

FACTORS INFLUENCING THE ADOPTION OF  
TOUCH'N GO (TNG) EWALLET AMONG  
CONSUMERS IN MALAYSIA

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(HONOURS)

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BY

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

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## DECLARATION

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- (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) Sole contribution has been made by me in completing the FYP.
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Moreover, the effort would not as inspiring without the encouragement of my beloved families and friends. The understanding of my parents had pleased me to conduct the research in a conducive environment. I would also keen to appreciate every valuable suggestion and improvement advices given by my beloved friends.

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## LIST OF ABBREVIATIONS

A	Adoption of Touch'n Go
PS	Perceived Security
PU	Perceived Usefulness
CA	Consumer's Attitude
SI	Social Influence
SPSS	Statistical Package for Social Science
VIF	Variance Inflation Factors

## PREFACE

This research project unit, UKMZ 3016 Research Project is completed by one Bachelor of International Business student as the partial requirement for the academic study. The title of the thesis is “Factors Influencing the Adoption of Touch’n Go (TNG) ewallet among consumers in Malaysia”.

By integrating digital technologies into our everyday lives, we have transformed traditional transaction methods into more convenient and efficient alternatives. These advancements have led to electronic wallets (eWallets), enabling users to make secure, cashless transactions quickly and easily. Technological advancements, changing consumer preferences, and government initiatives to promote a cashless society have all contributed to Malaysia's rapid adoption of eWallets in recent years. The Touch'n Go (TNG) eWallet has garnered considerable attention and adoption among Malaysian consumers among the array of eWallet options available.

The objective of this study was to determine the factors influencing the adoption of TNG eWallet by consumers in Malaysia. It aims to provide valuable insights into consumer behavior shaping eWallet adoption through the examination of perceived security, perceived usefulness, consumer attitude, and social influence. It is crucial that industry stakeholders, policymakers, and academia understand these factors to facilitate increased acceptance and usage of digital payment solutions in Malaysia.

## ABSTRACT

The research study are developed to investigate the factors influencing the adoption of Touch'n Go (TNG) among consumer in Malaysia. The main concern of this study will be around the identifies factors includes perceived security, perceived usefulness, consumer's attitude, and social influence. There are four hypothesis constructed in order to study and generate comprehensive result.

The target respondents in the study are the consumers in Malaysia. In addition, 189 sets of valid questionnaires were collected and being analysed by using Statistical Package for Social Science (SPSS) version 29. The researcher adopted Multiple Linear Regression.

Moreover, prior of the inferential analysis, the results of internal reliability test (Cronbach's Alpha) indicated that the measurement scales were consistent and reliable in measuring the proposed constructs. According to results generate from Multiple Linear Regression, all the variables (perceived security, perceived usefulness, consumer's attitude, and social influence) indicating a significant relationship.

Lastly, few limitations that hinder the research to be conducted effectively were identified and recommendations are presented to propose beneficial suggestions for further studies to be conducted.



## **Chapter 1: Research Overview**

### **1.0 Introduction**

This chapter discusses the study's background, the problem statement, the objectives and questions of the research study, as well as its significance. Throughout this chapter, context is provided to enable the reader to understand the significance of the research. After giving a general overview of the subject, it focuses on a single research issue or idea. This is a study of factors influencing the adoption of Touch 'n Go (TNG) ewallet among consumers in Malaysia.

### **1.1 Research Background**

The digital economy's explosive expansion has completely changed the manner that commerce is conducted. Payment methods have changed over time, starting with barter exchange, and moving on to cash and cards (Peneder, 2022). Due in large part to the significant rise in internet users worldwide, the digital economy has been essential in easing the progressive conversion of these conventional payment methods into electronic payment systems. With its mostly youthful consumer base (70 percent under 40) and expanding middle class, Southeast Asia, which presently has over 700 million active mobile users, is a prime example (Kinda, 2019).

Due to the explosive expansion of smartphone users and mobile data networks, there is a growing awareness of electronic payment, or e-payment, worldwide (Rahadi et al., 2022). There are more and more mobile internet applications available to go along with this trend. More people are investigating using e-wallets, which are like e-payment, for their regular transactions on a global scale. An electronic payment system replaces paper checks and actual money with electronic means for conducting business or settling payments for products and services (Naeem et al., 2020).

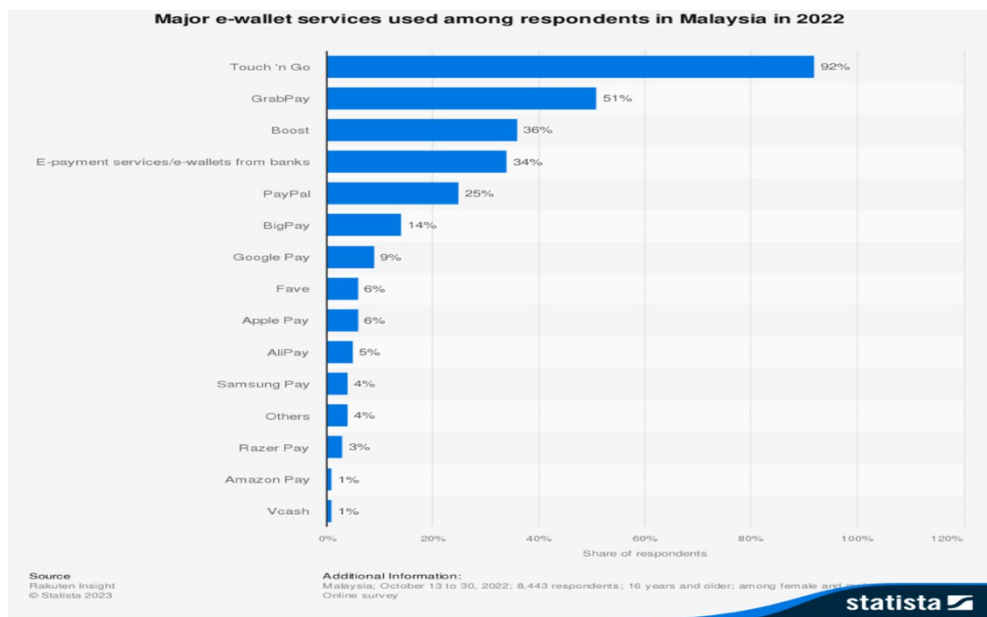
It is undeniable that having a cell phone—especially a smartphone—is essential in today's world. The number of smartphone users has significantly increased because of the broad availability of reasonably priced smartphones (Robayo-Pinzón et al., 2021). The internet has made life easier and usefulness for people in the modern day by enabling mobile device payments. One of the very important technological advancements of the twenty-first century is the electronic wallets, in simpler term, the e-wallets. They are a crucial component of digital payment systems.

Early mobile technology apps made it easier to do financial transactions, such as direct purchases of products and services, remittance transfers, and savings using mobile banking (Aron et al., 2019). With the advancement of technology, mobile devices became smart devices, with features that went beyond financial transactions to include trade, entertainment, navigation, mobile payments, and a host of other services (Turban et al., 2018). The usage of mobile wallets is one significant breakthrough in the digital economy that has drawn attention from all over the world. These apps, which are often referred to as "e-wallets," can be browsed from the App Store or Play Store and function as mobile phone electronic payment systems that can essentially replace real wallets. With e-wallets, consumers can utilize their smart devices to make purchases, receive and send money, and top up their balances (Dash, 2023).

However, as noted by Jing et al. (2023), incorporating this electronic wallet into routine activities is a critical step in advancing Malaysia towards a cashless society. Due to online shopping convenience, consumers can choose desired products from an online merchant, select those products and place them into their virtual shopping carts, then make a payment using a bank card, an e-wallet, or an interbank transfer. Platforms for payment gateways guarantee easy and safe transaction processing. In many ways, using digital payment methods like iPay88 and KipleBiz makes interactions between buyers and sellers more convenient to make payment (Misbah, 2022). These include the buying and selling of products as well as paying monthly instalments for loans for cars, insurance, and college expenses.

Malaysia, which is currently moving from a pandemic to an endemic phase, has actively embraced digital change. Among Malaysians' preferred e-wallet services are Touch 'n Go, GrabPay, BigPay, AliPay, and MAE (Yeoh, 2022). Malaysia is a leader in South and Southeast Asia, adopting a "digital life" and demonstrating notable advances in digital maturity, according to a Deloitte survey (Lim, 2017).

**Figure 1.1: Statistics Data of major e-wallet services used among respondents in Malaysia 2022**



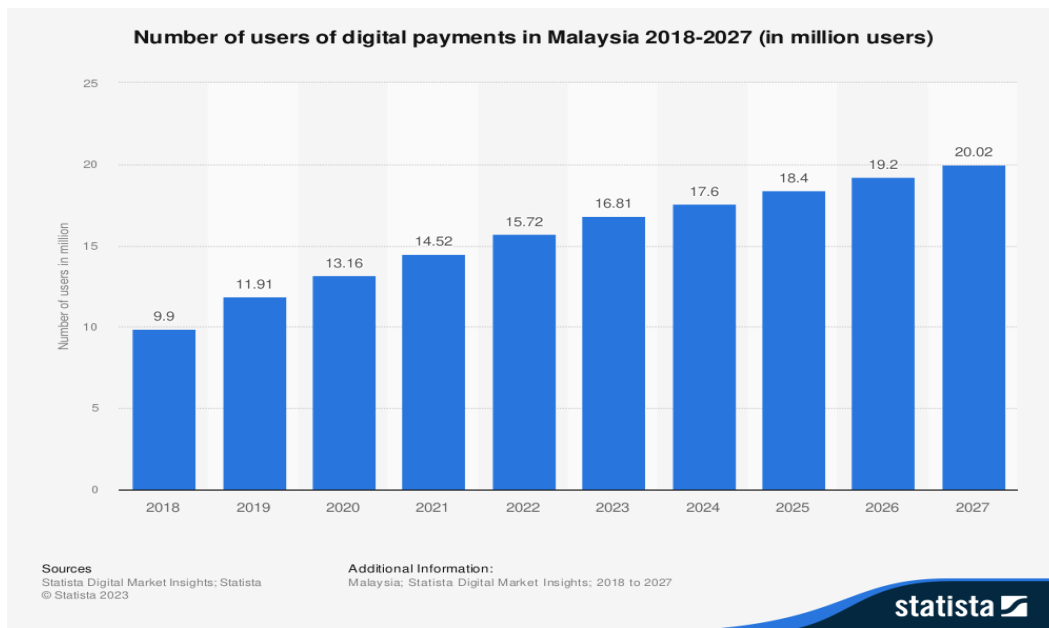
Source: (Statista, 2023)

According to the Statista Research Department, The percentage of Malaysians using Touch 'n Go to complete their e-payment transactions was estimated to be around 92 percent in 2023. In 2022, 51 percent and 36 percent of respondents said they had used GrabPay and Boost, respectively. Also, according to the Malaysia Fintech Report 2023, a cashless society has become more prevalent. Compared to 2021, there was a substantial increase of 31.5% in e-payment transactions, reaching 9.5 billion in 2022. In 2022, Malaysians conducted on average 291 e-payment transactions, signalling an increasing preference for cashless payments. A decline was seen in traditional transactions, such as withdrawals of cash and the usage of cheques. In 2022, ATM withdrawals fell to 798.5 million, below pre-pandemic levels, while check use decreased to 46.1 million. The number of contactless

transactions via credit and debit cards increased from 64.6% in 2022 to 68.9% in 2022. There has been an increase in acceptance of QR code payments because of industry-driven initiatives, particularly among small and medium sized businesses. The number of e-wallet transactions has increased by 5.5% since 2021, reaching 1.7 billion in 2022 from 1.1 billion in 2021. Furthermore, the number of DuitNow QR code acceptance points has also increased from 1.1 million to 1.6 million. In the cross-border payment industry, collaborations among ASEAN countries are accelerating the adoption of digital payment methods. Creating partnerships such as these will enable Malaysians and ASEAN members to make real-time peer-to-peer or other types of payment to promote a broader digital transformation in Malaysia and South-east Asia (Fintech News Malaysia, 2024). Since cashless transactions are becoming more popular throughout Malaysia, consumers now have an increased number of options to choose from when it comes to digital payment services.

Many SMEs in Malaysia faced severe difficulties because of the pandemic, which caused them to cease operations (Zainol et al., 2021). Since its implementation in 2020, the government's Movement Control Order (MCO) has had a significant impact on several sectors, including the financial and economic markets. This consequently had an impact on how customers made purchases and made payments (Lu & Kosim, 2022). In response to the imperative of mitigating the risks associated with contact and transmission of COVID-19, a majority of social, commercial, and governmental stakeholders are actively promoting the adoption of contactless payment methods, with a particular emphasis on e-wallets (Aji et al, 2020). Notwithstanding the challenges, the epidemic had a double-edged effect, encouraging the use of cashless transactions.

