to use E-wallet payment services.	309	4.12	0.906	2	4
SI 5	When my surroundings (family, friends, peers, etc.) are satisfied with E-Wallet payment services, they recommend and persuade me to adopt them.	309	3.97	0.996	3	3

Social influence will be the first independent variables to be examined. In "Table 4.8", SI 3 has the largest mean which is 4.25 whereas has the lowest standard deviation which is 0.850. Then, SI 2 has the smallest mean of 3.72 and the highest standard deviation of 1.070. SI 5 is ranked third with a mean of 3.97 and a standard deviation of 0.996. Following that, SI 1 has the second smallest mean of 3.83 and the second highest standard deviation of 1.020. Meanwhile, SI 4 has the second lowest standard deviation and second largest mean which are 0.906 and 4.12 respectively.

4.1.2.3 Facilitating Conditions

Table 4.9

"Central Tendencies Measurement of Facilitating Conditions"

Question	Statement	N	Mean	S.D.	Mean Ranking	S.D. Ranking
FC 1	I have stable Internet access to support when I utilize the E-Wallet transaction.	309	4.09	0.937	3	3
FC 2	I have enough knowledge about E-Wallet when I utilize E-Wallet.	309	4.08	0.953	4	2
FC 3	Many retailers and government are encouraging and accepting mobile payment services nowadays.	309	4.30	0.772	1	5
FC 4	E-Wallet live chat able to help me if I ran into any problems.	309	3.55	1.102	5	1
FC 5	Instructions of E-Wallet is simple to understand (such as the application's handbook	309	4.12	0.886	2	4

	and the information guide) when utilities E-Wallet.					

The facilitating condition is the next variable analysed, as shown in "Table 4.9". FC 3 has the largest mean of 4.30 and the lowest standard deviation ranking of 0.772. FC 5 has the second-largest mean of 4.12 and the second-lowest standard deviation ranking of 0.886. FC 1 has the same rank for mean and standard deviation value, which is third, with a mean of 4.09 and standard deviation of 0. 937. Furthermore, FC2 has the second smallest mean is 4.08 and the second highest standard deviation is 0.953. Lastly, FC4 has the smallest mean which is 3.55 and the highest rank of standard deviation which is 1.102. In short, this implies that the respondents are neutral to agree with the items, as all the items have a mean ranging from 3 to 4.

4.1.2.4 Price Value

Table 4.10

"Central Tendencies Measurement of Price Value"

Question	Statement	N	Mean	S.D.	Mean Ranking	S.D. Ranking
PV 1	E-Wallet service provider always held cashback rebate activity for its users. (Eg: Make any transfer RM5	309	3.92	1.016	4	3

	to get RM0.50 cashbacks)					
PV 2	E-Wallet service provider always held discount activity for its users. (Eg: Enjoy 10% discount if using TNG E-Wallet)	309	3.85	1.095	5	1
PV 3	I think that E-Wallet provider will provides more promos and vouchers in the future.	309	4.01	1.041	3	2
PV 4	I think that E-Wallet saves more time and cost.	309	4.29	0.789	1	5
PV 5	E-Wallet does NOT require me to pay other extra cost (subscription fee, service charges, etc.), and it is worth to utilise it.	309	4.27	0.812	2	4

Following that, price value will be examined. PV 4 has the largest mean which is 4.29 whereas PV 2 has the smallest mean which is 3.85. The mean of PV 5, PV 3 and PV 1 is ranked down accordingly which is 4.27, 4.01 and 3.92 respectively. On the contrary, the largest mean of PV 4 has the lowest standard deviation which is 0.789. Then, the PV 2 is 1.095 is the highest standard deviation among other items. The standard deviation of PV 3, PV 1, and PV 5 is 1.041, 1.016, and 0.812 accordingly.

4.1.2.5 Perceived Risk

Table 4.11

"Central Tendencies Measurement of Perceived Risk"

Question	Statement	N	Mean	S.D.	Mean Ranking	S.D. Ranking
PR 1	There is a low risk of the misuse of consumers' information (e.g., names of business partners, payment amount) when using E-Wallet payment.	309	2.33	1.036	2	2
PR 2	I feel secure when using my billing information (credit card number, bank account data, etc.) in E-Wallet systems.	309	2.39	1.119	1	1
PR 3	I have control over my personal information when utilizing an E-Wallet.	309	2.19	0.995	3	3
PR 4	There are no unreasonable or fraudulent charges when using E-Wallet.	309	2.03	0.943	5	4
PR 5	E-Wallet platform	309	2.11	0.937	4	5

	service providers are able to secure transactions for users.				

The last independent variables which is perceived risk are examined in "Table 4.11". PR 2 has the highest value of standard deviation of 1.119 and has the highest mean value which is 2.39. Then, PR 1 has the second largest mean value ranking, 2.33 whereas its standard deviation is 1.036. Moreover, PR 3 has the same rank which is ranked as third of mean and standard deviation value which are 2.19 and 0.995. Additionally, PR 4 has the lowest mean value of 2.03 and its standard deviation is 0.943 which is ranked the fourth. Lastly, the mean value and standard deviation of PR 5 is 2.11 and 0.937.

4.2 Scale Measurement

4.2.1 Reliability Test

Table 4.12

"Cronbach's Alpha Reliability Analysis"

No.	Type of Variable	Name of Variable	No of Items	Cronbach's Alpha	Reliability Test
1	Dependent Variable	Behavioural Intention to	5	0.913	Excellent

		Adopt E-Wallet			
2	Independent Variable	Social Influence	5	0.829	Excellent
3	Independent Variable	Facilitating Conditions	5	0.808	Excellent
4	Independent Variable	Price Value	5	0.829	Excellent
5	Independent Variable	Perceived Risk	5	0.872	Excellent

Table 4.12 provides the Cronbach's Alpha values for all the factors. The results show that "behavioral intention to adopt E-Wallet" has Cronbach's Alpha of 0.913. Along with Cronbach's Alpha value, other factors to consider include social influence (0.829), facilitating conditions (0.808), price value (0.829) and perceived risk (0.872). From the table, behavioral intention to adopt E-Wallet has the highest value (0.913), and facilitating conditions has the lowest value (0.808) as well as the social influence and price value have the same value (0.829). Although, according to Zikmund et al. (2010) stated that an excellent value for "Cronbach's Alpha" is one that is between 0.8 and 0.95. Therefore, the dependent variable and independent variables from our analyses have higher levels of trustworthiness. Each variable's "Cronbach's Alpha values" are between 0.8 and 0.95, which shows that the measures of all the variables are very reliable.

