FACTORS INFLUENCING USAGE OF E-WALLET AMONG UUM STUDENTS

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MASTER OF SCIENCE

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ABSTRACT

The objective of this paper is to study the factors that affect the usage of E-wallet. Based on the technology acceptance model, the effects of perceived ease of use, perceived usefulness, social influence, security and convenience on the use of E-wallet are analyzed. In this study, 400 questionnaires were distributed to UUM students and 372 valid questionnaires were collected. SmartPLS is used to analysed the hypothesis whilst SPSS is used to analyse the descriptive data. The results show that perceived usefulness, perceived ease of use, security and convenience are significantly related to the behavior intention to use E-wallet, and social impact is not significantly related to the usage of E-wallet. This paper also discusses the limitations of this study, and puts forward suggestions for future research, providing better ideas for future researchers and E-wallet operators, and further popularizing the use of E-wallet.

Key word: E-wallet; technology acceptance model; behavior intention

ABSTRAK

Objektif makalah ini adalah mengkaji faktor-faktor yang mempengaruhi penggunaan E-wallet. Berdasarkan model penerimaan teknologi, kesan penggunaan mudah dilihat, kegunaan yang dianggapkan, pengaruh sosial, keselamatan dan kemudahan penggunaan E-wallet dianalisis. Dalam kajian ini, 400 soal selidik telah diedarkan kepada pelajar UUM dan 372 soal selidik yang sah telah dikumpulkan. SmartPLS digunakan untuk menganalisis hipotesis manakala SPSS digunakan untuk menganalisis data deskriptif. Hasilnya menunjukkan bahawa kegunaan yang dirasakan, yang dianggap mudah digunakan, keselamatan dan kemudahan berkaitan dengan niat tingkah laku untuk menggunakan E-wallet, dan impak sosial tidak berkaitan dengan niat tingkah laku untuk menggunakan E-wallet. Makalah ini juga membincangkan batasan kajian ini, dan mengemukakan cadangan untuk penyelidikan masa depan, memberikan idea yang lebih baik untuk penyelidik masa depan dan pengendali E-wallet, dan terus mempopularkan penggunaan E-wallet.

Kata kunci: E-wallet; model penerimaan teknologi; niat tingkah laku

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CHAPTER 1

RESEARCH OVERVIEW

1.0 Introduction

In this chapter, research background, problem statement, research questions, research objectives, research scope and significance of research will be described in detail.

1.1 Research Background

In recent years, with the development of information technology, e-commerce has developed rapidly. Hu Jinyang (2001) said e-commerce is changing the way and concept of human production and management. Nobody doubts that e-commerce has a broad development prospect. At the same time, we also see that although the e-commerce transactions is increasing quickly every year, but it still accounts for a low proportion of the world's total business transactions.

According to Dai (2006), the phenomenon of online shopping and offline payment is widespread. Many e-commerce transactions still use traditional payment tools to complete transaction. Payment tools can't keep up with the development of e-commerce, which hinders the rapid development of e-commerce to a certain extent. In order to change this situation, people have developed a variety of electronic

payment tools, such as E-wallet, electronic cash and so on. Based on the modern information technology, through the network to achieve the connection between various systems, e-wallet has become a promising electronic payment tool.

With the rapid development of international trade, customers are also seeking the most convenient way of payment. E-wallet has become more and more popular among various payment methods (Dai, 2006).

One of the core features of E-wallet attracting enterprises and people is its extremely convenient. Whether customers pay online or use their smart phones to pay in traditional physical stores, owning an online E-wallet can solve many problems.

First, it allows potential customers not to provide credit card details every time, or to hand them over to stores for future use. The goal of E-wallet creation is to save customers time and worry in every transaction. In the physical store, the only operation needed is to use the E-wallet application selected by the buyer to connect the payment terminal to the mobile phone.