**Figure 1.2: Statistics Data of Number of users of digital payments in Malaysia from 2018 to 2027**



Source: (Statista, 2024)

According to Statista Research Department (2023) in figure 1.2, the utilization of digital money (including Touch 'n Go, which is network- and card-based) increased significantly in the 2021. There were 14.52 million users, and in 2023, there were 16.81 million users. It was estimated that the number of users under the 'Digital Payments' segment of the fintech market in Malaysia would constantly grow by 3.2 million users between 2023 and 2027, indicating that tUsers are expected to continue to grow. It is predicted that the indicator will reach 20.02 million users in 2027, which would be a new peak for the indicator after a ninth consecutive year of growth. Over the past few years, it has been noted that the user base of the 'Digital Payments' segment of the fintech market has steadily increased.

There is no doubt that convenience and social influence are important factors in the adoption of e-wallets, but security is also a concern for people who use these types of payments. Elevated levels of perceived security positively correlate with increased perceived trust, subsequently enhancing the intention to adopt e-wallet payments in Indonesia (Prasetya & Shuhidan, 2023). Undale et al. (2020) also mentioned that there was a notable surge in eWallet usage throughout the COVID-19 pandemic period, registering a marked increase of 44%. However, concomitant

with the heightened adoption of digital transactions, cybercrime attacks also escalated significantly, experiencing an uptick of 86% in India. Therefore, understanding the perception of security is essential in investigating whether it is a factor that influences the adoption of the Touch 'n Go eWallet among consumers in Malaysia.

Although the Touch 'n Go eWallet is gaining popularity, it is crucial to understand consumers' perspective towards its adoption, since they exert the most influence over the use of e-wallets. Consumer attitude can be delineated as the prevailing sentiment of favorability or unfavorability that an individual harbors toward a given object (Tutorialspoint, 2019). If an individual possesses a negative attitude toward whether it is a service or a product, individuals are more likely to refrain from using or refrain from purchasing that commodity or service. This principle can equally be applied to e- wallet adoption.

## 1.2 Research Problem

The world of business today is increasingly relying on electronic payments to conduct business, which are becoming riskier. There are numerous e-payment options, including credit and debit cards, e-currencies, and contactless payments have been provided as a result of the Internet expansion and the entry of e-commerce. These options have facilitated payment digitization. This financial concept may benefit consumer data collection organizations. Businesses can target purchase behaviors more effectively and their products can be more customized. However, there exists a consumers' privacy may be violated in the process (Karim et al., 2020). The Malaysian government has introduced stimulus packages to stimulate the adoption of E-wallets and move the nation closer to a cashless society, in recognition of the global trend towards cashless societies. Despite this, there are few studies that investigate the technological adoption of e-wallets in Malaysia, since they are new technologies and e-payment methods. Therefore, it is critical to investigate more to find out what factors influence eWallet adoption.

Owing to the Malaysian government's encouragement and promotion of e-wallets, and there are 92% of the Malaysian majority using the Touch 'n Go eWallet service in 2022 as illustrated in Figure 1.1. However, the implementation of e-wallet technology in Malaysia has not attained a level of advancement comparable to that in China. It is widely recognized that the China mobile payments market is advanced in the world, mainly due to WeChat and Alipay (Rolfe, 2018). As a result of the explosion of mobile payment services, consumers and businesses throughout China are taking advantage of convenient cashless transactions made possible by mobile payment services. Due to a variety of reasons and reasons, many countries around the world are moving towards cashless economies. This is due to a variety of reasons. It has been found that the reasons to use cash for making purchases include the inconvenience of using cash for purchases, the lack of access to Automated Teller Machines (ATMs) and the danger of losing or having an ATM stolen due to the inherent limitations of using cash for making purchases. Consequently, a comprehensive investigation and validation are requisite to discern

the specific factors impacting the adoption of the Touch 'n Go eWallet, to better understand and make improvements to Malaysia's e-wallet services.

This current study describes critical issues that arise from the sustainable utilization of e-wallets in Malaysia. In accordance with Al-Momani et al. (2016), there are significant impacts of usefulness, ease of use, social influence, cost, IT knowledge, trust, privacy, and security on new technologies adoption. Therefore, grounded in the advantages of e-wallets and the conceptual framework expounded in the research background, it is posited that an examination of perceived security, perceived usefulness, consumer attitudes, and social influence is imperative to ascertain their influence on the adoption of the Touch 'n Go eWallet among the Malaysian populace (92%) as illustrated in Figure 1.1. This study, therefore, assumes significance in substantiating whether these four factors indeed exert an influence on the adoption of the Touch 'n Go eWallet in Malaysia.



### **1.3 General Objectives**

The purpose of this study is to investigate the factors influencing the adoption of the Touch 'n Go eWallet among consumers in Malaysia.

1. To study the influence of perceived security on Touch 'n Go eWallet adoption among consumers in Malaysia.
2. To study the influence of perceived usefulness on Touch 'n Go eWallet adoption among consumers in Malaysia.
3. To study the influence of consumer's attitude on Touch 'n Go eWallet adoption among consumers in Malaysia.
4. To study the impact of social influence on Touch 'n Go eWallet adoption among consumers in Malaysia.

## **1.4 Research Questions**

The main purpose of this study is to examine the factors influencing the adoption of Touch 'n Go eWallet among consumers in Malaysia.

1. Does perceived security influences Touch 'n Go eWallet adoption among consumers in Malaysia?
2. Does perceived usefulness influences Touch 'n Go eWallet adoption among consumers in Malaysia?
3. Does consumer's attitude influences Touch 'n Go eWallet adoption among consumers in Malaysia?
4. Does social influence will impact Touch 'n Go eWallet adoption among consumers in Malaysia?

## 1.5 Research Significance

The result of this research can help business owners determine whether incorporating E-wallet services into their operations is feasible. In addition, company owners considering offering e-wallet services can benefit from the study's findings by becoming familiar with the critical factors that influence e-wallet acceptability, including security, usefulness, attitude, and social influence. As a result, entrepreneurs can take advantage of these components to enhance their E-wallet offerings and improve engagement with their customers.

In addition, the study will assist financial institutions and software development companies to identify potential problems faced by e-wallet users. These organizations will be able to identify areas for development according to the results of the study, which will make it easier for electronic wallets to be introduced successfully in Malaysia in the coming future.

Business, marketing, and information technology students and other scholars who want to learn more about e-wallets will also find this research useful. It is an invaluable source of information about e-wallets usage in Malaysia. The study will introduce students to the concept of e-wallets and how they affect their acceptance in Malaysia. Thus, they will develop a better comprehension of Malaysia's e-wallet sector. Considering how popular electronic wallets are becoming, more and more young academics will probably investigate this topic. The importance of the study resides in giving students a basic understanding of e-wallets and the variables influencing their uptake as Students' preferences and behaviors can have a significant influence on market trends and consumer behavior. Their acceptance and usage of e-wallets can shape the trajectory of e-wallet adoption in broader society. Understanding the factors that influence students' uptake of e-wallets can provide valuable insights for businesses and policymakers seeking to promote wider adoption of these digital payment solutions. As such, these insights provide future researchers with a strong foundation upon which to build their investigations.

## **1.6 Conclusion**

Touch 'n Go eWallet adoption in Malaysia is examined in this study, which examines factors such as perceived security, usefulness, consumer attitudes, and social influence.

## Chapter 2: Literature Review

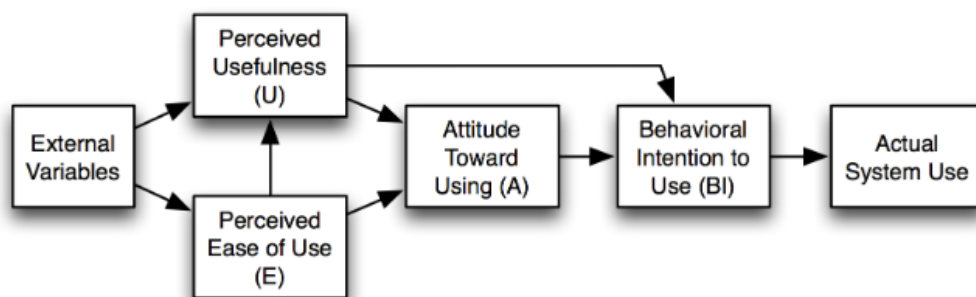
### 2.0 Introduction

This chapter provides an overview of the underlying theories, variables, conceptual framework, and hypothesis development. Adoption of the Touch 'n Go eWallet is the dependent variable of this study. A number of independent variables are included in the analysis, such as perceived security, perceived usefulness, consumer attitudes, and social influence.

### 2.1 Underlying Theories

#### 2.1.1 Technology Acceptance Model (TAM)

Figure 2.1: Technology Adoption Model (TAM) Framework



Source: (Davis, 1989)

In the study, the TAM theory is applied to understand the factors affecting consumers' acceptance of mobile wallets (Teo et al., 2020). The goal of this application of Davis's (1989) TAM theory is to provide a more accurate picture of Malaysian mobile wallet utilization. When evaluating computer adoption, the TAM takes psychological factors into consideration. The Technology Acceptance Model is an information system theory that explains how users choose which technologies

to embrace and is an essential part of introducing new technologies (Saare et al., 2019).

The TAM can also be used to measure how successfully technology is embraced by society, particularly about non-cash transactions, as demonstrated by Waryanto & Afiyah (2021). The TAM, which is renowned for having a strong explanatory power, has proved successful in explaining changes in user acceptance under a variety of conditions, according to Cheng (2019). The Technology Adoption Model (TAM), which is strongly advised for modeling person adoption of technology and information systems, is one of the models that is most frequently advocated in this context.

The Technology Acceptance Model (TAM) is the most widely used model and has consistently demonstrated its ability to predict users' intentions for adopting updated technologies. Its renown has risen to the point where studies on the adoption of user technology regularly cite it. The TAM aims to support scholars and professionals in comprehending the rationale behind the appropriateness or inappropriateness of a given technology or system by providing forecasts and explanations, so assisting them in making the appropriate decisions.

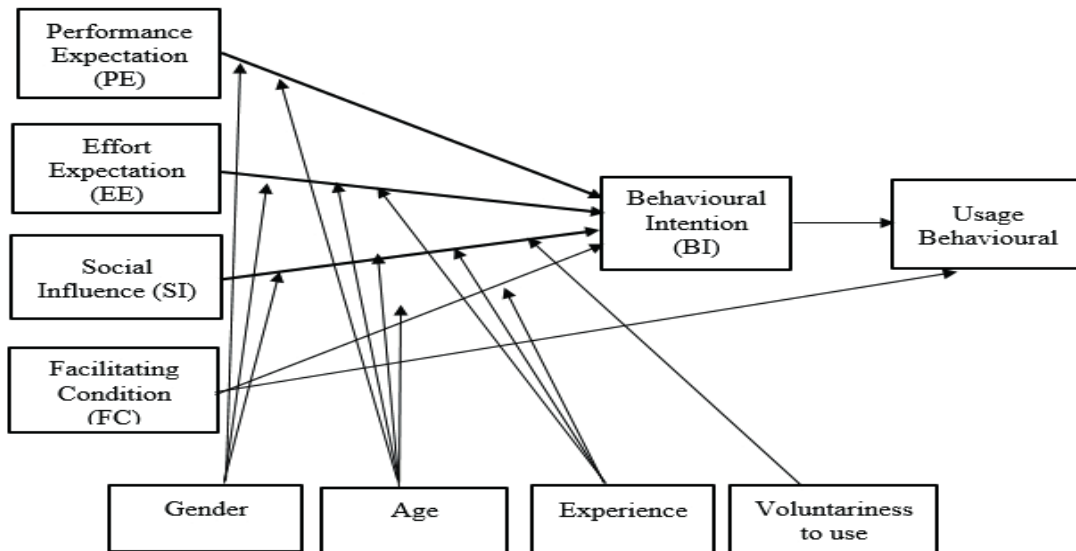
Based on figure 2.1, technology acceptance takes place in three stages, with external factors (system design features) trigger cognitive responses (perceived ease of use and perceived usefulness), which are then combined to form effective responses (attitude toward using technology/intention), influencing use behaviour (Davis, 1989; Davis, 1993). Based on perceived ease of use, perceived usefulness, and behavioral intention, TAM represents behavior. The perception of ease of use and perceived usefulness captures expectations of positive behavioral outcomes and the belief that behavior will not be labor-intensive (Davis, 1989). An attitude toward behavior can replace behavioural intention, according to a follow-up study. Actual use can be influenced directly by perceived usefulness, emphasizing its importance as a behavioral predictor. Despite the fact that perceived ease of use does not directly influence use, it underpins the effect of perceived usefulness on use behavior (Davis, 1993). According to the model, the more easily an application can

be used, the more likely it is to be considered useful for a user, and thus the more likely the technology is to be accepted (Davis, 1989; Davis, 1993).