4.3   Test of Diagnostic

Prior to performing an inferential analysis, we conducted preliminary data analysis to make sure the outcome of this study paper was reliable. The multicollinearity test and the normality test will both be used as early data evaluations for this research.

4.3.1 Multicollinearity Test

To ascertain the multicollinearity between the independent variables, correlation analysis is conducted. When there is a significant positive or negative correlation between two or more independent variables, this is known as multicollinearity (Agarwal & Karahanna, 2000). Multicollinearity problems will appear when the independent variables in a relapse model are highly connected (Sekaran and Bougie, 2016). The outcome will be unreliable if the issue arises in our model, which will result in a large error term. Therefore, the two common measures of multicollinearity, "tolerance value" and "variance inflation factor (VIF)" will be utilised to find issues with multicollinearity in this study. The opposite of a tolerance number is "VIF". According to Sekaran & Bougie (2016) stated that there is a multicollinearity issue in the model if "the tolerance value is less than 0.1" and "the value of VIF is more than 10".

Table 4.13

"Tolerance Value and Variance Inflation Factor (VIF)"

	Collinearity Statistics	
Independent Variables	Tolerance Value	VIF
Social Influence (SI)	0.568	1.761

Facilitating Conditions (FC)	0.419	2.385
Price Value (PV)	0.544	1.837
Perceived Risk (PR)	0.489	2.047

The "tolerance value" for all "independent variables" is greater than 0.1, according to "Table 4.13". Their VIF levels, in contrast, are lower than 10. Hence, we can affirm that no multicollinearity problem arises between the model's independent variables.

4.3.2 Normality Test

A variety of inferential statistical techniques cannot be applied unless the assumption of normality is fulfilled. The normality assumptions should be met to avoid the error of statistical analysis and provide more accurate and trustworthy results. There are two methods to test whether our data is normally distributed: the value of skewness and kurtosis, and histogram.

Table 4.14

"Normality Test Results"

	Skewness	Kurtosis
DV: Behavioral Intention	-1.447	2.738
IV 1: Social Influence	-.747	.843
IV 2: Facilitating Conditions	-.504	-.024

| IV 3: Price Value | -.603 | .135 |
| IV 4: Perceived Risk | .189 | -.662 |

The first approach for testing the assumption of normality is to examine skewness and kurtosis. From Kim (2013), he stated that in a survey of more than 300 respondents, the data is examined to be normally distributed assuming that skewness values fall between ±2 and kurtosis values fall between ±7. Referring to our result above (Table 4.14) our data is normally distributed since the skewness and kurtosis coefficient fall between the range of ±2 and ±7 respectively. Among the variables that we proposed, *Perceived Risk* is the largest skewness coefficient (0.189), while *Behavioral Intention* is the lowest skewness coefficient (-1.447). On the other hand, regarding kurtosis, *Behavioral Intension* is the largest kurtosis coefficient (2.378), while *Perceived Risk* is the lowest kurtosis coefficient (-0.662).

Figure 4.7

"Histogram"
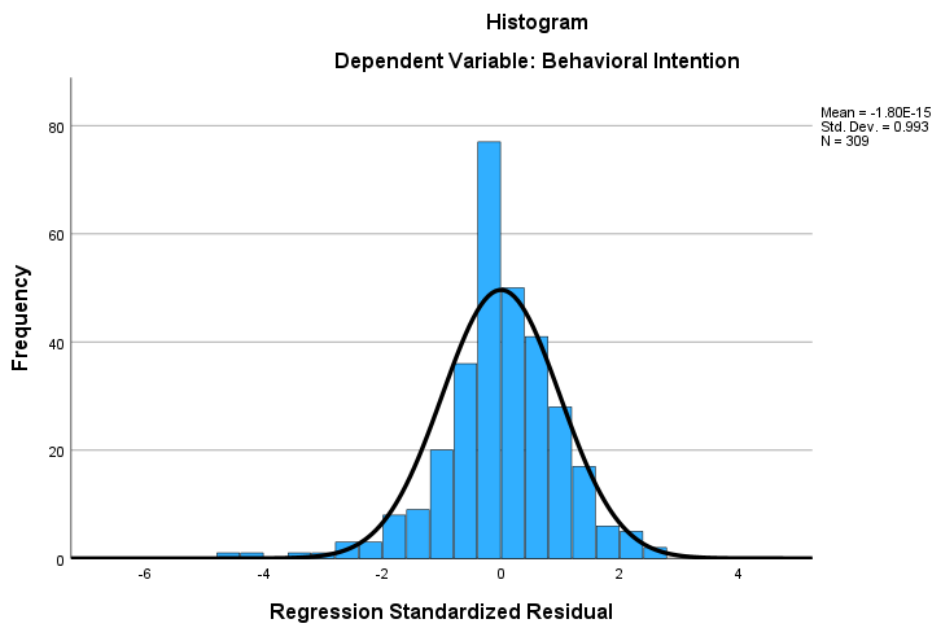
Secondly, above Figure 4.7 is our histogram diagram. A "histogram" is a graphical depiction of a set of data points organized into user-defined ranges. It compresses data series into easy-to-understand graphs by dividing the data into logical fields (Chen, 2021). By conducting this histogram, we can ensure whether if our data collected is normally distributed. According to Figure 4.7, it is representing the normal curve, as the frequency of the data moves from the lowest to the highest, reaches the peak, and starts to decline, which is in bell shape, also known as "bell curve". Meaning that the data that we collected from dependent variable of behavioural intention to adopt E-Wallet meets the normality assumption.

4.4 Inferential Analysis

4.4.1 Pearson Correlation Coefficient Analysis

Table 4.15

"Pearson Correlation Coefficient Results"

			Dependent Variable: Behavioral Intention
Independent Variables	Social Influence	Pearson Correlation	.557**
		Sig. (2-tailed)	<.001
		N	309
		Pearson Correlation	.643**

Facilitating Conditions	Sig. (2-tailed)	<.001
	N	309
Price Value	Pearson Correlation	.439**
	Sig. (2-tailed)	<.001
	N	309
Perceived Risk	Pearson Correlation	-.515**
	Sig. (2-tailed)	<.001
	N	309

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

According to Newhart & Patten (2018), Pearson correlation measures the degree of linear correlation between two variables, which measures the magnitude movement of one variable when another changes. It ranges from -1.00 to +1.00, whereby -1.00 indicates the ideal case of a perfect negative correlation and +1.00 indicates the ideal case of a perfect positive correlation. In a positive correlation, two variables have the same direction movement such as when one variable's value increases, the other increases. On the other hand, if there is a negative correlation between two variables, there will be a opposite direction movement – that is, one variable will increase if the other decreases, vice versa. The absolute value of the Pearson correlation coefficient will be used to gauge how strong the relationship of the two variables is. The greater the absolute value, the stronger the relationship between the two variables (refer to Figure 4.8).