In some cases, this method of payment can also benefit customers when they pay in currencies of different countries. E-wallet can make it easier to travel abroad. One such example is ALI Wallet, which converts money into coins of the same value and converts them at the current exchange rate, thus benefiting users.

Another reason for the growing popularity of E-wallet users is fast online transfers, especially between users from the same service provider (Yao, 2018). Compared with traditional bank transactions, it takes only a short time to process such transfers, especially if a specific E-wallet is part of a system originally designed to meet the needs of retailers or markets. Typical of this is Amazon Pay, Ali Pay or Apple Pay, where each payment system has a wider range of applications, but its main function is to provide services for businesses and buyers in their respective platforms.

In the near future, E-wallet will become the preferred payment method in developed countries. For online retailers and payment service providers seeking to expand their business, it is worthwhile to pay attention to the development of E-wallet as a payment method. However, the usage of E-wallet in daily life can promote Malaysia into cashless society powerfully. Once the funds are available, consumers can purchase and transact online conveniently and easily by using E-wallet (Jayaseelan, 2017).

E-wallet is simply a smart money card. E-wallet usually implements real-name system, and can be consumed directly from the card. Generally, identity verification is not carried out. Compared with the credit card system, it reduces costs and simplifies transaction procedures. The E-wallet system involves the following parties in the process of issuance, use and settlement: the system administrator, that is, the

issuer of smart cards; the service providers in the system, such as retail stores, taxi companies; and the users of E-wallet, that is, the consumers who purchase goods and services with E-wallet.

According to the report of WorldPay's annual global payment, it is predicted that by 2021, China's e-commerce will be the first in the global e-commerce market, and China's e-commerce market will grow by 11percent to reach 1.55 trillion US dollars. The mobile payment model has gradually become the mainstay of China's online shopping, which also reflects the rapid development of global network payment. It is predicted that in the next five years, traditional payment methods will be replaced, such as mobile wallets, prepaid cards and bank transfers will replace credit and debit cards. Most Chinese consumers prefer to use e-wallet to purchase, such as Alipay and WeChat pay.

People of different generations have different attitude of acceptance of modern technology and E-wallet. Based on the report of The Center for Generational Kinetics (2018), the primary generation is a silent generation born before 1945, between 1946 and 1964, there was a special generation born called the baby boomer, people born between 1965 and 1976 are collectively referred to as X Generation. Then Generation Y, born from 1977 to this year, in 1995, and finally Generation Z, born after 1996. Different generations usually categorize things, attitudes and behaviors according to their different acceptance levels. When they encounter

different trends, they reflect a new innovation or technology, attitudes towards wishes, etc (Taylor, 2017). For technology, different generations have a variety of perceptions and adaptations level. Sachs (2015) mentioned in the process of growing up, Y Generation has experienced the rapid development of technology and globalization, which gave them different views and behaviors compared to previous generations. Therefore, attitudes towards technology vary from generation to generation. Generation Z who grew up in multi media and technology environments will be more familiar with the Internet than the previous generation (WJSCHROER, 2004).

The objective of this study is to identify the factors affecting the usage of E-wallet among University students. The university students are chosen because they are considered to be in Generation Z group. This survey used questionnaire to investigate perceived usefulness, perceived ease to use, convenience, security, social influence, behavior intention to use E-wallet and adoption of E-wallet among UUM students.

Through this survey, we can determine the factors affecting UUM students' usage of e-wallet, which is conducive to further expanding the market of e-wallet in universities, allowing more young people to accept e-wallet, thus promoting the expansion of the electronic wallet market. At the same time, this study also enriches the applicable model of e-wallet research, and lays a foundation for future research.