According to the definition, perceived usefulness is the degree to which a technology improves performance. This construct is conceptualised as outcome judgement, which refers to the expectation of a positive outcome triggering behavior (Bandura, 1982). Based on evidence confirming the effect of system performance expectancy on usage, perceived usefulness was operationalized (Robey, 1979). According to Davis (1989), perceived ease of use is the degree to which a person believes that using the system is effortless. Self-efficacy is a construct derived from self-efficacy, in which someone expresses a belief about how well he or she can perform actions in a specific situation (Davis, 1989; Bandura, 1982). A predictive role for self-efficacy has been proposed in decision-making about technology use (Hill et al., 1987). Perceived ease of use is also related to complexity, which is suspected to be a barrier to the adoption of innovations in the literature on innovation diffusion. The difficulty individuals experience in understanding and implementing an innovation is defined as its degree of difficulty (Peres et al., 2010). In the evaluation of the constructs, validity and reliability were assessed by examining the relationship between self-reported usage of IS and the two proposed factors. The developed scales showed excellent psychometric properties. A further validation was carried out by confirming significant relationships between perceived usefulness, perceived ease of use, intention, and use behavior (Davis, 1989).

## 2.1.2 Unified Theory of Acceptance and Use of Technology (UTAUT)

Figure 2.2: Unified Theory of Acceptance and Use of Technology (UTAUT) Framework



Source: (Venkatesh et al., 2003)

The UTAUT, which has already been tested in several in the past, can be employed to evaluate retailers' acceptance of mobile payments, ascertain behavioral intention to use an e-wallet, examine technological acceptability, analyze fintech adoption, and investigate the use of mobile money (Kim & Yoo, 2020). Odoom and Kosiba's (2020) study illustrated the applicability of the UTAUT in elucidating the causes, incentives, and plans of micro-enterprises in Africa to stick with mobile money usage. While Abdullah et al. (2020) used the UTAUT model to clarify aspects impacting e-wallet acceptability for establishing a cashless society in Malaysia, Chresentia et al. (2020) applied it in Indonesia to recognize essential elements influencing the choice and utilization of e-wallets.

Even though UTAUT research is still in its early phases and lacks distinct areas of maturity, it is progressing quickly. One significant drawback is that the psychological factors influencing consumers' adoption decisions are not considered (Chao, 2019). Governments, businesses, and organizations continue to have serious



concerns about how new technology will be received. It's important to first decide the aspects impacting the usage of e-wallets, given the difficulty in garnering acceptance for technological advancements. According to Chao (2019), UTAUT also has improved consumers' readiness to adopt technology by influencing their attitudes. As previously indicated, TAM and UTAUT is good to use in this study to investigate technology adoption to presume and explain users' propensity to utilize information technology.

Based on the UTAUT framework, actual technology usage is determined by behavioral intention. Four major constructs determine whether people will embrace technology. In addition to performance and effort expectancy, social influence and facilitation conditions are also taken into account when developing constructs. Incorporating social influence, the UTAUT measures disintegrated perceived usefulness, and perceived security.

## **2.2 Review of variables**

### **2.2.1 Perceived Security**

In Linck et al. (2006), perceived security refers to the perception and subjective valuation of a system's security and protection against risks. The concept of perceived security has been defined as threats that may create a situation, a circumstance, or an event that might result in economic damage to a network resource or data system as a consequence of deletion, publication, manipulation of data, service interruption, or misuse in the data system or network resource (Kalakota, 1997). Credit card fraud, network fraud, and other operational risks continue to exist. The most concerning technical risks associated with electronic wallets are data transmission security and user information security (Li, et al., 2019). The efficiency and confidentiality of e-payments can only be considered if there are no security breaches in the transaction process and the client's needs are met (Alshurideh, et al., 2021).

According to Lim et al. (2019), users' intentions of security are affected by their comprehension of the function and management of their personal information on digital platforms. If users think a system is risky, especially in terms of security, they are more likely to shun it. Nag et al. (2019) assert that security has a major impact on users' intentions regarding e-wallets. Despite the rise in popularity of e-wallets, security concerns remain a source of public fear and lack of public understanding (Zafar et al., 2021). If payment systems are protected from unwanted actions by technologies, users would feel more comfortable utilizing e-wallets.

### 2.2.2 Perceived Usefulness

According to Davis (1989), perceived usefulness refers to the perception that implementing a particular system will result in improved job performance. In light of the definition of useful that it has the potential for beneficial use. A person's performance within an organization is generally rewarded for successful performance through salary increases, promotions, bonuses, and other means of reinforcement (Pfeffer, 1982). In turn, a system with a positive perceived usefulness, according to the user, will be one in which the user believes the performance of the system is positively correlated with its usefulness.

Users' perception of an information system's utility includes its effectiveness and efficiency, as well as their belief that using it will increase their productivity (Caffaro et al., 2020). This idea basically captures what a user expects from a technology in terms of cognitive expectations. Users hope that using the system will improve the efficiency of various transactions in addition to helping them reach their lifestyle and financial goals (Altounjy et al., 2020). Therefore, if consumers believe that the technology, they are using is providing real benefits, they are likely to increase their usage. A study by W. Karim et al. (2020) confirmed that users' adoption to utilize e-wallets is favorably influenced by perceived utility. Additionally, Wicaksono and Maharani (2020) also highlighted that perceived usefulness will significantly impact artificial intelligence (AI) technology adoption. Therefore, perceived usefulness is one of the main reasons for Touch 'n Go eWallet adoption.

### **2.2.3 Consumer's Attitude**

People's attitudes are determined by their tendency toward a particular object or idea, as well as their value evaluations and feelings. Several studies have examined how the country image impacts the perception of products among consumers. There has been considerable effort on the part of consumer and marketing researchers to better understand such perceptual decisions that consumers make (Ayyildiz & Cengiz, 2017). Bizer et al. (2006) assert that the attitude construct serves as a central component in theories about consumer behavior in order to explain why people behave as they do. There is an alternative to relying on revealed preferences with this construct, and specifically with the expectancy-value model of attitude.

Consumer's attitude contributes in part to the adoption of e- wallet. Attitudes toward using Information and Communication Technology (ICT) are operationally defined as a consumer's evaluative disposition, encompassing positive or negative sentiments associated with engaging in user behaviors relevant to the adoption of ICT (Gamage & Jayatilake, 2019). Malik et al. (2019) examined that performance expectancy, incentives, and trust emerge as positively significant determinants in forecasting consumers' attitudes toward the adoption of mobile wallet applications. A positive attitude among consumers has the potential to manifest in positive purchase intentions and subsequent actual usage behaviors (Khan et al., 2023).

### **2.2.4 Social Influence**

Social influence occurs when individuals change their opinions, revise their beliefs, or modify their behavior based on social interactions (Moussaïd et al., 2013). Social influence can be explained as the transformation of emotions, thoughts, attitudes, or behaviors that occurs when interacting with someone else or a group of people. The concept refers to the act of causing a change in behavior among others, either intentionally or unintentionally, by the actions of one person (Mavrodiev et al., 2013).

As stated by Yuen et al. (2020), social influence refers to how a person feels about the pressure from society to engage in a particular activity. Numerous people can influence this, such as spouses, family members, friends, instructors, and celebrities. Social influence is the effect of peer pressure on a person's willingness to participate in a certain activity. It all comes down to how people think others should adopt and use the latest technologies. According to Waycott et al. (2019), people's tight social circles and interconnected networks, including family and close friends, are the most powerful sources of influence. As a result, if a technology is extensively used in one's social circles, that person is more likely to employ it themselves. Social considerations can have an impact on the uptake of technology. Research has examined the link between social influence and the adoption of e-wallets by users. According to the study conducted by Yang et al. (2021), social influences play an important role in determining e-wallet usage among users and positively influences their inclinations to use e-wallets.

The consumer adoption of mobile commerce is a voluntary action, on the other hand, and is often conducted individually. A further study by Alalwan et al. (2017) has found that social influence did not contribute significantly to any statistical variance in the adoption of mobile banking as a consequence of their findings regarding the behavioural intention of adopting mobile banking. This means that Jordanian bank customers appear to be less interested in the opinions and recommendations of their references groups as they formulate their plans to adopt technology, including family, friends, and colleagues.

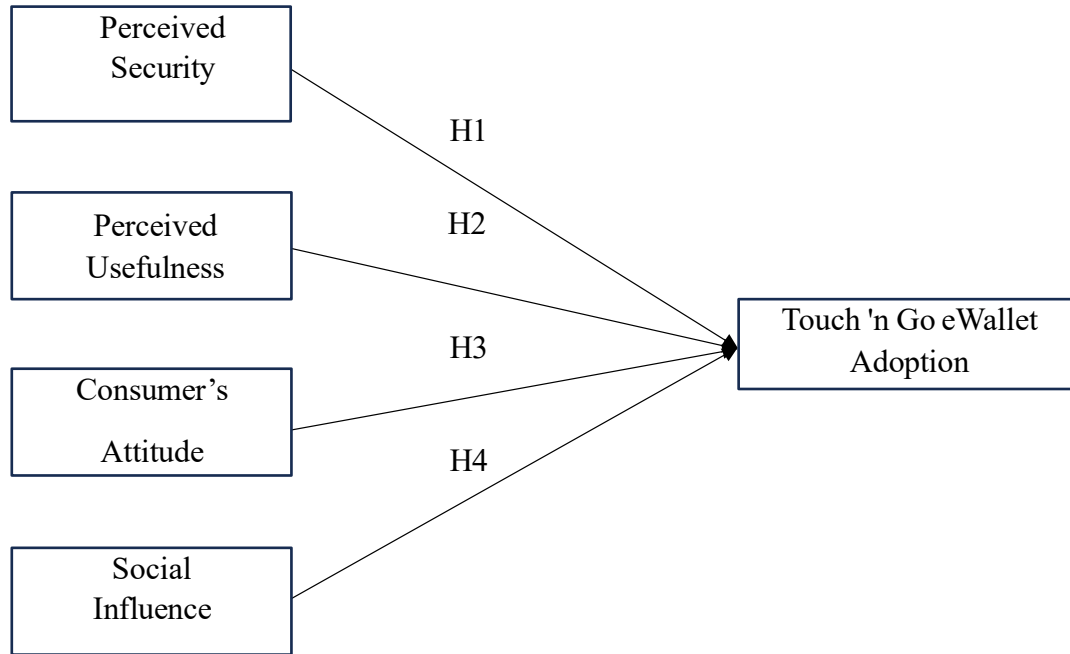
### **2.2.5 Adoption of Touch 'n Go eWallet**

As stated by scholars To and Trinh (2021), behavioral adoption is the probability that a person will take specific actions or the readiness of a customer to accept a new system. It can be summed up as a type of purchasing behavior that is used to predict customer behavior. Paramasivam et al. (2022) state that a consumer's desire to use e-wallet services is a solid indicator of how likely they are to make purchases online and engage in the platform. Positive or negative emotions and thoughts frequently influence people's behaviors and actions. Behavioral adoption, from a psychological standpoint, represents a promise to carry out an action or perform a task later.

During the pandemic, the interconnectedness of the outbreak's internal and external provisions influenced the adoption of digital payments, shaping users' perceptions of the benefits of using e-wallet payment systems (Daragmeh, 2021). According to Mustafa et al. (2022), perceived security, usefulness, consumer attitude, and social influence are some of these variables that influence the adoption of eWallet.

## 2.3 Conceptual Framework

Figure 3: Conceptual Framework



Source: Developed for the research

This model consists of one dependent variable and four independent variables. The dependent variable is the adoption of Touch 'n Go eWallet while the independent variables are perceived security, perceived usefulness, consumers' attitude, and social influence. In this study, the UTAUT and TAM models are used to develop the model.

## 2.4 Hypothesis Development

### 2.4.1 Perceived Security

According to Pertiwi et al. (2022) study, perceived level of security plays a constructive role in shaping individuals' inclinations towards the utilization of e-wallets, consequently impacting e-wallet usage behavior within the context of Indonesia. The results underscore the significance of perceived security and privacy in shaping users' sentiments regarding the divulgence of their personal information. Notably, these factors exert a statistically significant influence, and it is evident that heightened security measures within e-wallet systems directly correlate with an increased level of interest among individuals in utilizing such platforms. In addition, Razif et al. (2020) investigated the effect of perceived risk and security on youth and adults' adoption of e-wallet platforms. According to the study, perceived security along with various risk factors influence young adults' willingness and ability to accept and adopt e-wallets.

Both of the studies mentioned above have concluded that consumers are influenced by perceived security when adopting digital wallets in the long run. Similar to this study. On the other hand, Razif et al. (2020) target Malaysia exclusively, specifically youth-adults. It is therefore the aim of the study to determine whether perceived security has a positive impact on users' adoption of e-wallets in Malaysia across all age groups. Users were unfavorable and slowed down in accepting mobile wallet due to the lack of security (George & Sunny, 2020). In a study conducted by Barry and Jan (2018), privacy and security were identified as extended factors that predict behavior toward new technologies.