–1.00 … –0.80 … –0.60 … –0.40 … –0.20 … 0.00 … 0.20 … 0.40 … 0.60 … 0.80 … 1.00

Perfect Strong   Moderate   Weak   None   Weak   Moderate Strong Perfect
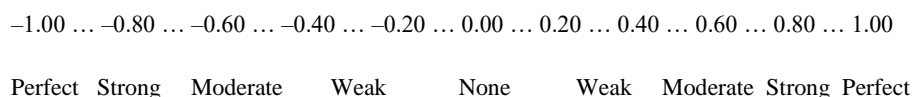
Figure 4.8. Values of the Pearson Correlation Coefficient. Adapted from Newhart, M., & Patten, M. L. (2018). Understanding research methods: An overview of the essentials.

According to the results listed in Table 4.15, we can see that each independent variables has a significant moderate relationship ($\pm 0.4 \leq r \leq \pm 0.6$) with the dependent variable at the significance level of 0.01 (2-tailed). Facilitating Condition (FC) has the strongest correlation with Behavioral Intention (BI) at 0.643, followed by Social Influence (SI) at 0.557, Perceived Risk (PR) at -0.515 (negative relationship), and lastly Price Value (PV) at 0.439 which has the weakest correlation.

4.4.2 Multiple Regression Analysis

Table 4.16

"Multiple Regression Analysis Results"

Model	Unstandardized Coefficients Beta	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t-Statistic	P-value
(Constant)	1.155	.210		5.503	<.001
Social Influence	.237	.057	.234	4.187	<.001
Facilitating Conditions	.457	.070	.425	6.525	<.001
Price Value	-.011	.059	-.011	-.188	.851
Perceived Risk	-.108	.056	-.116	-1.929	.055

a. Dependent Variable: Behavioral Intention

R-squared	.459
Adjusted R-squared	.452
F-test	64.542
P-value	<.001
Durbin Watson	1.946

The result of SPSS analysis on the multiple linear regression is presented in Table 4.16. The result found that SI and FC each has a significant relationship with BI at the significance level of 0.05 while PR has a moderate significant relationship with BI at the significance level of 0.10. On the other hand, PV is resulted as having insignificant relationship with BI at the significance level of 0.05 and 0.10.

Based on Table 4.16, SI and FC are the most significance variable to determine the behavioral intention of Malaysian young adult to adopt E-Wallet as they have the lowest P-value of <.001 among all other independent variables. On the other hand, PR has a P-value of 0.055 which indicates that it has a moderate significant relationship with BI as the P-value is higher than 0.05 but lower than 0.10 significance level. Conversely, our result has showed that there is no statistically significant relationship between PV and BI as the P-value is higher than both 0.05 and 0.10 significance level which it stands at 0.851.

Besides, from the result we can see that SI and FC has a positive relationship with BI, which their unstandardized coefficients beta is 0.237 and 0.457 respectively. On the other hand, PV and PR has a negative relationship with BI, which the unstandardized coefficients beta each stand at -0.011 and -0.108 respectively. In addition, the results also shows that FC has the highest contribution towards predicting the behavioral intention of Malaysian young adults to adopt E-Wallet as it has the highest absolute estimated beta

coefficient at 0.457. It is followed by SI that stands at 0.237, PR at 0.108, and PV at 0.011.

Based on Table 4.16, we obtain a result of 0.459 and 0.452 for R-Squared and adjusted R-Squared respectively. R-Squared is used to measures the percentage of the variability of dependent variable which can be explained by the independent variables in a regression model while adjusted R-Squared is adjusted for the number of independent variables in order to prevent the situation of overestimating the effect of including more independent variables (Anderson, Sweeney, Williams, Camm & Cochran, 2021). According to Chin (1988), the model will be considered as a very weak model if R-squared is less than 0.19, a weak model if it is between 0.19 and 0.33, a moderate model if it is between 0.33 and 0.67, and a strong model if R-squared is 0.67 or higher. Moreover, Ozili (2022) argued in a study on acceptable range of R-square that a low R-squared of at least 0.10 is acceptable in social science empirical research, subjected to the condition whereby some or all the independent variables are significant. Hence, combining both statements, it is reasonable to conclude that our regression model is fit.

Besides that, the result of F-test is also listed in Table 4.16. F-test is used to test for the significance of the relationship between the dependent variable and the whole set of independent variables (Anderson et al., 2021). Based on the results, it shows that our regression model is statistically significant at the significance level of 0.05 as the P-value that is associated with F-test is $<.001$, which is less than the alpha value of 5%. As such, we can conclude that the overall regression model is significant and there is a significant relationship between BI and all independent variables as a whole.

Durbin Watson test is used to determine whether autocorrelation occurs in the regression model which violates the assumptions of linear regression. In

the assumption of linear regression model, there must be no autocorrelation present which ensure the independence of the error terms (Anderson et al., 2021). Based on Table 4.16, we obtain a result of 1.946 for Durbin Watson test. It falls under the acceptable range for Durbin Watson test is between 1.5 to 2.5 (Chithra, Kumar, Chinnaraju & Ashmita, 2016; Zakerian & Subramaniam, 2009). As such, we can conclude that there are no autocorrelation issues in our regression model.

4.5   Conclusion

To summarize *Chapter 4*, SPSS version 29.0 was used to conduct data analysis in study. There are no multicollinearity and autocorrelation issues after analyzed. Plus, the scales measurement of the questionnaire is reliable, and the assumption of normality test is normal. Looking though the multiple regression analysis, only two of the independent variables which is social influence and facilitating conditions are significantly affected the intention to adopt E-Wallets. At the same time, perceived risk has a moderate significant relationship with our behavioural intention on adopt E-Wallets. On the contrary, price value has an insignificant relationship with behavioural intention to adopt E-Wallets. In short, the research results are generated for further discussion that will be discussed on the findings of next chapter.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.0   Introduction

Throughout *Chapter 5*, the results and conclusions in *Chapter 4* will be thoroughly further investigated. The inferential analysis's findings will be collected and fully described. As a consequence, the recommendations are for the outcomes as well as to make some improvements. Basically, the limitations of this evaluation theory will be discussed, along with recommendations for additional research.