1.2 Problem Statement

Nowadays, with the rapid amelioration of the living standards of the world's residents, as well as the advancement of mobile e-commerce and Internet communication technologies, the mobile payment has been provided a favorable market environment to be developed. According to the 42nd Statistical Report of China Internet Network Information Center, Chinese mobile payment users are increasing dramatically in June of 2018, with the number of users reaching 566 million, the growth rate of 7.4percent in half year, and the number of online payment users reaching 569 million. In 2017, the rate of mobile payment consumer increased to 7.1percent, and the usage rate increased from 68.8percent to 71.0percent. Due to the economic development and technological advancement, mobile payment system has been generated and rapidly popularized in the e-commerce environment. It is predicted that all of the market for mobile payment system in China will reach ￥22 trillion in 2020. China's mobile payment system market has entered a mature period. The two major Internet companies, Alipay and Tenpay, take about 90percent of the market. A report shows Alipay accounted for 49.9percent and WeChat Pay accounted for 40.7percent in the first quarter of 2018. The market concentration is high and the competitive landscape has basically taken shape.

In addition, WeChat payment has been launched in Malaysia in June 2018. With Prime Minister Mahathir bin Mohamad expressing interest in turning the country

into a cashless country, the launch of WeChat Pay is being considered in a timely manner (The coverage, 2018). According to the 2016 Visa Mobile Attitude Study, Malaysians are preparing to adopt mobile payments, and seven out of ten people are thinking about using mobile wallets. This change occurred after Tencent obtained Malaysian permission, Tencent's goal is to develop WeChat internationally. Malaysia WeChat Payment will further develop the local tourism, attracting more Chinese tourists. Because Chinese tourists no longer need to exchange currency, they can use the WeChat pay to complete the currency exchange. The use of e-wallet may bring economic benefits to Malaysia.

There are two types of e-wallet in Malaysia, network-based e-wallet and card-based e-wallet. Network-based e-wallet including Grab pay, Wechat pay and Touch n Go etc, card-based e-wallet based on banks to apply service, such as Bigpay and Mpay wallet etc. There are many different applications can be chosen by citizens. It means the e-wallet market in Malaysia is developing quickly.

According to the Malaysian payment landscape (2018) Malaysia has more than forty e-wallets available, although there are many e-wallet apps for people to choose in Malaysia, just only 8percent use e-wallet. which means 92percent of the potential market. So it is particularly important to promote electronic wallets to the public.

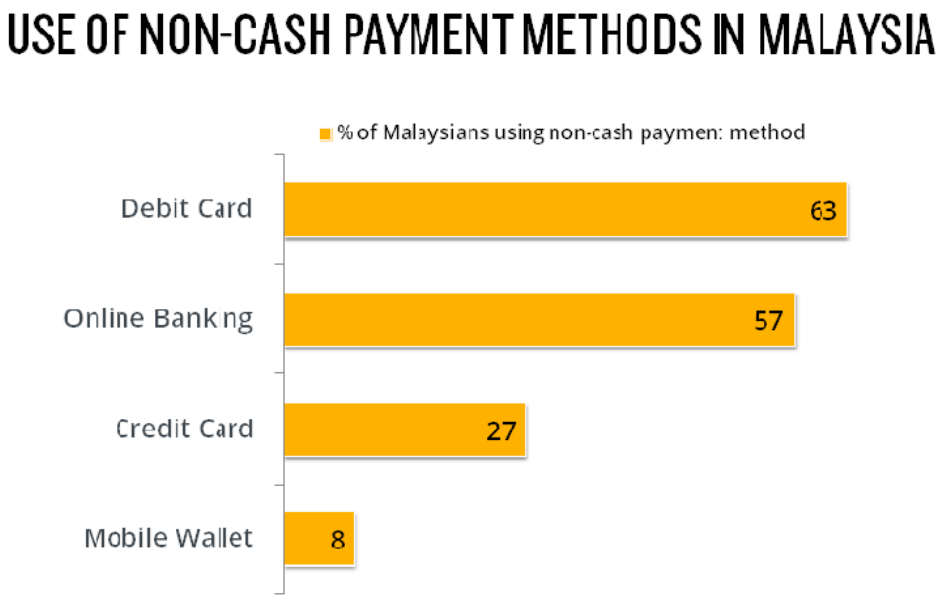


Figure 1.1: Use of non-cash payment methods in Malaysia

Source: Malaysian payment landscape 2019, Nielsen Malaysia

ESInsider (2018) reported that there are many reasons for Malaysian did not use e-wallet, first of all, the payment market in Malaysia is well-served by credit and debit cards, consumer used to choose card to purchase. Secondly, the security of e-wallet is also considered by users, they are not trust e-wallet. last but not least, e-wallet is a new technology, major of people don't know how to use and where can use.