Hence, the following was proposed:

**H1:** There is a significant relationship between perceived security and consumer adoption on Touch 'n Go eWallet



### 2.4.2 Perceived Usefulness

According to Davis (1989), the attitude of individuals toward a particular information technology and application is one of the most significant factors in determining their decision to make use of it. The study by Effendy et al. (2020) shows perceived usefulness to be a significant factor that influences students in Indonesia's adoption of e-wallets. Users' adoption of e-wallet intention among students is positively influenced by perceived usefulness. It has been proven that the more useful an e-wallet is, the higher the probability of students adopting it. According to Giri and Suardana's (2021) study, perceived usefulness of e-wallets has a positive impact on their adoption for financial transactions in Indonesia, which tries to shed light on their influence. According to the results, there is a statistically significant relationship between the perceived usefulness of e-wallets and individuals' willingness to use them for financial transactions showing that perceived usefulness seems to have a leading role in shaping individuals' decisions to use e-wallets for financial transactions.

It was found by Brandyberry et al. (n.d.) that an Individual's motivations to use an SNS are heavily influenced by his/her needs and that the ability to trust the system is essential to satisfying those needs and therefore perceiving the SNS as useful. As well, perceived usefulness is an indication of the factors that affect the actual use and willingness to continue using technology (Awa et al., 2014). A high correlation exists between perceived usefulness and intent to use technology, according to Davis et al. (1992).

Therefore, the following proposal was made:

**H2:** There is a significant relationship between perceived usefulness and consumer adoption on Touch 'n Go eWallet.

### 2.4.3 Consumer's Attitude

Kadir et al. (2022) investigated the impact between consumer attitude and the adoption of e-wallets. The study discerned that attitude emerges as a salient determinant influencing use of e-wallet payment systems, exhibiting positive and statistically significant effects on consumers' propensity to adopt such systems. Furthermore, the research revealed a positive correlation, indicating that a more favourable attitude corresponds to an increased willingness among individuals to adopt e-wallet payment systems. Himel et al. (2021) underscored the significance of consumer attitude as a determinant factor influencing individual adoption of e-wallets in Bangladesh. The research findings revealed that consumer attitudes exhibit a positive and statistically significant influence on users' adoption of e-wallets.

A study conducted by Sujeet and Jyoti (2013) also found that attitudes and perceived ease of use can influence higher behavioural intentions among Omani students. Additionally, Hussein (2017) demonstrated that TAM constructs had a significant impact on attitudes and intentions to use the technology systems among university students. Study participants were tested using e-books, internet-based software and social media platforms to assess their attitudes and actual intentions to use e-learning materials and platforms.

Hence, the following was proposed:

**H3:** There is a significant relationship between consumer's attitude and consumer adoption on Touch 'n Go eWallet.

### **2.4.4 Social influence**

Azman et al. (2018) found that social influence plays a key role in users' adoption of e-wallets in Malaysia, Pahang. The adoption of e-wallets is positively and significantly to social influence and the adoption of e-wallets. An investigation by Razak et al. (2021) examined the effects of social factors on adoption of e-wallets among Generation Z individuals in Malaysia, specifically in Negeri Sembilan. Researchers have found a notable and significant relationship between social influence and e-wallet adoption, indicating that social influence is a significant factor in e-wallet adoption.

In the context of the Uber app, it means that people around an individual influence their behavior to use the Uber app (Almunawaretal.,2020). Since we are living in an era where conspicuous consumption is on the rise, people are increasingly attracted to trendy lifestyles. As social influence has a huge impact on our daily lives, people tend to adopt gadgets that will increase their social status. In light of this, the research is crucial for gaining a deeper understanding of the degree to which social factors influence e-wallet adoption across diverse age groups in Malaysia.

Hence, the following was proposed:

**H4:** There is a significant relationship between social influence and consumer adoption on Touch 'n Go eWallet.

## **2.5 Conclusion**

The discussion in this chapter focused on the literature review of underlying theories, the review of variables, the conceptual framework and the development of hypothesis in this chapter.

## **CHAPTER 3: METHODOLOGY**

### **3.0 Introduction**

In this section, the study discusses the methodology used in the study. It discusses the study setting, the population sampled in the study, the data collection methods, the measurement scales that are being used, and the analysis methods that will be applied. Specifically, this research examines the factors influencing the adoption of Touch 'n Go eWallet among Malaysian consumers. This study aims to provide a deeper understanding of how perceived security, perceived usefulness, consumer attitudes, and social influences influence the adoption of Touch 'n Go eWallet among Malaysian consumers.

### **3.1 Research Design**

Zikmund (2013) defined research designs as plans for how to collect, analyze, and use the necessary information to solve a problem, as well as how to make sure that the information is useful. An in-depth description of the study was conducted, followed by a quantitative analysis.

#### **3.1.1 Quantitative Research**

In the view of Aliaga and Gunderson (2003), the definition of a mathematical model can be applied to phenomena that are explained by numerical data analyzed mathematically. A quantitative research method uses mathematical, statistical, and computational techniques to examine observable phenomena in a systematic manner.

## **3.2 Sampling Design**

### **3.2.1 Target Population**

The target population of this study is Malaysian consumers. The reason for selecting consumers who stayed in Malaysia are being selected is because Touch 'n Go eWallet is widely used in Malaysia, making it a relevant topic for study within the country's digital landscape. Its adoption reflects broader trends in consumer behavior and preferences towards digital payment solutions.

### **3.2.2 Sampling Technique**

As part of this study, convenience sampling was used as a non-probability method. Ascharya et al. (2013) defines convenience sampling as a practice whereby the researcher chooses a sample according to his or her convenience (Acharya et al., 2013). There is a reason for choosing this method of collecting data as it includes respondents who are in the right place at the right time when the survey is being conducted. The current research uses this method in which it is possible to recruit respondents with the specified criteria who are eligible to participate in the study in order to conduct the research. As a result, it would be more convenient and less expensive to conduct this study this way. As part of section A of the self-administered questionnaire, respondents were asked to provide accurate information.

### **3.2.3 Sampling Size**

A sample size was determined according to Roscoe (1975) to calculate the size of the sample. In order to obtain an adequate sample size, the sample size should be greater than 30 and smaller than 500 (Roscoe, 1975). The sample size was calculated using software named G\*Power Version 3.1.9.7 to calculate effect sizes and display the power analysis results graphically. Therefore, the sample size is

calculated as 129. There were 189 questionnaires distributed in Malaysia in order to conduct this study. In contrast, only 185 sets of questionnaires contained valid respondents out of 189.

### **3.3 Data Collection Method**

#### **3.3.1 Primary Data**

A primary data set is composed of data that originated from the original research that was conducted (Hox & Boeije, 2005). It was found that primary data was collected by using an electronic questionnaire, which was made available in two ways, in order to collect primary data. Alternatively, respondents can scan the QR Code, or the researcher can share the link with all of the participants to respond. This method was chosen because in terms of cost and time efficiency it is the most efficient to solve the problem.

### **3.4 Research Instrument**

#### **3.4.1 Questionnaire Design**

The methodology adopted is the use of an electronic questionnaire that is distributed through the Internet in order to conduct the survey. By scanning a QR code presented by the researcher in person among a large group of respondents, the questionnaires will reach the respondents. During this modern era, it is common practice to conduct online surveys in order in order to collect information from respondents using the Internet (Wright, 2006). A survey that is conducted online has a number of advantages compared to a survey that is conducted via email. In this way, the research can be completed more quickly and it can be accomplished while working on other tasks (Ilieva et al., 2002). Furthermore, the cost of conducting an online survey is relatively low as well. A self-administered survey will be used as a means of collecting the data for this research and it will be used as a research

instrument. In this questionnaire, respondents can fill out independently without any assistance or interview.

This questionnaire consists of three sections. According to the questionnaire distributed, it was divided into three sections. A total of four demographic questions are asked in Section A, including the respondent's age, gender, income level, and employment status. Section B of the survey involves general questions, such as how often mobile payments are used (per week), the type of mobile payment application most frequently used, recommendation of Touch 'n Go eWallet. This study's independent variables and dependent variables are discussed in Section C. Section C included 24 questions, and respondents were asked to rate their agreement or disagreement on a Likert scale of five, with the value 1 being strongly disagreed with and the value 5 being strongly agreed with.

### 3.4.2 Pilot Test

The pilot test was used to determine the reliability of each question designed for the research, and 50 data sets were collected as part of the pilot test, and SPSS software was used to determine the reliability of the survey.

The reliability test indicated that perceived security, perceived usefulness, consumer attitudes, as well as social influence, all achieved Cronbach's Alpha values of 0.930, 0.828, 0.927, and 0.703, accordingly. According to the results, the independent variable is highly reliable. Furthermore, Cronbach's Alpha for the outcome variable was 0.928, which indicates a good level of reliability. The following table shows the pilot test results:

**Table 3.1: Pilot Test's Result**

Variable		Items	Cronbach' Alpha
IV	Perceived Security (PS)	4	0.930
	Perceived Usefulness (PU)	4	0.828
	Consumer's Attitude	7	0.927
	Social Influence	4	0.703
DV	Touch 'n Go eWallet Adoption	4	0.928

Source: Developed for the research



## **3.5 Construct Measurement**

### **3.5.1 Scale Measurement**

This research instrument consists of three sections. A nominal scale was applied to Section A. In Section B, an interval scale was used. There was a nominal scale and an ordinal scale on Section C.

#### **3.5.1.1 Nominal Scale**

Francis & Mousley (2014) define nominal scale as putting some data into categories without assigning any order to them (for example, gender, ethnicity, or religion) with some data categories. As a result of the limitations of the measurement scale, it will not be possible to perform calculations (Levine et al., 2016). To begin with, qualifying questions were asked using a nominal scale as a starting point. For example, the question asked respondents whether they used Touch 'n Go eWallets. A Yes or No answer option will be provided for the question.

#### **3.5.1.2 Ordinal Scale**

An ordinary measurement scale is used for describing the rank order between the categories of variables included in the measurements (Saunders et al., 2012). It applies to questions measuring variables that are able to be categorized and ranked at the same time as they are measured. A variable measuring income level has been developed based on an ordinary scale. Respondents are asked to select one of four options according to their income level (below RM500, RM1000 to RM1999, RM2000 to RM2999, RM3000 to RM3999, RM4000 or higher). In Section B, the respondents were also asked to choose their frequency of using mobile payments per week on an ordinary scale. They could choose between 3 times, 4-9 times, and over 10 times.

### 3.5.1.3 Interval Scale

Van Breukelen (2010) describes an interval scale as a type of measurement that measures variables using a particular numerical score that represents an interval score of the variable. A five-point An interval measurement scale called the Likert scale was used within the questionnaire. It was used in Section C of the survey as one of the interval measurement scales. An extreme attitude towards another variable will be measured on a Likert scale. The Likert scale has five alternatives, which go from strongly disagreed to strongly agreed. For example, the researcher asked the respondents what factors were contributing to the adoption of Touch 'n Go eWallet by consumers, and the researchers' collected responses from them.

Table 3.2: The Origin of Constructs

<b>Variables</b>	<b>Measurement Items</b>	<b>Source</b>
<b>Touch 'n Go eWallet Adoption</b>	1. I intend to use Touch 'n Go eWallet for my payments in the future.	(Siew et al., 2020)
	2. I will always try to use Touch 'n Go eWallet payments during purchasing things.	
	3. I will recommend others to use Touch 'n Go eWallet for purchasing.	
	4. Touch 'n Go eWallet payments would be one of my favourite technologies for payment.	
<b>Perceived Security</b>	1. I would feel secure using my credit/debit card information through Touch 'n Go eWallet systems.	(Siew et al., 2020)
	2. Touch 'n Go eWallet systems are secure to send/use sensitive information.	
	3. I would feel totally safe by providing information about myself over the Touch 'n Go eWallet systems.	
	4. Overall, the Touch 'n Go eWallet are safe systems to transmit sensitive information.	
	1. Using Touch 'n Go eWallet saves my time.	