5.1   Summary Statistical Analysis

Table 5.1

"Statistical Finding Summary"

Independent Variables	T-statistics	P-value	Results
Social Influence (SI)	4.187	< 0.001	Significant
Facilitating Conditions (FC)	6.525	< 0.001	Significant
Price Value (PV)	-1.88	0.851	Insignificant
Perceived Risk (PR)	-1.929	0.055	Moderate Significant

The independent variables in the table are "social influence", "facilitating condition", "price value", and "perceived risk" based on the Table 5.1 outcome above. The outcome demonstrates how important relationships exist between "behavioral intention to adopt E-Wallet" with "social influence" and "facilitating condition" respectively. "Perceived risk" showed moderate significant while "perceived risk" do not statistically significant to "behavioral intention to adopt E-Wallet" though. In fact, these entirely independent variables are regarded as reliable estimators of Malaysian young adults' intentions to embrace electronic wallets (E-Wallets).

5.2 Discussion on Major Findings

5.2.1 Social Influence and Behavioural Intention to Adopt E-Wallets

Venkatesh et al. (2003) pointed out that SI is the perceived influence of individuals' important others which includes family and peers on their behavioral intention to adopt particular technology like E-Wallet payment system. Nowadays, there is still an argument regarding if SI is influenced positively or negatively towards the adoption of E-Wallets. According to Prasarry et al. (2015) and Shin & Lee (2021), SI is insignificant on behavioral intention in the adoption of E-Wallet. However, our research findings demonstrate that SI has a significant and positive relationship with behavioral intention toward the E-Wallets' adoption among young adults in Malaysia. Hence, SI is viewed as a key factor that influences the adoption of E-Wallets among our respondents. They believe people that important

and surrounding them will affect their intention to use a new technology like E-Wallet (Abdullah et al., 2020).

SI refers to the influence and motivation generated by the opinions of significant others which encompasses family, friends, peers, and spouses when adopting new technology (Venkatesh et al., 2012). Shafie et al. (2020) mentioned that individuals tend to believe in the opinion or suggestions of surrounding people or important others regarding trying exciting technologies since these people will not cheat or offer them misleading information. Therefore, individuals can observe on their behavior and obtain feedback from them. Xu et al. (2017) highlight the fact that E-Wallet payment services include financial activities, so people may rely more on accurate information and reliable user experience, such as the opinion or suggestions offered by their surroundings. Due to the fact that individuals frequently ask their peers for feedback on their user experiences, SI may have a substantial impact on an individual's intentions to adopt E-Wallets (Shafie et al., 2020). Consequently, SI affects the behavioral intention of individuals to become more willing to use E-Wallets because of the suggestions or feedback from their surroundings (T. T. Teoh et al., 2020).

In fact, we can conclude that SI facilitates the adoption of E-Wallets. SI does affect an individual's intention to adopt E-Wallets which had supported by the findings of our research. Plus, there are several research also claims that individuals surely get influenced by the opinion of their family members, spouses, friends, and colleagues which indicates that SI has a very strong and positive impact on the behavioral intention of the adoption of new technology (Alalwan et al., 2017; Oliveira et al., 2016). In conclusion, social influence is proven to significantly and positively influence the behavioral intention toward the adoption of E-Wallets among young adults in Malaysia.

5.2.2 Facilitating Conditions and Behavioral Intention to Adopt E-Wallet

As mentioned earlier in Chapter 2, According to the UTAUT2 model, facilitating conditions refer to the degree of resources and support that are available to individuals to facilitate their use of a technology. In the context of E-Wallet adoption, facilitating conditions may include factors such as the availability of appropriate internet resources and assistance, knowledge of e-wallet technology, and degree of network connection.

Upon reviewing the facilitating conditions, a statistically significant association was observed between the intention to adopt E-Wallet among young adults in Malaysia, as indicated by a low P-value below the established significance level of 0.001. This means that if consumers have the necessary resources and knowledge required to adopt cashless transactions, they are more likely to adopt E-Wallet service payments. This finding is consistent with Rahman et al. (2020); Chauhan et al. (2021); Abdullah et al. (2020); Manrai et al., 2021; Alalwan et al., (2017); Ooi et al, (2021); Sapian & Ismail, (2021); Peñarroja et al., (2019) which have examined the factors influencing E-Wallet adoption in various countries and demographic, including Malaysia young adults.

The significance of facilitating conditions in shaping the intention to adopt e-wallets among young adults in Malaysia can be attributed to several reasons. One of the main reasons is because E-Wallets rely on network effects, where the value of the technology increases as more people use it. (Jameel & Alheety, 2022; Senali et al., 2022). In the context of e-wallets, the more merchants and service providers accept E-Wallet payments, the more valuable the e-wallet becomes for young adults (Patil et al., 2020; Yang & Forney, 2013; Vipul, 2016). Therefore, it becomes more convenient

and practical for young adults to use e-wallets, which in turn can increase their intention to adopt e-wallets.

In addition, the knowledges and resources necessary to use E-Wallet. The more the young adults have knowledge and resources, the more they would be willing to adopt E-Wallet (Rahman et al., 2020). So, we can assume that there is limited access to financial services and infrastructure provided by service provided, which will couple with cultural barriers, then affect the adoption of e-wallets among young adults (Wong, 2022). Secondly, it is important for the government to make resources available and to put programs in place to change consumer mindsets, which have a bearing on young adults' intentions to adopt e-wallets. Thirdly, if there is enough assistance available for an individual to learn and use E-Wallet technology provided by the service provided it can reduce perceived barriers to adoption and ultimately lead to a higher intention to adopt e-wallets among young adults in Malaysia.

In conclusion, there is a significant nexus between the facilitating condition and the Behavioral Intention to Adopt an E-Wallet. The findings of Rahman et al. (2020), Abdullah et al. (2020), and Sapian & Ismail (2021) are consistent with the results of this study, as all three studies have concluded that facilitating conditions are the primary factor in determining young adults' behavioral intention to adopt E-Wallets in Malaysia.