According to Finance Monthly (2017), in UK, there are 60 percent of young people aged 18 to 25 using e-wallet, in their opinion, cash is outdated and e-wallet is a better way to replace cash. The survey also concluded that the biggest users for digital wallets are the groups of students that get used to the technology (Finder, 2018).

University students, as the fastest group to accept new things and new technology, should be the generation that operators should aim at most. Determining the factors affecting university students' usage of E-wallet is conducive to better expanding the college students' market of electronic wallets.

1.3 Research Questions

i. What is the current situation of the E-wallet usage among students in UUM?

ii. What factors influence students' behavioral intention to use E-wallet?

iii. What is the effect of students' behavioral intention to use on usage of E-wallet.

1.4 Research Objectives

i. To investigate the current situation of the E-wallet usage among students in UUM.

ii. To investigate the effect of perceived usefulness, perceived ease of use, social influence, security and convenience on students' behavioral intention to use E-wallet.

iii. To investigate the effect of students' behavioral intention to use on usage of E-wallet..

1.5 Scope of Research

In this study, the main purpose is to determine the factors that affect UUM students' usage of electronic wallets. Only 5 factors are considerable in this study, including Perceived Usefulness, Perceived ease to use, social influence, security and convenience. The method of the study is quantitative only.

1.6 Significance of Research

1.6.1. Practical Significance

The e-wallet mentioned in this paper refers to the software applied in smart phones, tablets and other smart terminals with the development of mobile payment. Compared with the rapid development of mobile payment, the emergence of this new e-wallet has more impact on people's payment concept and deposit concept. Because e-wallet relies more on the development of mobile payment, its development will inevitably be restricted by the mobile payment.

This paper starts from the perspective of users' behavior intention to use E-wallet, to

identify the factors influencing students' usage of E-wallet, so as to better serve users. Research results on factors can also provide a demonstration for the industry's future development.

This research needs to clarity the potential factors that motivate users to use E-wallet. This will help operators to further understand the situation of E-wallet in Malaysia. So that operators can develop e-wallet services more suitable for the Malaysian market. This paper emphasizes the importance of various factors that affecting students' behavior intention to use e-wallet, provides some suggestions for operators to improve their E-wallet services to meet students' requirements.

1.6.2. Theoretical Significance

This study will be a good reference for the research on emerging topics, such as e-wallet. This paper construct a new model rely on Technology Acceptance Model, and further explores the relevant factors of the willingness to use E-wallet. While improving the explanatory ability of the model can help enrich the academic research on the students' behavior intention to use E-wallet and the usage of E-wallet.

In addition, the research will help students and researchers who want to further investigate E-wallet. This study will provide them knowledge about E-wallet, and

help them understand what E-wallet are, and realize the factors affecting students' intention to use E-wallet. The study will help operators build a good understanding of Malaysia's E-wallet market and will help them continue to learn about cashless society.

1.7 Summary

This chapter has discussed research background, problem statement, research questions and objectives, scope of research and significance of the study. The first chapter has introduced the situation of E-wallet's usage roughly. Next chapter will discuss the variables.

CHAPTER2

LITERATURE REVIEW

2.0 Introduction

This chapter will review the past studies as a guide to the research topic (including articles and journals). In addition, this chapter will introduce and discuss the independent variables and dependent variables. Theoretical framework will be carried out in the next section.