<b>Perceived Usefulness</b>	2. Touch 'n Go eWallet is a practical option in making payment.	(Siew et al., 2020)
	3. Using Touch 'n Go eWallet makes it easier for me to carry out my day-to-day tasks.	
	4. Using Touch 'n Go eWallet is the trend of the modern lifestyle.	
<b>Consumer's attitude</b>	1. I am happy with the Touch 'n Go eWallet payment system.	(Hasnah Abdul Kadir et al., 2022)
	2. I am fascinated with the Touch 'n Go eWallet payment.	
	3. Overall, I am satisfied with the Touch 'n Go eWallet.	
	4. I am enjoying using the Touch 'n Go eWallet when shopping.	
	5. I am happy with the Internet connection when accessing the Touch 'n Go eWallet services.	
	6. I am pleased with the Touch 'n Go eWallet application for its privacy reason.	
	7. I am pleased with the Touch 'n Go eWallet application for its security reason.	
<b>Social Influence</b>	1. Family and people who are important to me affect my intention to use the Touch 'n Go eWallet.	(Siew et al., 2020)
	2. Friends and colleagues affect my intention to use the Touch 'n Go eWallet.	
	3. The media and advertisement affect my intention to use the Touch 'n Go eWallet.	
	4. I use Touch 'n Go eWallet because the people I know also use it.	

Source: Developed for the research

## **3.6 Data Processing**

### **3.6.1 Data Checking**

The collected data should be checked as part of this study in order to make sure that they are valuable and valid for the research. It is necessary to check and analyze the data of the respondents for the purposes of understanding them and analyzing the patterns of their responses to different questions (Bajpai, 2011). As this study is the final stage of the research, on the other hand, all the problems such as incomplete questions and mistakes that were discovered will have to be addressed before the actual data will be edited, since the data will be edited at the end of the study (Bajpai, 2011).

### **3.6.2 Data Editing**

The data editing process is a step where the questionnaire has to be checked for accuracy. It is essential that this study examines the errors that appear to have occurred during the study of the questionnaire, such as suspicious, incomplete answers, and inconsistencies (Bajpai, 2011). As a result of respondents' carelessness, the answers are often filled in in an inconsistent manner, leading to errors. There are a number of errors in the data that need to be corrected in order to make sure the data is reliable before moving on to the next step of this study. There are four sets of questionnaires that are being eliminated because they were found to be invalid or incomplete, and as a result they are not being included in the study. Consequently, 185 sets of questionnaires will be utilized in this study, and all of them are valid.

### 3.6.3 Data Coding

Coding of data is a stage which involves creating a code with every piece of data in a questionnaire. It will be easier to analyze the data in this way and any errors to be made will be reduced as a result. According to the table below, the respondent's answer to the Section C of the questionnaire, the five-point Likert scale is used for calculating the score and is coded according to the code shown below. As a result, it will be easier for the data gathered to be analyzed.

Table 3.3: Five-Point Likert Scale

Five-Point Likert Scale	Coded
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

Source: Developed for the research

### 3.6.4 Data Entry

It is a method of putting data into a spreadsheet known as data entry. As a result of the coding done at an earlier stage, the data has now been entered into the SPSS system for analysis. To ensure that data entries into the system are accurate and error-free, a re-check needs to be performed after the first one.

### **3.7 Data Analysis Tool**

Analyzing data can be described as gathering, modelling, and analyzing data in order to gain insight that can be used to make better decisions (Calzon, 2023) In this research, 189 respondents filled out questionnaires, but only those questionnaires that were considered valid were evaluated. The collected data will be analyzed using IBM Statistical Package and Social Science (SPSS) version 27.0. Once the data have been processed, SPSS will be used for data editing, data transformation, statistical analysis, and report generation.

#### **3.7.1 Descriptive Analysis**

In descriptive statistics, data are summarized in an organized manner in order to explain the relationship between variables in a systematic manner (Kaur et al., 2018). Graphs will be used to present the information in an easy-to-understand manner, such as bar charts and pie charts, for easier comprehension of the information. By providing a summary of a set of data, descriptive analysis can assist in the identification and classification of the responses to the survey. As Section A of the questionnaire focused on demographic information, descriptive analysis was applied in this study to examine the characteristics of participants.

### 3.7.2 Scale Measurement

#### 3.7.2.1 Reliability Test

It is important to understand that a reliability test indicates the extent to which a test measure is error-free, according to the study by Sekaran (2019). Tests of reliability are used in order to verify the internal consistency of the questions in the survey distributed. It is possible for researchers to check and ensure that the questionnaire is reliable before distributing it to the target respondents. Based on Cronbach's Alpha Rule, this survey was determined to be reliable. Cronbach' Alpha rules of thumb are shown in Table 3.4:

Table 3.4: Rules of Thumb for Cronbach' Alpha

<b>Cronbach's Alpha Range</b>	<b>Strength of Association</b>
$\alpha \geq 0.90$	Excellent
$0.80 \leq \alpha < 0.90$	Good
$0.70 \leq \alpha < 0.80$	Acceptable
$0.60 \leq \alpha < 0.70$	Poor
$\alpha < 0.50$	Unacceptable

Source: George and Mallery (2002)

### 3.7.3 Inferential Analysis

The inferential analysis is a method employed in order to extrapolate the results of a small sample size to a much larger sample size (Sharma, 2019). By using these samples and the conclusions that were drawn about a larger population from those samples, researchers were able to make assumptions about a larger population. It is common practice to use inference analysis to make generalisations based on relationships between variables within a sample to represent the population (Calvello, 2020). To analyze data collected for this study, a computer-specific version of SPSS was implemented.

#### 3.7.3.1 Multiple Regression Analysis

It is also possible to predict relationships between variables using Multiple Linear Regression Analysis. The formula for multiple linear regression can be expressed as follows (Bevans, 2020):

$$y = \beta_0 + \beta_1X_1 + \dots + \beta_nX_n + \varepsilon$$

Where,

$y$  is the dependent variable,

$\beta_0$  is the y-intercept (constant term),

$X_1$  is the regression's first independent variable,

$\beta_n$  is the slope coefficients of each explanatory variable,

$\varepsilon$  is in the model's error term



### 3.7.3.2 Collinearity Tolerance

In regression analysis, multicollinearity tolerance (VIF) is a measure of multicollinearity among independent variables that indicates the severity of such multicollinearity. When the tolerance is close to one, there is hardly any multicollinearity, whereas when it is close to 0 there may be a threat from multicollinearity. As a reciprocal of tolerance, the variance inflation factor is also known as the VIF. According to Leech et al (2005), if the tolerance is low ( $< 1 - R^2$ ) then multicollinearity is present. Furthermore, multicollinearity can be measured equally well by tolerance and variance inflation factors (Shrestha, 2020).

### 3.7.3.3 Statistics VIF

When independent variables are correlated, variance inflation factor determines how much variance is added to the estimated regression coefficient. A VIF can be calculated as  $VIF = \frac{1}{\text{tolerance}}$ . Where, the tolerance can be calculated as the inverse of a VIF. There is a greater probability of multicollinearity among variables when the tolerance is lower. When  $VIF = 1$ , no correlation exists between the independent variables. When the value of VIF is  $1 < VIF < 5$ , it indicates there is a moderate relationship between the variables. VIF specifies variables that are highly correlated between 5 and 10. If  $VIF \geq 5$  to 10, then the regression coefficients are feebly estimated with the presence of multicollinearity, and  $VIF > 10$  indicates that multicollinearity has affected the estimation of the regression coefficients (Shrestha, 2020).

## 3.8 Conclusion

A great deal of detail and clarity is provided regarding data gathering, processing, and analysis, as well as sampling design and research instruments. Additionally, the gathered information is discussed in the following chapter.

## **CHAPTER 4: DATA ANALYSIS**

### **4.0 Introduction**

This chapter presents the results of analyses conducted. Overall, 185 sets of questionnaires were used, which were analyzed using the software package for social science (SPSS) Version 29.0 along with Microsoft Excel. In addition, it will also present demographic information and information about respondents as well. Also, Cronbach Alpha reliability analysis will be presented in order to determine if the scale is consistent with its inter-items or if there is an internal consistency that can be detected in the scale. Furthermore, a statistical analysis is presented in order to determine the relationship between variables.

### **4.1 Descriptive Analysis**

#### **4.1.1 Respondent Demographic Profile**

##### **4.1.1.1 Gender**

Table 4.1: Statistic of Respondents' Gender

<b>Gender</b>	<b>Frequency</b>	<b>Percentage (%)</b>	<b>Cumulative Percentage (%)</b>
Female	111	58.7	60.8
Male	74	39.2	100
Total	185	100	

Source: Developed for the research

According to the results of the survey, Table 4.1 shows the frequency of responses by gender according to the results of the survey. It is estimated that 185 respondents responded, of which 74 respondents were males and 111 respondents were females, corresponding to 39.2% and 58.7% of the total number of respondents, respectively.

#### 4.1.1.2 Age

Table 4.2: Statistic of Respondents' Age

Age	Frequency	Percentage (%)	Cumulative Percentage (%)
31-40	68	36.0	83.1
21-30	66	34.9	47.1
41-50	22	11.6	94.7
10-20	19	10.1	12.2
51-60	10	5.3	100
Total	185	100	

Source: Developed for the research

It was found that 19 respondents (10.1%) are between 10 and 20, while 66 respondents (34.9%) are between the ages of 21 and 30. Furthermore, 68 out of the overall respondents are aged 31 to 40. They hold 36% of the respondents, followed by 22 respondents aged 41 to 50 with 11.6%. The remaining 10 respondents (5.3%) are between 51 and 60 years of age.

### 4.1.1.3 Employment Status

Table 4.3: Statistics of Employment Status

<b>Employment Status</b>	<b>Frequency</b>	<b>Percentage (%)</b>	<b>Cumulative Percentage (%)</b>
Employed	107	57.8	57.8
Student	59	31.9	89.7
Unemployed	19	10.3	100
Total	185	100	

Source: Developed for research

In accordance with the results presented in table 4.3, it can be stated that 57.8% of respondents are employed, which represents 107 respondents out of all respondents. The remaining 31,9% of respondents, which consists of 59 respondents are students. A further 10.3% of respondents are unemployed, which represents 19 respondents out of the total survey participants.

#### 4.1.1.4 Income Level

Table 4.4: Statistic of Respondents' Income Level

Individual Monthly Income	Frequency	Percentage (%)	Cumulative Percentage (%)
RM 2,000-RM2,999	76	40.2	39.2
RM 3,000-RM 3,999	39	20.6	79.4
Below RM 500	30	15.9	12.7
RM 1,000-RM 1,999	20	10.6	28.6
Above RM 4000	20	10.6	100
Total	185	100	

Source: Developed for research

Based on Table 4.4, 30 respondents have an income below RM500, which represents 15.9% of the respondents. Due to the fact some respondents are students, they do not have much pocket money. There are a total of 20 respondents who are getting salaries between RM1,000 and RM1,999, while 76 respondents are receiving salaries between RM2,000 and RM2,999. In terms of percentage, it represents 10.6% and 40.2% of respondents, respectively. Besides that, 39 respondents (20.6%) earn between RM 3,000 and RM 3,999. Last but not least, 20 respondents have an income of more than RM 4,000, which represents 10.6% of the total.

#### 4.1.1.5: Frequency Usage of Mobile Payment

Table 4.5: Frequency Usage of Mobile Payment (Per Week)

<b>Frequency Usage of Mobile Payment (Per Week)</b>	<b>Frequency</b>	<b>Percentage (%)</b>	<b>Cumulative Percentage (%)</b>
More than 10 times	116	61.4	100
Less than 3 times	35	18.5	38.6
4-9 times	34	18.0	20.1
Total	185	100	

Source: Developed for research

In Table 4.5, it is shown that 35 respondents (18.5%) make use of mobile payment applications less than three times per week. There are 34 respondents who reported that they use mobile payment on an average of four to nine times a week, making up 18.0% of the respondents overall. 116 respondents (61.4%) reported using mobile payment applications at least 10 times a week, indicating how often they use them.

#### 4.1.1.6: Which Type of Mobile Payment App Do You Use Most Often

Table 4.6: Which Type of Mobile Payment App Do You Use Most Often

<b>Which Type of Mobile Payment App Do You Use Most Often</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Touch 'n Go	153	82.7
Online Banking	110	59.5
Grab	92	49.7
Boost	78	42.2
Shopee Pay	77	41.6
Alipay	62	33.5
MAE	4	2.2
Apple Pay	3	1.6

Source: Developed for research

The data collected in table 4.6 shows that respondents were given the option of selecting more than one type of mobile payment app. With 82.7% of respondents preferring Touch 'n Go, it holds the most percentage of respondents in this survey, followed by 110 respondents (59.5%) using Online Banking. In addition, 92 respondents (49.7%) use Grab exclusively, while 78 respondents prefer Boost. While 77 respondents preferred Shopee Pay, 62 preferred Alipay, and they held 41.6% and 33.5% of the survey respectively. There are 7 respondents who disclose that they like to use MAE and Apple Pay as their mobile payment apps, and these apps hold 2.2% and 1.6% of the survey results, respectively.