5.2.3 Price Value and Behavioral Intention to Adopt E-Wallet

Recapping back to the definition of "Price Value (PV)" in Chapter 2, we had stated that PV can be defined as a trade-off between what benefits a

person gain from technology and what it costs them to use it. It combines the statement of cost and benefit, and it is discussing their trade off. If the cost is more than the benefit, the PV will decrease; if the benefit is more than the cost, the PV will increase.

According to our outcomes, it is showing that there is an insignificant relationship between PV and behavioural intention of young adults in Malaysia to adopt E-Wallet as the P-value (0.851) that we obtained is higher than the 5% of significance level. Meaning that whether the consumers' willingness to adopt the E-Wallet will not be affected by the PV. However, it is in conflict with Alalwan et al. (2017); Yu (2012); Frank et al. (2015); L. Leong, Hew, Ooi, & Wei (2020); Teng and Kok (2021); M.Y. Leong, Kwan, & Ming (2021); Bommer et al. (2022); Migliore et al. (2022) etc., which found that PV does affect the consumers' adoption intention.

While our outcome is consistence with Chua et al. (2020); T. T. Teoh et al., (2020); Slade et al. (2014); Oliveira et al. (2016); Cha et al. (2021); Wei et al., (2021). This has further proved the statement that Chua et al. (2020) proposed, which E-Wallet service providers should focus on improving security, performance, promotion, etc., as price value does not have effect on consumers' behavioural intention to adopt the E-Wallet. In addition, it is also possible that we have come to such a result because of our respondents do not have much knowledge on E-Wallet, followed by lacking knowledge on which resources are needed for E-Wallet payment, and thus their decisions will not be influenced by price value (Yang et al., 2012; Slade et al., 2014).

Even so, we also ruled out what Chia et al. (2014) said was that the method of which questionnaire was issued was not clear enough to lead to errors in data collection, which led us to draw insignificant conclusions. However, since we did clearly cite a real example of "make any transfer RM5 to get

RM0.50 cashbacks" in the questionnaire for the respondent's reference, hence it can be said that we have avoided the problem that it is difficult for the respondents to make a judgment when answering the question. However, we can refer to the statement of T. T. Teoh et al., (2020), which measured the perceived cost is not important to the willingness to use an E-Wallet. It further concluded that the reason of Malaysian users does not think that PV will affect their willingness to adopt E-Wallet is they believe that everyone has a mobile phone nowadays, and these costs should not be considered as a cost of to adopt E-Wallet. At the same time, they also think that other alternative payment methods such as bank credit card will charge higher fees, so the fee of this E-Wallet is really not worth mentioning.

In conclusion, we found that there is no effect on the PV to Behavioral Intention to Adopt an E-Wallet. This result proves that E-Wallet service provider can attract consumers to adopt E-Wallet without spending too much effort on providing consumers promotion, cashback, etc. Since there is no effect on price value to consumers' behavioral intention to adopt E-Wallet.

5.2.4 Perceived Risk and Behavioral Intention to Adopt E-Wallet

Based on the result shown previously, perceived risk (PR) has found to be having a moderate negative significant relationship and influence on the behavioral intention to adopt E-Wallet among the young adults in Malaysia. The P-value stands at 0.055, which is smaller than 0.10 significance level yet larger than 0.05 significance level. This result is consistent with study by Osman and Leong (2021) which too resulted PR has a moderate significance with the intention to adopt E-Wallet.

We found out that PR has a negative relationship with BI whereby the more the users perceived there is less risks, the higher the behavioral intention for them to adopt or use E-Wallet. If users feel secure and safe, they will not feel assured using E-Wallet for financial activities (Barry & Jan, 2018). Only if the new technology is secure, consumers then will be encouraged to adopt and use it, especially when it comes to financial tools where users' private information is associated (Moorthy et al., 2020). The relationship between PR and BI obtained from our data collected is consistent with Karim et al. (2020), Wong and Mohamed (2021), Lee et al. (2020), Loh et al. (2020).

W. M. Y. Teoh, Chong, Lin and Chua (2013) stated that the reason of not resulting a strong significance relationship between PR and BI can be due to the fact that security-related measures taken by banking institutions and service providers are now well aware by them, for instance warnings to users to beware of scam as well as sending alerts to them when abnormal activities are detected. On the other hand, T. T. Teoh et al. (2020) asserted that youngsters deemed to be not overly concerned with risk while attempting new technology and thus are happy to use it for the advantages of convenient and efficiency. Generally, young people are less risk-averse or unaware of it in many situations since they pay more attention to the benefits of adopting a new technology (Liébana-Cabanillas et al., 2019). Thai and Kuwa (2021) too claimed that for young people, convenience takes precedence over risk associated.

In short, we found that PR has moderate negative significant relationship with the behavioral intention to adopt an E-Wallet among young adults in Malaysia (p<0.10). This result proves that the risk perceived by the consumers will affect their intention to adopt E-Wallet. The riskier the consumer perceived, the lower their intention to adopt.

5.3   Implications of the study

5.3.1   Theoretical Implication

In our research, we modified our own model by referring to UTAUT 2 model. UTAUT 2 differs slightly from the original UTAUT as it addresses three new constructs (Chang, 2012). In our study, we did include "price value (PV)", which is from UTAUT 2. However, our result showed that PV has no significant effect on young adults' behavioral intention to adopt E-Wallet. While on the other hand, we also added "perceived risk (PR)" as one of our variables as it is commonly used as an extension factor in many other studies (Williams et al., 2011). Our result showed that perceived risk (PR) is having a moderate significant relationship (alpha value 10%) and influence on the behavioral intention to adopt E-Wallet among the young adults in Malaysia. According to Liébana-Cabanillas et al. (2019), young people are less risk-averse or unaware of it in many situations since they pay more attention to the benefits of adopting a new technology. However, we still firmly believe that PR is worth to add in UTAUT 2 model. The reason is that there are still some researchers strongly claimed that PR is one of the essential aspects to investigate when determining the consumers' attitude toward the acceptance of mobile payment (Malik & Annuar, 2021). For example, Moorthy et al. (2020) stated that consumers only will be encouraged to adopt and use it if the new technology is secure, especially when it comes to financial tools where users' private information is associated. Furthermore, Thai and Kuwa (2021); Liao and Cheung (2002); Thakur and Srivastava (2014); Kolsaker and Payne (2002) all agree to the statement that consumers are concerned about their personal data, such as

transaction records, mobile phone numbers, billing address, card details, identity card numbers, as well as other private information has been stolen or leaked when they are performing transaction. As a result, we will suggest that future research should add this variable in, and further investigation can be done to prove that PR is one of the factors that will affect the adoption level of E-Wallet.