2.1 Technology Acceptance Model (TAM)

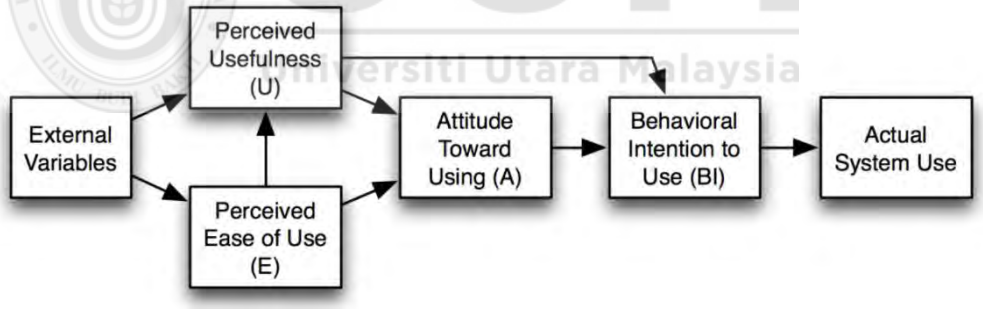


Figure 2.1
Technology Acceptance Model
Source: Davis,1989

Technology Acceptance Model (TAM) was introduced by Davis (1989) when using rational behavior theory to research users' acceptance of information systems. TAM's objective was to explain the factors that affect the acceptance of computer.

TAM believes that the usage of the system is determined by behavior intentions, and behavior intentions are determined by usage of attitudes and perceived usefulness. Perceived usefulness is determined by perceived ease of use and external variables. Common, perceived ease of use is determined by external variables (Venkatesh and Davis, 2000)。

Qi and Zeng (2006) extended the TAM to study the factors affecting users' mobile phone data services. The study uses Technology Acceptance Models as basic framework and adds user's experience factors to identify users' acceptance of mobile information services. The results show that users' perceived ease of use and innovative experience are two major factors that influence users' behavior intention to use mobile information services. Perceived usefulness and brand experience are two key factors influence consumers' attitude to use mobile information services. In a one word, considering the direct and indirect impact of the user's voice experience and innovative experience, it is the most important factor that influencing the users' willingness to use mobile information services.

Zarmpou and Markos (2012) in the study of the acceptance of mobile service, based on TAM, using questionnaire survey method to identify and investigate the factors, and empirical testing of the collected data, and finally through structural equation to evaluate the research model and confirmatory factor analysis, in order to check the measurement model's reliability and validity. Empirical results show that perceived

usefulness can significantly affect users' behavioral intention.

Teng and Chen (2014) put social factors and network externalities into the TAM when they studied the user acceptance model of mobile payment, constructed the users' acceptance model of mobile payment, empirically analyzed the key factors affecting users' adoption of mobile payment. It proves that perceived usefulness and perceived ease of use have a significant impact on mobile payment.

Amin and Akter (2015), based on TAM, conducted a data collection using questionnaires in the research of the factors influencing consumer behavioral awareness in Bangladesh, and analyzed the data using smart PLS. It is finally confirmed that perceived ease of use, perceived usefulness and consumer behavioral awareness are clearly related.

Jay (2016) used the technology acceptance model as the basic platform to analyze the acceptance of E-wallet. Attitudes towards technology, subjective norms and perceived behavioral control were independent variables, and behavioral intentions were dependent variables. Finally, through data analysis and hypothesis testing, it is concluded that Perceived ease of use and Perceived usefulness have significant relationship with behavioral intentions.

Yuan (2019) based on Technology Acceptance Model and extended model, regards

perceived benefits in exchange theory as the key internal factors affecting users' behavior intention to use, and analyses how the system characteristics and social attributes of mobile payment affect users from both personal and social levels. The perceived benefits provide useful theoretical guidance and suggestions for mobile payment operators or enterprises to maintain platform operation and better carry out services.