## 4.2 Scale Measurement

### 4.2.1 Reliability Test

Table 4.7: Reliability Statistic for Actual Result

	<b>Variables</b>	<b>Cronbach's Alpha</b>	<b>No. of Items</b>	<b>Strength</b>
<b>Dependent Variable</b>	<b>Touch 'n Go eWallet Adoption</b>	0.875	4	Good
<b>Independent Variable</b>	<b>Perceived Security</b>	0.872	4	Good
	<b>Perceived Usefulness</b>	0.844	4	Good
	<b>Consumer's Attitude</b>	0.909	7	Excellent
	<b>Social Influence</b>	0.718	4	Acceptable

Source: Developed for Research

As a result of utilizing SPSS software, each variable has been evaluated for reliability. It has been found that the independent variables of Perceived Security, Perceived Usefulness, Consumer's Attitude, as well as Social Influence possess Cronbach's Alpha values of 0.872, 0.844, 0.909, and 0.718, respectively. In this study, it was found that both the independent variables of the study are being regarded as highly reliable. As well as that, the dependent variable, Touch 'n Go eWallet Adoption, also showed a good level of reliability, resulting in an alpha value of 0.875, which is an indicator of reliability.



## 4.3 Inferential Analysis

### 4.3.1 Multiple Regression Analysis

Table 4.8: Multiple Regression Analysis Model Summary

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.814 <sup>a</sup>	.663	.655	1.87655

a. **Predictors:** (Constant) Perceived Security, Perceived Usefulness, Consumer's Attitude, Social Influence

b. **Dependent Variable:** Adoption of Touch 'n Go eWallet

Source: SPSS Version 29.0

In accordance with the results calculated by SPSS software, the R value between the dependent variable (Touch 'n Go eWallet Adoption) and the independent variables (Perceived Security, Perceived Usefulness, Consumer's Attitude, Social Influence) was calculated as 0.814. In this case, the independent variables were found to have a positive linear correlation with Touch 'n Go eWallet Adoption (dependent variable).

Furthermore, R Square for the present study is 0.663. Based on the findings, four independent variables, including perceived security, perceived usefulness, consumer attitudes, and social influence, can affect 66.3% of Touch 'n Go eWallet adoption. However, it also explained that 33.7% of the variation of Touch 'n Go eWallet Adoption remains unexplained in this study.

Table 4.9 ANOVA

Model		Sum of Squares	Degrees of Freedom (df)	Mean Square	F-Value	Significant
1	Regression	1244.625	4	311.156	88.360	<.001 <sup>b</sup>
	Residual	633.861	180	3.521		
	Total	1878.486	184			

Source: SPSS Version 29.0

The most common statistical test for hypothesis evaluation is ANOVA (Analysis of Variance). The F-value for table 4.10 is 88.360 with P=0.000, demonstrating that the correlation is substantial. As a consequence, it can be concluded that the adoption of Touch 'n Go eWallet by consumers in Malaysia can be largely influenced by an overall regression model that consists of an overall regression model that consists of an independent variable such as perceptions of security, perceived usefulness, consumer's attitude and social influence that can greatly influence the adoption of Touch 'n Go eWallet

Table 4.10 Coefficient

Model		Unstandardized Coefficients		Standard Coefficient	T-Value	Significant P-Value	Collinearity Tolerance	Statistics VIF
		B	Standard Error	Beta		P-Value		
1	(Constant)	.363	.978		.371	.711		
	Perceived Security	.306	.067	.306	4.582	<.001	.421	2.375
	Perceived Usefulness	.354	.082	.317	4.287	<.001	.342	2.923
	Consumer's Attitude	.179	.047	.284	3.806	<.001	.336	2.975
	Social Influence	-.007	.073	-.006	-.096	.924	.509	1.966

Source: SPSS Version 29.0

A multiple linear equation derived from table 4.11 indicates that perceived security has a regression coefficient of 0.306 using the multiple linear equation stated previously. This means that, when perceived security increases by 1 unit, Touch 'n Go eWallet adoption increases by 0.260 units. The regression coefficients for perceived usefulness, consumer's attitude and social influence are respectively 0.354, 0.179 and -0.007, with social influence having the lowest coefficient value. Based on the regression coefficient value of 0.354, perceived usefulness has the highest value. When the perceived usefulness variable is increased by one unit, the adoption of Touch 'n Go eWallet among consumers in Malaysia will increase by 0.354 units, assuming the other variables remain constant.

Further, based on the standardized beta, the perceived usefulness measures the greatest standardized beta at 0.317. This indicates that this variable has the greatest impact on Touch 'n Go eWallet adoption among Malaysia consumers. According to table 4.11, the significant value of perceived usefulness is <.001, which is less than p-value 0.05. Therefore, H1 is accepted. Also, based on the independent variables of perceived security, beta values of 0.306 were calculated. The significant value of

perceived security is  $<.001$ , which is less than the p-value of 0.05. Therefore, H2 is accepted. Lastly, according to table 4.11, the consumer's attitude beta value is 0.284, therefore, the significant value of the consumer's attitude is  $<.001$ . In this case, H3 is accepted.

Touch 'n Go eWallet Adoption =  $0.363 + 0.306$  (Perceived Security)+  $0.354$  (Perceived Usefulness) +  $0.179$  (Consumer's Attitude) +  $(-0.007)$  (Social Influence)

## **4.4 Conclusion**

The chapter concluded by presenting a descriptive analysis based on demographic information gathered from respondents. Furthermore, mean and standard deviation were provided in the descriptive analysis presented. SPSS software was utilized to evaluate the associations between independent and dependent variables. A reliability test was performed using SPSS software on all variables. A multiple linear regression test was also used in SPSS to perform inferential analysis.

## **Chapter 5: Discussion, Conclusion, and Implications**

### **5.0 Introduction**

The purpose of the chapter is to provide a brief introduction to statistical analysis and inferential analysis. Furthermore, research findings and implications will be presented. In preparation for future studies, limitations and recommendations will also be discussed.

### **5.1 Summary of Statistical Analysis**

Results of the study indicate that there are 185 respondents of Malaysian who are adopting Touch 'n Go eWallet, and the researcher could summarize that 111 respondents were female, while the remaining 74 respondents were male. Furthermore, the researcher found that among 185 respondents, the majority age range group was in the range of 31 to 40, representing 68 (36%) of the total respondents, whereas a range of 21 to 30 years old has 34.9%, which represents 66 respondents, then an age range of 10 to 20 years old, consisting of 19 respondents (10.1%), followed by an age range of 41 to 50 years old has 22 responses (11.6%). Besides, the group 51 to 60 has 10 participants (5.3%).

According to the employment status, most respondents are employed which represent 107 respondents (57.8%), followed by students which involves 59 respondents (31.9%) whereas unemployment status has 19 respondents (10.3%) respectively. Therefore, the survey questionnaires were distributed equally to the Malaysian who are adopting Touch 'n Go eWallet.

In addition, 15.9% of respondents' monthly income consists of below RM 500. Moreover, 20 of respondents had a monthly income between RM 1,000 to RM 1,999. Following that, 40.2% of respondents' income per month are between RM 2,000 to RM 2,999. On the other hand, 39 participants had an income between RM 3,000 to

RM 3,9999 which consists of 20.6%. Lastly, 10.6% of respondents' monthly income are above RM 4000.

Apart from that, the researcher performed a reliability test on each variable. The Cronbach's alpha was calculated, and the result showed good and excellent, which overall was between the range of 0.7 to 0.8 and above 0.9 respectively. In accordance with Sekaran and Bougie (2016), when Cronbach's alpha is 0.7 and above, the variables are reliable and dependable.

Results of the reliability test indicate that Cronbach's Alpha values are above 0.7 thus indicating that the variables are appropriate for use in this research. Besides, the summary of the model and the coefficient value for all variables in this study is discussed as follows. The study found that the independent variables (perceived security, perceived usefulness, consumer's attitude, and social influence) will impact the dependent variable (Touch 'n Go eWallet Adoption) with an R-value of 0.814. Additionally, this indicated that 66.3% of adoption of Touch 'n Go eWallet Adoption among Malaysians was explained by these four independent variables in the survey questionnaires.

Furthermore, regression analysis is significant at  $P < .001$ , indicating that three independent variables (perceived security, perceived usefulness, consumer's attitude), effectively explains the variance in adopting Touch 'n Go eWallet Adoption in Malaysia. Consequently, the variables that are independent and dependent have linear relationships. There is one independent variable (social influence), the p-value exceeds 0.05 which indicates there is no linear relationship between the independent variables and the dependent variables.

## 5.2 Discussion of Major Findings

Table 5.1 Major Findings

Hypothesis	T-value/P-value	Decision
<b>H1:</b> There is a significant relationship between perceived security and the adoption of Touch 'n Go eWallet among consumers in Malaysia.	T-value = 4.582 P-value = <.001	<b>Supported</b>
<b>H2:</b> There is a significant relationship between perceived usefulness and the adoption of Touch 'n Go eWallet among consumers in Malaysia.	T-value = 4.287 P-value = <.001	<b>Supported</b>
<b>H3:</b> There is a significant relationship between consumer's attitude and the adoption of Touch 'n Go eWallet among consumers in Malaysia.	T-value = 3.806 P-value = <.001	<b>Supported</b>
<b>H4:</b> There is a significant relationship between social influence and the adoption of Touch 'n Go eWallet among consumers in Malaysia.	T-value = -.096 P-value = .924	<b>Rejected</b>

Source: Developed for Research

### 5.2.1 Perceived Security

**H1:** There is a significant relationship between perceived security and the adoption of Touch 'n Go eWallet among consumers in Malaysia.

According to the results shown previously, consumers are positively influenced by perceived security when adopting Touch 'n Go eWallet by Malaysian consumers. In addition, the p-value of this variable is 0.01 or lower, which is lower than the alpha level of 0.05. As a result, the association between these two variables is significant, hence, H1 is supported.

According to Nag et al. (2019), security factors have a significant impact on e-wallet users' intentions. Moreover, Zafar et al. (2021) also found that despite the rise in popularity of e-wallets, security concerns remain a source of public fear and a lack of public understanding. If payment systems are protected from unwanted actions by technologies, users would feel more comfortable utilizing e-wallets.

### 5.2.2 Perceived Usefulness

**H2:** There is a significant relationship between perceived usefulness and the adoption of Touch 'n Go eWallet among consumers in Malaysia.

This study indicates that perceived usefulness positively influences the adoption of Touch 'n Go eWallet among Malaysian consumers. It was found that effort expectancy is significantly lower than 0.001 and the beta value is smaller than 0.05. Thus, H2 is supported, and a significant correlation is observed between perceived usefulness and the adoption of Touch 'n Go eWallet.

Altounjy et al. (2020) defined that users expect the system to improve the efficiency of various transactions in addition to helping them reach their lifestyle and financial goals. Therefore, they explained that if consumers believe that the technology they are using is providing real benefits, they are likely to increase their usage. Furthermore, a study by Cha et al. (2021) confirmed that users' adoption to utilize e-wallets is favourably influenced by perceived utility. Additionally, Wicaksono and Maharani (2020) also highlighted that perceived usefulness will significantly impact artificial intelligence (AI) technology adoption.



### 5.2.3 Consumer's attitude

**H3:** There is a significant relationship between consumer's attitude and the adoption of Touch 'n Go eWallet among consumers in Malaysia.

According to the calculation, the attitude of the consumer was also found to play a significant role in the adoption of Touch 'n Go eWallet among consumers in Malaysia. In fact, the p-value stands at 0.001, below the alpha value of 0.05, which proves that this statement is true. It was shown in this study that an increase in consumer attitudes led to the adoption of Touch 'n Go eWallets being more widely accepted. Thus, H3 is supported, and social influence is positively correlated with the adoption of Touch 'n Go eWallet among consumers in Malaysia.

According to Gamage & Jayatilake (2019), attitudes toward the adoption of Information and Communication Technology (ICT) are operationally defined as a consumer's evaluative disposition, encompassing positive or negative sentiments associated with engaging in user behaviors relevant to the adoption of ICT. Malik et al. (2019) also examined that performance expectancy, incentives, and trust emerge as positively significant determinants in forecasting consumers' attitudes toward the adoption of mobile wallet applications. Furthermore, Khan et al. (2023) also proved that a positive attitude among consumers has the potential to manifest in positive purchase intentions and subsequent actual usage behaviors.

### 5.2.4 Social Influence

**H4:** There is no significant relationship between social influence and the adoption of Touch 'n Go eWallet among consumers in Malaysia.

Based on SPSS calculations, social influence variables do not influence the dependent variable, the adoption of Touch 'n Go eWallet. There is a significant significance value of 0.924, which is higher compared to the alpha of 0.05, which indicates that social influence does not have any impact on Touch 'n Go eWallet adoption. Thus, H4 is rejected.