5.3.2 Managerial Implication

After conducted our survey, we concluded that relevant units could increase the adoption level of Malaysia's E-Wallet by working hard from several aspects. Among them are SI, FC, and PR. This is because our outcomes show that these variables have an impact on people's willingness to adopt E-Wallet.

Firstly, SI something that relevant parties need to pay attention to as it will also significantly affect the consumer's behavioral intention to adopt E-Wallets. For example, Thai and Kuwa (2021) mentioned that relevant parties need to make sure that their E-Wallet system is time-to-time maintained at high efficiency and quality. This is because it can in turn ensuring a good user experience and thus spreading the positive word-of-mouth for them. In addition, these relevant parties can also promote social influence between consumers by offering some incentives to their customers (T. T. Teoh et al., 2020). According to this practice, it can not only increase the consumers' intention, but also reduce the risk of their customers switching to their competitors. Nonetheless, De Luna et al. (2019) also recommends those E-Wallet service providers to pay attention to technology enthusiasts. This is because these technology enthusiasts are usually the first to use a new technology like E-Wallet, and their experience will become the

main source of reference for public. Therefore, if E-Wallet service providers can accept their opinions for improvement, it will be a good channel to influence more people to adopt E-Wallets.

Next, the second aspect is FC. Since Thai and Kuwa (2021) claimed that convenience level takes precedence over risk associated for young people. Plus, a good business not only provides its customers with high-quality products and services, but also considers the customer's payment experience and provides customers with fast and convenient payment methods (Moghavvemi et al. 2021). Thus, it is suggested that relevant parties should implement several measures to ease people when adopting E-Wallet. For example, regulator can encourage all retailers provide their customers to be able to use E-Wallets for payment (T. T. Teoh et al., 2020). This is because consumers will feel inconvenienced because they cannot use E-Wallets to pay everywhere and need to carry cash with them for backup (Ahasanul et al., 2020). However, the premise of this is that E-Wallet service providers must ensure that the convenience of using E-Wallet can surpass traditional cash payment (De Luna et al., 2019), and their payment tools are up-to-date and providing adequate resources, which can always meet consumers' expectations. On the other hand, Manrai et al. (2021) also proposed that providing a user-friendly and simple platform for consumers to make their payment might be a good way to increase consumers' acceptance on E-Wallet payment method. However, there is no doubt that if internet coverage can be achieved everywhere, the adoption level of E-Wallet will be greatly improved, as the network connection in the rural area is also an obstacle to the development of E-Wallet (Wong et al., 2020).

While as for the last variable is PR. Although PR was found to be having a moderate significant relationship and influence on the behavioral intention to adopt E-Wallet among the young adults in Malaysia, it can't be ignored. Sabli et al. (2021) proposes that to increase the intention of consumers to adopt E-Wallets, they must first establish their trust in the E-Wallet payment

method. In other words, they have to first lower down consumers' concerns on their security when using E-Wallet, before motivating them to adopt it. E-Wallet service providers can strengthen the management of their systems to reduce the potential of consumers facing risks, fraud, or personal data being exposed (T. T. Teoh et al., 2020). Chauhan et al. (2021) suggested that E-Wallet service providers can develop "3D secure mechanism" to improve the security features of their E-Wallet platform. At the same time Sabli et al., (2021) also mentioned that the government also needs to strengthen the policy on the security of E-Wallet's payment method. In addition, it is also necessary for E-Wallet service providers to provide consumers with some training or information on how to use E-Wallet to pay correctly and safely, so that consumers' security risk can be reduced to the lowest as much as possible (T. T. Teoh et al., 2020; Sabli et al., 2021).

All in all, it is clear that the results of all these studies provide relevant parties with a clear and detailed idea to increase the number of users adopting e-wallets and help Malaysia move further towards a cashless economy.

5.4   Limitation of Study

There are several limitations to this study that should be acknowledged. The objective populaces in this examination in this study focus on four highly populated states with a strong presence in the digital economy. This selection may not fully represent the diversity of the population's ethnicity, culture, and socioeconomic status in other regions of Malaysia, such as the east coast. Furthermore, the data might not account for regional disparities between urban and rural locations. Young adults in rural areas can have different intentions toward E-Wallet adoption compared to those in urban areas. Therefore, the findings of this study may not be

generalizable to young adults in other regions of Malaysia or to those with different socioeconomic backgrounds.

In addition, this study is subject to self-selection bias and response bias, which may limit its generalizability to the broader population. Self-selection bias may arise from the sampling process, as participants were selected based on their willingness to participate, potentially leading to biased results. Response bias may also exist due to social desirability bias, in which case participants may respond to what they perceive to be socially acceptable rather than their true opinions or behaviors.

Lastly, our study focused on the 18-40 age group, which encompasses the stages of early, late, and middle youth as proposed by Erik Erikson (Monygomery & Amett, 2015; Chung, 2018). Although this age group represents a large portion of the population, it may not fully reflect the views and experiences of individuals in the late adulthood stage. In addition, the variability of the sample in terms of socioeconomic status, education level, and cultural background may not fully represent the diverse experiences and perspectives within this age range.

5.5 Recommendations for Future Research

As stated by the limitations we encountered in this research, there is some suggestion that would be recommended to future researchers. First and foremost, in selecting respondents, future research could expand the study's scope to include more states or regions in Malaysia, as well as a broader range of socioeconomic backgrounds. Therefore, it would allow future researchers to see differences in the results when studying "behavioral intention to adopt E-Wallets". Researchers may also consider oversampling participants in rural areas to ensure that the perspectives and experiences of these individuals are well represented in the study. In addition,

collecting data on participants' ethnicity and cultural background could help to better understand the role of these factors in shaping intentions to adopt e-wallets.

Secondly, to mitigate the limitations of self-selection and response bias in future studies, researchers should use random sampling techniques and ensure the anonymity of participants. In addition, mixed methods combining surveys with in-depth interviews or focus groups can provide a more comprehensive understanding of participants' perspectives and experiences.

Lastly, it is crucial to acknowledge that the study's focus on the 18-40 age group may limit the generalizability of its findings to individuals in late adulthood. Future research should consider addressing this limitation by including a more diverse sample that encompasses a wider range of ages and backgrounds. Conducting separate studies with specific age groups and collaborating with community organizations could also enhance the representativeness and applicability of the study's results. By acknowledging and addressing these limitations, future research can expand upon the findings of this study and offer a more comprehensive and nuanced understanding of the topic at hand.

5.6   Conclusion

In the conclusion, the focus of "this research" thesis is to examine "the intention to adopt E-Wallet among the youth adults in Malaysia". All the information collected from online questionnaires is compiled and examined using the most current version of SPSS 29.0. The findings demonstrate that while H3 and H4 are not adopted, H1 and H2 are approved hypotheses. With the exception of price value and perceived risk, all independent variables are important when determining behavioral intention to adopt an E-Wallet. In fact, all of these conclusions and consequences are presented and evaluated closely. The limitations of the study

thesis are unquestionably handled, and solid recommendations are apportioned as instances for future researchers. As a result, this study's main finding may provide future researchers with important data "about the intention to adopt E-Wallet" when they are choosing respondents.

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Appendix

Appendix 1: Ethical Approval for Research Project

UNIVERSITI TUNKU ABDUL RAHMAN DU012(A)

Wholly owned by UTAR Education Foundation (200201010564(578227-M))

Faculty of Business and Finance
Jalan Universiti, Bandar Barat, 31900 Kampar, Perak
Phone: 05-468-8888
https://fbf.utar.edu.my/

27 October 2022

To Whom It May Concern

Dear Sir/Madam,

Permission to Conduct Survey

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

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

The students are as follows:

Name of Student	Student ID
Gan Wei Ni	20ABB02775
Lim Jia Xuan	20ABB04019
Lim Shi Pei	20ABB02146
Nicole Yoong Huai Li	20ABB01406
Rebecca Lim Xinyi	20ABB04125

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

Thank you.

Yours sincerely,

Mr Chong Tun Pin
Head of Department
Faculty of Business and Finance
Email: chongtp@utar.edu.my

Appendix 2: Survey Questionnaire

Cashless Society: A Study on Intention to Adopt Electronic Wallet (E-Wallet) by the Young Adults in Malaysia

Dear Participants,

Greetings! We are final year undergraduate students of Bachelor of Business Administration (Hons) Banking and Finance from Universiti of Tunku Abdul Rahman (UTAR). We are inviting you to participate in this research by completing the following survey questionnaire. The objective of this research is to investigate the determinants of behavioral intention to adopt E-Wallet by the young adults in Malaysia.

There are THREE (3) sections (A, B, and C) in this questionnaire. Please answer ALL questions in ALL sections. It will take around 5-10 minutes to complete. The data collected will be remained confidential and solely used for academic purposes. Thank you for taking your time in assisting us with this research survey.

PERSONAL DATA PROTECTION NOTICE

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

1. Personal data refers to any information which may directly or indirectly identify a person which could include sensitive personal data and expression of opinion. Among others it includes:
   a) Name
   b) Identity card
   c) Place of Birth
   d) Address
   e) Education History
   f) Employment History
   g) Medical History
   h) Blood type
   i) Race
   j) Religion
   k) Photo
   l) Personal Information and Associated Research Data

2. The purposes for which your personal data may be used are inclusive but not limited to:-
   a) For assessment of any application to UTAR
   b) For processing any benefits and services
   c) For communication purposes
   d) For advertorial and news
   e) For general administration and record purposes
   f) For enhancing the value of education
   g) For educational and related purposes consequential to UTAR
   h) For the purpose of our corporate governance
   i) For consideration as a guarantor for UTAR staff/ student applying for his/her scholarship/ study loan

3. Your personal data may be transferred and/or disclosed to third party and/or UTAR collaborative partners including but not limited to the respective and appointed outsourcing agents for purpose of fulfilling our obligations to you in respect of the purposes and all such other purposes that are related to the purposes and also in providing integrated services, maintaining and storing records. Your data may be shared when required by laws and when disclosure is necessary to comply with applicable laws.

4. Any personal information retained by UTAR shall be destroyed and/or deleted in accordance with our retention policy applicable for us in the event such information is no longer required.

5. UTAR is committed in ensuring the confidentiality, protection, security and accuracy of your personal information made available to us and it has been our ongoing strict policy to ensure that your personal information is accurate, complete, not misleading and updated. UTAR would also ensure that your personal data shall not be used for political and commercial purposes.

Consent:

1. By submitting this form you hereby authorise and consent to us processing (including disclosing) your personal data and any updates of your information, for the purposes and/or for any other purposes related to the purpose.

2. If you do not consent or subsequently withdraw your consent to the processing and disclosure of your personal data, UTAR will not be able to fulfill our obligations or to contact you or to assist you in respect of the purposes and/or for any other purposes related to the purpose.

3. You may access and update your personal data by writing to us at limshipei@1utar.my

Email*

_____

Acknowledgment of Notice

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

[   ] I disagree, my personal data will not be processed.

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Section A: Demographic information

We would like to collect information about personal data to have a better understanding of your opinion toward the intention to adopt an E-Wallet. Please choose only ONE answer for each question and be required to answer.

1. Gender
   - o   Male
   - o   Female

2. Age
   - o   18- 25 years old
   - o   26- 40 years old

3. Where do you live currently?
   - o Johor
   - o Penang
   - o Sabah
   - o Selangor

4. Highest Education Level:
   - o Secondary
   - o A-level/ Foundation / Diploma
   - o Degree

o Master	o PhD	o Other: _____

5. Current working status:

o Students	o Part-time	o Full-time
o Self-employed	o Retired	o Unemployed

6. Ethnicity

o Malay	o Chinese
o Indian	o Other: _____

7. Do you own a smartphone?

o Yes	o No

8. Do you have an E-Wallet account?

o Yes	o No

9. Which E-Wallet payment services do you prefer most of the time?

o Apple Pay	o Boost	o Grab Pay
o QR Pay (MAE)	o Shopee Pay	o Touch 'n Go eWallet
o Wechat Pay	o Other: _____	

10. Frequency of using E-Wallet in a month?

o Daily	o Weekly
o Monthly	o Other: _____

11. How much money do you load in E-Wallet on a monthly basis?

o Less than RM500	o RM500- RM1000	o More than RM1000

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Section B: Dependent variable- *[BI]* Intention to adopt Electronic Wallet (E-Wallet)

Please choose the best answer based on the scale of 1 to 5.