Based on the findings of Shaw and Sergueeva (2019), it is likely that people are more likely to fulfill others' expectations when their behavior is rewarded or penalized, compared with users who are not rewarded. On the other hand, consumer adoption of mobile commerce is a voluntary act, and is often carried out by individuals acting on their own. In addition, Alalwan et al. (2016) investigated mobile banking to find that social influence does not have a significant bearing on mobile banking behavior. As a result, Jordanian banking customers appear to not be as interested in their references groups as they may be when formulating their intent to adopt technology as the recommendations and attitudes of their reference groups, such as family, friends, or colleagues. As a result, they explained that the usage of online banking is a voluntary decision. It is unlikely that bank customers will be inclined to use online banking just because their friends recommended it to them.

### 5.3 Implications of the study

As a result of this study, researchers recommend that app developers take into account the factors that affect the adoption and success of Touch 'n Go eWallet by app users. The development of an effective and appropriate ewallet is key for app developers' managers to enhance consumer loyalty by developing effective and appropriate ewallets. Considering the results of the study, the researchers have made some recommendations to the developers of e-wallet apps in light of the results. During the development of this study, it was determined that there are several factors influencing acceptance of Touch 'n Go eWallet by Malaysian consumers. It is revealed that there are several brands in the market, and marketers find that there is a high level of competition in the market. Thus, by using the data which was gathered under each of the four variables, marketers can decide which variables they need to focus on. These variables include the perceived security of the e-wallet, the perceived usefulness, as well as the consumer's attitude, to get consumers more engaged in using e-wallets.

In contrast, the study discovered that perceived security of Touch 'n Go eWallet is a factor that influences consumers' decision to use the Touch 'n Go eWallet in the first place. Because of this, managers of the application should make sure that they update the security of the app on a timely basis. Therefore, it is imperative that the developers continue monitoring the security threats and vulnerabilities that could potentially affect the developers' eWallet app on a continuous basis. In order to accomplish this, it is important to stay informed regarding security advisories, patches, and updates given out by relevant security organizations and software vendors.

The insights gained from this study can help app developer companies improve perceived usefulness and adopting Touch 'n Go eWallet among consumers. It is suggesting that developers and innovators can enhance perceived usefulness by clearly communicating the benefits of their technology and designing solutions that effectively address users' needs and preferences. For instance, users perceive

eWallet as useful because it offers convenience. They can make payments without carrying physical cash or cards, simplifying their shopping experience. Additionally, having all their loyalty cards in one place eliminates the need to carry physical cards, further enhancing convenience.

Attitude has a significant impact in influencing acceptance of technology. Users' attitudes toward a technology, including their beliefs, feelings, and opinions about it, can greatly impact their acceptance or rejection of it. The developers is suggested to foster a feedback-driven development process by actively soliciting feedback from users throughout the design and development lifecycle. Also, it is encourage users to share their thoughts, suggestions, and concerns, and incorporate their feedback. By listening to the users and responding to their needs, developers can build a product that resonates with them and fosters positive attitudes toward the technology.

In short, the future researchers studying the factors influencing the adoption of Touch 'n Go eWallet among consumers in Malaysia can leverage the findings of this study. The key factors include perceived security, perceived usefulness, and consumer's attitude are critical factors influencing the adoption of Touch 'n Go eWallet. Therefore, future studies should consider reevaluating the inclusion of these variables to gain deeper insights into the adoption of ewallet within this specific market segment.

## **5.4 Limitation of the study**

The study has a few limitations in different areas that should be considered. As a matter of fact, the primary issue with the survey was the uneven number of respondents from the different age groups. As a result, it may be more difficult for the researcher to examine the perception of respondents who have a particular characteristic when there is a low participation of particular criteria.

The current study's survey questionnaire is limited because it is only available in English. Consequently, during data collection, respondent who do not speak English are unable to participate, leading to potential bias in the collected data. This could result in only educated respondents participating in the survey and inaccurate opinions due to misinterpretation of the questions. Future researchers are recommended to construct questionnaires in languages other than English, such as Bahasa Malaysia and Mandarin, in order to improve the quality of the data and make sure the figures are representative.

In addition, some respondents may select the appropriate answer without fully understanding exactly what the question is asking, or they may even select the same answer all the way through the entire questionnaire without fully comprehending the questions asked. Consequently, this will result in the inaccuracy of information that is provided to the researcher and will affect their final output. Therefore, it is possible that this issue might influence the quality of the study as a whole.

## **5.5 Recommendation for the Future Research**

There are a number of recommendations included in this study for future research in order to overcome some of the limitations stated in this study. To begin with, it is suggested that future research will gather a balanced number of responses across the age groups in Malaysia in order to analyze the data. As a result of the different characteristics of the people, it may be possible to have different levels of acceptance for e wallets. If there are only a few respondents representing a particular group in a research study, the results could be less accurate since the results could be distorted. It is very important for researchers to ensure that there is a balance between all the categories in order to be representative.

To address the limitations of the language used in this research, it is recommended that future research be conducted with survey questionnaires in Chinese, and Bahasa Malaysia, as these are the preferred language of the respondents. This can enhance the findings of the study as the respondents will find it easier to comprehend and respond to the survey questions.

In addition, future researchers may be able to enhance their studies by extending the time constraints. As a result, respondents will have more time to think about which option will best represent their perspective so they can give others an opportunity to respond.

## **5.6 Conclusion**

To summarize, the study is designed to investigate the relationship between perceived security, perceived usefulness, consumer attitude, social influence, and factors influencing the adoption of e-wallet among Malaysian consumers, and the way in which these factors affect the adoption of e-wallet among consumers. As well as this, to facilitate future studies, we have listed in this chapter limitations of the study as well as recommendations for future research in order to improve future studies in the future. In this way, this study will provide more information about the factors influencing the adoption of Touch 'n Go eWallet by consumers in Malaysia for analysis in the future.

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**RESEARCH QUESTIONNAIRE**



**UNIVERSITI TUNKU ABDUL RAHMAN  
FACULTY OF ACCOUNTANCY AND MANAGEMENT**

**Research Topic:**

Factors Influencing the Adoption of Touch 'n Go eWallet Among Consumers in Malaysia

Dear Participants,

I am undergraduate students currently pursuing Bachelor of International Business (Honours) at Universiti Tunku Abdul Rahman (UTAR), Faculty of Accountancy and Management (FAM) who currently conducting my research project as a part of the requirement to complete my degree program. The aim of this research project is to study the factors influencing the adoption of Touch 'n Go eWallet among consumers in Malaysia.

Your cooperation and support is needed to complete the questionnaire, which takes about 15 minutes. Neither your personal information nor personal identity will be revealed. Your participation will be anonymous, and all the information will be kept confidential and for academic purpose only.

If you have any questions or would like to have further information regarding this research study, please do not hesitate to reach me at the contact given below.

Thank you once again for your precious time  
and assistance. Yours faithfully,

<b>NAME</b>	<b>STUDENT ID</b>	<b>CONTACT NO.</b>
LIM SI TING	21UKB01840	011-26213966

## APPENDICES

### **Appendix A: Research Questionnaire**

#### **Section A: Demographic Information**

(Please tick “☑” only one answer in the relevant box for each of the following statements)

1. Gender
  - Male
  - Female
  
2. Age
  - 10 – 20
  - 21 - 30
  - 31 – 40
  - 41 – 50
  - 51 – 60
  
3. Income Level
  - Below RM 500
  - RM 1000 - RM 1999
  - RM 2000 – RM 2999
  - RM 3000 – RM 4000
  - Above RM 4000
  
4. Employment Status
  - Employed
  - Unemployed
  - Student

**Section B: General Questions**

In this section, please read each question attentively. Please tick “” your answer accordingly for each question given below. (Each question can choose **ONLY ONE** answer.)

1. Do you use Touch 'n Go eWallet?
  - Yes
  - No
  
2. Frequency Usage of Mobile Payment (Per week)
  - Less than 3 times
  - 3 – 9 times
  - More than 10 times
  
3. Which Type of Mobile Payment App Do You Use Most Often? (Select more than one)
  - Grab pay
  - Boost
  - Touch 'n Go
  - Shopee Pay
  - Alipay
  - Online Banking
  - Others: \_\_\_\_\_
  
4. Would you recommend Touch 'n Go eWallet to your friend?
  - Yes
  - No

**Section C: Construction Measurement**

This section is seeking your opinion regarding to examine the factors influencing the adoption of Touch 'n Go eWallet Among Consumers in Malaysia.

Respondents are asked to indicate the extent to which they agreed or disagreed with each statement using Likert scale.

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

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

No.	Questions	SD	D	N	A	SA
<b>Touch 'n Go eWallet Adoption</b>						
1	I intend to use Touch 'n Go eWallet for my payments in the future.					
2	I will always try to use Touch 'n Go eWallet payments during purchasing things.					
3	I will recommend others to use Touch 'n Go eWallet for purchasing.					
4	Touch 'n Go eWallet payments would be one of my favourite technologies for payment.					
<b>Perceived Security</b>						
1	I would feel secure using my credit/debit card information through Touch 'n Go eWallet systems.					
2	Touch 'n Go eWallet systems are secure to send/use sensitive information.					
3	I would feel totally safe by providing information about myself over the Touch 'n Go eWallet systems.					



4	Overall, the Touch 'n Go eWallet are safe systems to transmit sensitive information.					
<b>Perceived Usefulness</b>						
1	Using Touch 'n Go eWallet saves my time.					
2	Touch 'n Go eWallet is a practical option in making payment.					
3	Using Touch 'n Go eWallet makes it easier for me to carry out my day-to-day tasks.					
4	Using Touch 'n Go eWallet is the trend of the modern lifestyle.					
<b>Consumer's attitude</b>						
1	I am happy with the Touch 'n Go eWallet payment system.					
2	I am fascinated with the Touch 'n Go eWallet payment.					
3	Overall, I am satisfied with the Touch 'n Go eWallet.					
4	I am enjoying using the Touch 'n Go eWallet when shopping.					
5	I am happy with the Internet connection when accessing the Touch 'n Go eWallet services.					
6	I am pleased with the Touch 'n Go eWallet application for its privacy reason.					
7	I am pleased with the Touch 'n Go eWallet application for its security reason.					
<b>Social Influence</b>						
1	Family and people who are important to me affect my intention to use the Touch 'n Go eWallet.					
2	Friends and colleagues affect my intention to use the Touch 'n Go eWallet.					
3	The media and advertisement affect my intention to use the Touch 'n Go eWallet.					
4	I use Touch 'n Go eWallet because the people I know also use it.					

**Appendix B: SPSS Output**

**1. Output of Respondents' Demographic Profile**

**Gender**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	111	60.0	60.0	60.0
	Male	74	40.0	40.0	100.0
	Total	185	100.0	100.0	

**Age**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10-20	19	10.3	10.3	10.3
	21-30	66	35.7	35.7	45.9
	31-40	68	36.8	36.8	82.7
	41-50	22	11.9	11.9	94.6
	51-60	10	5.4	5.4	100.0
	Total	185	100.0	100.0	

**Income Level**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Above RM 4000	20	10.8	10.8	10.8
	Below RM 500	30	16.2	16.2	27.0
	RM 1000 - RM 1999	20	10.8	10.8	37.8
	RM 2000 - RM 2999	76	41.1	41.1	78.9
	RM 3000 - RM 3999	39	21.1	21.1	100.0
	Total	185	100.0	100.0	

**Employment Status**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employed	108	58.4	58.4	58.4
	Student	56	30.3	30.3	88.6
	Unemployed	21	11.4	11.4	100.0
	Total	185	100.0	100.0	

## 2. Output of General Questions

### Frequency Usage of Mobile Payment Per Week

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4 - 9 times	34	18.4	18.4	18.4
	Less than 3 times	35	18.9	18.9	37.3
	More than 10 times	116	62.7	62.7	100.0
	Total	185	100.0	100.0	

### Which Type of Mobile Payment App Do You Use Most Often

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Alipay, Boost	1	.5	.5	.5
	Alipay, Grab pay	1	.5	.5	1.1
	Alipay, Grab pay, Boost, Shopee Pay	1	.5	.5	1.6
	Alipay, Grab pay, Boost, Touch 'n Go, Online Banking, Shopee Pay	1	.5	.5	2.2
	Alipay, Grab pay, Online Banking, Shopee Pay, Boost	1	.5	.5	2.7
	Alipay, Grab pay, Touch 'n Go, Online Banking, Boost, Shopee Pay	1	.5	.5	3.2
	Alipay, Online Banking	1	.5	.5	3.8
	Alipay, Online Banking, Boost, Grab pay, Touch 'n Go, Shopee Pay	1	.5	.5	4.3
	Alipay, Online Banking, Touch 'n Go, Boost, Shopee Pay, Grab pay	1	.5	.5	4.9
	Alipay, Shopee Pay, Boost, Online Banking, Grab pay, Touch 'n Go	1	.5	.5	5.4
	Alipay, Shopee Pay, Grab pay, Touch 'n Go, Online Banking	1	.5	.5	5.9
	Alipay, Touch 'n Go	1	.5	.5	6.5
	Alipay, Touch 'n Go, Shopee Pay, Boost, Online Banking, Grab pay	1	.5	.5	7.0
	Boost	2	1.1	1.1	8.1
	Boost, Alipay, Grab pay, Shopee Pay, Online Banking	1	.5	.5	8.6
	Boost, Alipay, Online Banking, Touch 'n Go	1	.5	.5	9.2