(1) = Strongly Disagree; (2) = Disagree; (3) = Neutral; (4) Agree; (5) = Strongly Agree

Intention to adopt E-Wallet

An intention can be defined as a predetermined course of action that a person aims to achieve. It refers to the way a person behaves in the future. Intention to adopt Electronic Wallet can be known as a type of technology adoption and subsequently refers to the actual use of that electronic wallet service.

1. I intend to use an E-Wallet in my daily life.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

2. I intend to use an E-Wallet because I realized it is beneficial.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

3. I intend to use the E-Wallet for regular financial management and transaction.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

4. Five years from now, I intend to pay for purchases with the E-Wallet.

	1	2	3	4	5

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

5. I think it will be worth it for me to adopt E-Wallet when it's available.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

-- Next Page --

Section C: Factors determining the Behavioral Intention to Adopt E-Wallet by the Young Adults in Malaysia

Please choose the best answer based on the scale of 1 to 5.

(1) = Strongly Disagree; (2) = Disagree; (3) = Neutral; (4) Agree; (5) = Strongly Agree

Social Influence

Social Influence is defined as the potential influences from individuals' surroundings on their behavioural intention to adopt new technologies such as E-wallets payment system Social Influence occurs when individuals' intentions and behaviour are affected by the perceived influence of significant others such as family, friends, peers, and spouse.

1. I **easily get influenced** by my surroundings (family, friends, peers, etc.).

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

2. I **tend to seek feedback and suggestion** from my surroundings (family, friends, peers, etc.) regarding their user experiences before deciding to adopt E-wallet payment services.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

3. My surroundings (family, friends, peers, etc.) **are using** E-wallet payment services.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

4. I am more likely to adopt an E-Wallet payment system when more of my surroundings (family, friends, peers, etc.) begin to use E-wallet payment services.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

5. When my surroundings (family, friends, peers, etc.) are **satisfied** with E-Wallet payment services, **they recommend and persuade me to adopt** them.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

Facilitating Conditions

Facilitating Conditions is defined as the availability of appropriate resources and assistance for consumers to use E-Wallet, and thus affect the intention behavior of consumers to adopt E-Wallet. In our study, the Facilitating Conditions can be the degree of network connection, operation of E-wallet provider, government's support and etc.

1. I have stable internet access to support when I utilize the E-Wallet transaction.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

2. I have enough knowledge about E-Wallet when I utilize E-Wallet.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

3. Many retailers and government are encouraging and accepting mobile payment services nowadays.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

4. E-Wallet live chat able to help me if I ran into any problems.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

5. Instructions of E-Wallet is simple to understand (such as the application's handbook and the information guide) when utilities E-Wallet.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

Price Value

Price Value defined as the trade-off between what benefits a consumer gain from E-Wallet and what it costs them to use it, and thus affect the intention of consumers to adopt E-Wallet. In our study, the cost in the Price Value can be transaction cost, switching cost, or any other further financial cost. While benefit can stand for promotional price, voucher, discount, rebate, cashback, etc.

1. E-Wallet service provider always held cashback rebate activity for its users. (Eg: Make any transfer RM5 to get RM0.50 cashbacks)

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

2. E-Wallet service provider always held discount activity for its users. (Eg: Enjoy 10% discount if using TNG E-Wallet).

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

3. I think that E-Wallet provider will provides more promos and vouchers in the future.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

4. I think that E-Wallet saves more time and cost.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

5. E-Wallet does not require me to pay other extra cost (subscription fee, service charges, etc.), and it is worth to utilise it.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

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Perceived Risk

Perceived Risk is the consumers' perceptions towards the amount that is at risk if the results were unfavorable and the subjective perceptions that those results will

be unfavorable, resulting from using a new technology. In this study, Perceived Risk is explained through the composition of security risk and privacy risk.

1. There is a low risk of the misuse of consumers' information (e.g., names of business partners, payment amount) when using E-Wallet payment.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

2. I feel secure when using my billing information (credit card number, bank account data, etc.) in E-Wallet systems.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

3. I have control over my personal information when utilizing an E-Wallet.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

4. There are no unreasonable or fraudulent charges when using E-Wallet.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

5. E-Wallet platform service providers are able to secure transactions for users.

	1	2	3	4	5	
Strongly Disagree	o	o	o	o	o	Strongly Agree

--- Next Page ---

Your responses have been recorded.

Thank you so much for taking the time to complete the questionnaire for our study. We truly appreciate it.

Appendix 3: Reliability Test Analysis Results for Pilot Test

Scale: Behavioral Intention to Adopt E-Wallet

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	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
.920	.923	5

Scale: Social Influence

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	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
.880	.881	5

Scale: Facilitating Conditions

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	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
.819	.825	5

Scale: Price Value

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	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
.813	.817	5

Scale: Perceived Risk

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	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
.835	.838	5

Appendix 4: Pearson Correlation Analysis

Correlations

		Factor_BI	Factor_SI	Factor_FC	Factor_PV	Factor_PR
Factor_BI	Pearson Correlation	1	.557**	.643**	.439**	-.515**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001
	N	309	309	309	309	309
Factor_SI	Pearson Correlation	.557**	1	.630**	.516**	-.522**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001
	N	309	309	309	309	309
Factor_FC	Pearson Correlation	.643**	.630**	1	.608**	-.666**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001
	N	309	309	309	309	309
Factor_PV	Pearson Correlation	.439**	.516**	.608**	1	-.602**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001
	N	309	309	309	309	309
Factor_PR	Pearson Correlation	-.515**	-.522**	-.666**	-.602**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	
	N	309	309	309	309	309

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

Appendix 5: Multiple Linear Regression Analysis Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.678[a]	.459	.452	.56062	.459	64.542	4	304	<.001	1.946

a. Predictors: (Constant), Factor_PR, Factor_SI, Factor_PV, Factor_FC

b. Dependent Variable: Factor_BI

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	81.142	4	20.285	64.542	<.001[b]
	Residual	95.546	304	.314		
	Total	176.687	308			

a. Dependent Variable: Factor_BI

b. Predictors: (Constant), Factor_PR, Factor_SI, Factor_PV, Factor_FC

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	1.800	.393		4.577	<.001		
	Factor_SI	.237	.057	.234	4.187	<.001	.568	1.761
	Factor_FC	.457	.070	.425	6.525	<.001	.419	2.385
	Factor_PV	-.011	.059	-.011	-.188	.851	.544	1.837
	Factor_PR	-.108	.056	-.116	-1.929	.055	.489	2.047

a. Dependent Variable: Factor_BI