	Frequency	Percent	Valid Percent	Cumulative Percent
Boost, Alipay, Shopee Pay, Online Banking, Grab pay	1	.5	.5	9.7
Boost, Grab pay	1	.5	.5	10.3
Boost, Grab pay, Alipay, Touch 'n Go	1	.5	.5	10.8
Boost, Grab pay, Shopee Pay, Alipay	1	.5	.5	11.4
Boost, Grab pay, Touch 'n Go, Alipay, Shopee Pay, Online Banking	1	.5	.5	11.9
Boost, Online Banking, Shopee Pay, Alipay, Grab pay, Touch 'n Go	1	.5	.5	12.4
Boost, Shopee Pay	1	.5	.5	13.0
Boost, Touch 'n Go	4	2.2	2.2	15.1
Boost, Touch 'n Go, Alipay, Online Banking	1	.5	.5	15.7
Boost, Touch 'n Go, Online Banking	4	2.2	2.2	17.8
Boost, Touch 'n Go, Shopee Pay	1	.5	.5	18.4
Boost, Touch 'n Go, Shopee Pay, Online Banking	2	1.1	1.1	19.5
Grab pay, Alipay	1	.5	.5	20.0
Grab pay, Alipay, Boost, Online Banking	1	.5	.5	20.5
Grab pay, Alipay, Online Banking, Touch 'n Go	1	.5	.5	21.1
Grab pay, Alipay, Shopee Pay	1	.5	.5	21.6
Grab pay, Boost, Alipay	1	.5	.5	22.2
Grab pay, Boost, Shopee Pay, Touch 'n Go, Online Banking, Alipay	1	.5	.5	22.7
Grab pay, Boost, Touch 'n Go	4	2.2	2.2	24.9
Grab pay, Boost, Touch 'n Go, Apple Pay	1	.5	.5	25.4
Grab pay, Boost, Touch 'n Go, Online Banking	1	.5	.5	25.9
Grab pay, Boost, Touch 'n Go, Shopee Pay	1	.5	.5	26.5

	Frequency	Percent	Valid Percent	Cumulative Percent
Grab pay, Online Banking, Boost, Alipay	1	.5	.5	27.0
Grab pay, Online Banking, Boost, Touch 'n Go	1	.5	.5	27.6
Grab pay, Shopee Pay, Alipay, Boost, Online Banking, Touch 'n Go	1	.5	.5	28.1
Grab pay, Shopee Pay, Boost, Online Banking, Alipay, Touch 'n Go	1	.5	.5	28.6
Grab pay, Shopee Pay, Touch 'n Go	1	.5	.5	29.2
Grab pay, Touch 'n Go	10	5.4	5.4	34.6
Grab pay, Touch 'n Go, Boost, Shopee Pay, Alipay, Online Banking	1	.5	.5	35.1
Grab pay, Touch 'n Go, MAE	1	.5	.5	35.7
Grab pay, Touch 'n Go, Online Banking	10	5.4	5.4	41.1
Grab pay, Touch 'n Go, Online Banking, Alipay	1	.5	.5	41.6
Grab pay, Touch 'n Go, Online Banking, MAE	2	1.1	1.1	42.7
Grab pay, Touch 'n Go, Shopee Pay	1	.5	.5	43.2
Grab pay, Touch 'n Go, Shopee Pay, Online Banking	3	1.6	1.6	44.9
MAE	1	.5	.5	45.4
Online Banking	5	2.7	2.7	48.1
Online Banking, Alipay, Boost, Grab pay, Shopee Pay, Touch 'n Go	1	.5	.5	48.6
Online Banking, Alipay, Grab pay	1	.5	.5	49.2
Online Banking, Boost, Touch 'n Go, Alipay	1	.5	.5	49.7
Online Banking, Boost, Touch 'n Go, Alipay, Grab pay, Shopee Pay	1	.5	.5	50.3
Online Banking, Boost, Touch 'n Go, Shopee Pay, Alipay	1	.5	.5	50.8

	Frequency	Percent	Valid Percent	Cumulative Percent
Online Banking, Boost, Touch 'n Go, Shopee Pay, Alipay, Grab pay	1	.5	.5	51.4
Online Banking, Grab pay	1	.5	.5	51.9
Online Banking, Shopee Pay, Alipay, Touch 'n Go	1	.5	.5	52.4
Online Banking, Shopee Pay, Grab pay, Touch 'n Go, Alipay	1	.5	.5	53.0
Online Banking, Touch 'n Go	1	.5	.5	53.5
Online Banking, Touch 'n Go, Boost, Grab pay, Alipay	1	.5	.5	54.1
Online Banking, Touch 'n Go, Boost, Shopee Pay	1	.5	.5	54.6
Online Banking, Touch 'n Go, Grab pay	1	.5	.5	55.1
Shopee Pay	1	.5	.5	55.7
Shopee Pay, Alipay, Online Banking, Boost, Grab pay, Touch 'n Go	1	.5	.5	56.2
Shopee Pay, Boost	2	1.1	1.1	57.3
Shopee Pay, Boost, Alipay	1	.5	.5	57.8
Shopee Pay, Boost, Grab pay, Alipay	1	.5	.5	58.4
Shopee Pay, Boost, Online Banking, Alipay, Grab pay, Touch 'n Go	1	.5	.5	58.9
Shopee Pay, Boost, Touch 'n Go, Online Banking, Alipay	1	.5	.5	59.5
Shopee Pay, Grab pay	1	.5	.5	60.0
Shopee Pay, Grab pay, Online Banking, Alipay, Touch 'n Go, Boost	1	.5	.5	60.5
Shopee Pay, Online Banking, Alipay, Touch 'n Go, Grab pay	1	.5	.5	61.1
Shopee Pay, Online Banking, Alipay, Touch 'n Go, Grab pay, Boost	1	.5	.5	61.6
Shopee Pay, Online Banking, Boost, Touch 'n Go, Alipay	1	.5	.5	62.2

	Frequency	Percent	Valid Percent	Cumulative Percent
Shopee Pay, Online Banking, Grab pay	1	.5	.5	62.7
Shopee Pay, Touch 'n Go, Grab pay, Boost	1	.5	.5	63.2
Touch 'n Go	17	9.2	9.2	72.4
Touch 'n Go, Alipay, Online Banking, Shopee Pay, Boost	1	.5	.5	73.0
Touch 'n Go, Alipay, Shopee Pay, Online Banking, Boost	1	.5	.5	73.5
Touch 'n Go, Apple Pay	1	.5	.5	74.1
Touch 'n Go, Boost	2	1.1	1.1	75.1
Touch 'n Go, Boost, Alipay, Grab pay, Shopee Pay	1	.5	.5	75.7
Touch 'n Go, Boost, Alipay, Online Banking	1	.5	.5	76.2
Touch 'n Go, Boost, Online Banking, Alipay, Grab pay, Shopee Pay	1	.5	.5	76.8
Touch 'n Go, Boost, Online Banking, Shopee Pay, Alipay	1	.5	.5	77.3
Touch 'n Go, Grab pay, Shopee Pay	2	1.1	1.1	78.4
Touch 'n Go, Grab pay, Shopee Pay, Alipay	1	.5	.5	78.9
Touch 'n Go, Online Banking	19	10.3	10.3	89.2
Touch 'n Go, Online Banking, Alipay	1	.5	.5	89.7
Touch 'n Go, Online Banking, Boost	1	.5	.5	90.3
Touch 'n Go, Online Banking, Boost, Grab pay, Shopee Pay	1	.5	.5	90.8
Touch 'n Go, Online Banking, Grab pay, Shopee Pay, Alipay, Boost	1	.5	.5	91.4
Touch 'n Go, Shopee Pay	4	2.2	2.2	93.5
Touch 'n Go, Shopee Pay, Alipay, Online Banking	1	.5	.5	94.1
Touch 'n Go, Shopee Pay, Boost, Alipay, Online Banking, Grab pay	1	.5	.5	94.6

	Frequency	Percent	Valid Percent	Cumulative Percent
Touch 'n Go, Shopee Pay, Grab pay	1	.5	.5	95.1
Touch 'n Go, Shopee Pay, Grab pay, Alipay, Boost	1	.5	.5	95.7
Touch 'n Go, Shopee Pay, Online Banking	6	3.2	3.2	98.9
Touch 'n Go, Shopee Pay, Online Banking, Apple Pay	1	.5	.5	99.5
Touch 'n Go, Shopee Pay, Online Banking, Grab pay	1	.5	.5	100.0
<b>Total</b>	<b>185</b>	<b>100.0</b>	<b>100.0</b>	

**Grab Pay**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	93	50.3	50.3	50.3
	1	92	49.7	49.7	100.0
	<b>Total</b>	<b>185</b>	<b>100.0</b>	<b>100.0</b>	

**Boost**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	107	57.8	57.8	57.8
	1	78	42.2	42.2	100.0
	<b>Total</b>	<b>185</b>	<b>100.0</b>	<b>100.0</b>	

**Touch'n Go**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	32	17.3	17.3	17.3
	1	153	82.7	82.7	100.0
	<b>Total</b>	<b>185</b>	<b>100.0</b>	<b>100.0</b>	

**Shopee Pay**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	108	58.4	58.4	58.4
	1	77	41.6	41.6	100.0
	<b>Total</b>	<b>185</b>	<b>100.0</b>	<b>100.0</b>	



**Alipay**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	123	66.5	66.5	66.5
	1	62	33.5	33.5	100.0
Total		185	100.0	100.0	

**Online Banking**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	75	40.5	40.5	40.5
	1	110	59.5	59.5	100.0
Total		185	100.0	100.0	

**MAE**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	181	97.8	97.8	97.8
	1	4	2.2	2.2	100.0
Total		185	100.0	100.0	

**Apple Pay**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	182	98.4	98.4	98.4
	1	3	1.6	1.6	100.0
Total		185	100.0	100.0	

**Would you recommend Touch'n Go eWallet to your friend?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	19	10.3	10.3	10.3
	Yes	166	89.7	89.7	100.0
Total		185	100.0	100.0	

### 3. Output for Reliability Test of Actual Result

a. Touch'n Go eWallet Adoption

#### Reliability Statistics

Cronbach's Alpha	N of Items
.875	4

b. Perceived Security

#### Reliability Statistics

Cronbach's Alpha	N of Items
.872	4

c. Perceived Usefulness

#### Reliability Statistics

Cronbach's Alpha	N of Items
.844	4

d. Consumer's Attitude

#### Reliability Statistics

Cronbach's Alpha	N of Items
.909	7

e. Social Influence

#### Reliability Statistics

Cronbach's Alpha	N of Items
.718	4

#### 4. Output of Cronbach's Alpha of Pilot Test

a. Adoption of Touch'n Go eWallet

##### Reliability Statistics

Cronbach's Alpha	N of Items
.928	4

b. Perceived Security

##### Reliability Statistics

Cronbach's Alpha	N of Items
.930	4

c. Perceived Usefulness

##### Reliability Statistics

Cronbach's Alpha	N of Items
.828	4

d. Consumer's Attitude

##### Reliability Statistics

Cronbach's Alpha	N of Items
.927	7

e. Social Influence

##### Reliability Statistics

Cronbach's Alpha	N of Items
.703	4

### 5. Output for Multiple Linear Regression Analysis

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.814 <sup>a</sup>	.663	.655	1.87655	.663	88.360	4

**Model Summary<sup>b</sup>**

Model	Change Statistics		Durbin-Watson
	df2	Sig. F Change	
1	180	<.001	1.674

a. Predictors: (Constant), SI, PU, PS, CA

b. Dependent Variable: A

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1244.625	4	311.156	88.360	<.001 <sup>b</sup>
	Residual	633.861	180	3.521		
	Total	1878.486	184			

a. Dependent Variable: A

b. Predictors: (Constant), SI, PU, PS, CA

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence ...
		B	Std. Error	Beta			Lower Bound
1	(Constant)	.363	.978		.371	.711	-1.567
	PS	.306	.067	.306	4.582	<.001	.174
	PU	.354	.082	.317	4.287	<.001	.191
	CA	.179	.047	.284	3.806	<.001	.086
	SI	-.007	.073	-.006	-.096	.924	-.151

**Coefficients<sup>a</sup>**

Model		95.0% Confidence ...		Collinearity Statistics	
		Upper Bound	Lower Bound	Tolerance	VIF
1	(Constant)	2.294			
	PS	.437	.421	.421	2.375
	PU	.516	.342	.342	2.923
	CA	.272	.336	.336	2.975
	SI	.137	.509	.509	1.966

a. Dependent Variable: A