2.2 Review of Variables

2.2.1 Perceived Usefulness

Perceived usefulness is defined here as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989). According to research by Jahangir and Begum (2008), the importance of perceived usefulness is widely recognized in the field of E-banking. Abundant evidence proved that perceived usefulness has an important impact on users’ behavior intention to use. The research shows that perceived usefulness has a positive impact on both customer attitudes and customer adaption.

According to the findings (Amoroso and Maginer-Watanabe, 2012) of the relationship between perceived usefulness and consumers’ attitude is strong. Perceived usefulness has been proved that it was the most important factor

influencing consumers' acceptance of mobile payment. The case study of rechargeable traffic cards in Japan proves that perceived usefulness has a positive impact on customers' attitudes, intentions, purchasing peripheral services and improving users' speed and efficiency.

Lai (2012) referred to perceived usefulness as the perceived effectiveness of improving user performance when studying the use of Taipei E-wallet based on TAM. Perceived usefulness has a direct impact on consumers' behavioral intention. The analysis proves that perceived usefulness is positively related to behavioral intention.

2.2.2 Perceived Ease of Use

Davis (1989) defines Perceived ease of use as the degree to which a person believes that using a particular system will be free of effort. Perceived ease of use refers to the ability of consumers to try to innovate and evaluate the benefits of innovative products. Past studies have provided evidence that perceived ease of use has a direct or indirect impact on customer intentions. Through the analysis, it is concluded that perceived ease of use has a positive correlation with customer attitude and customer adaption (Jahangir and Begum, 2008) .

Trivedi (2016) is based on the TAM to study the factors affecting the acceptance of

E-wallet, and regards perceived ease of use as one of the independent variables. The results show that perceived ease of use is related to behavioral intention.

2.2.3 Social Influence

Yang and Zhang (2012) said that social influence has a strong impact in the process of starting adoption. The objective of this study is to research the behavioral beliefs, social influences, personal characteristics and intentions of the usage of mobile payment services in China. The researchers pointed out that social influence has a significant indirect impact through the positive impact on the relevant advantages and the negative impact on perceived risks. Therefore, social influence has a direct impact on potential users and current users.

Chen (2017) have shown that the social influence of mobile payment have a positive impact on users' behavior intention to adopt E-wallet. However, his study just identified the impact of external environment on users' decision-making, and does not pay attention to the social characteristics of mobile payment itself on users.

Slade etal.(2015) assumes that individuals' propensity to use new technologies may be affected by perceived social pressures. As far as consumers are concerned, none of users have greater control over their choices and their decision would be impacted by their social relation, so social influence plays an important role in consumers.

Tests on hypothesis show that social influence and behavioral intention use mobile payment have a significant correlation.

2.2.4 Security

When using mobile payment, there may be some risks, such as account stolen, personal information leaked, property loss and so on. These risks make many college students refuse to use mobile payment. When college students feel that using mobile payment will lead to a high probability of loss, they are unwilling to use this method and will not be satisfied. Therefore, these perceived risks negatively affect college students' satisfaction.(Zhao, 2018)

LAI (2016) believes that security is critical for consumers to decide whether use electronic payment or not. Security is defined as a state of protection or protection from harm. Establishing trust with consumers' property security is one of the important factors. It means that enterprises should give priority to build a whole security system when developing electronic payment system and popularizing their products and services. Enterprises can also add value-added trusted services through electronic payment security. Researchers have proved that there is a strong direct relationship between security and consumer behavior intentions.

Li and Ruan (2014) conducted a survey on the factors of consumer mobile payment

perception risk based on the consumer perspective, and proposed a theoretical model of the influencing factors of mobile payment perception risk. The empirical research shows that the more consumers are aware Low, the greater the perception of psychological and social risks; the stronger the technical reliability, the weaker the perception of financial risk and functional risk.

2.2.5 Convenience

Convenience is embodied in the fact that users can not be bound by time and space. As long as there is a mobile Internet, they can complete payment activities, greatly saving users' time and improving payment efficiency. The higher perceived benefits are, the more willing users are considering use mobile payment. The convenience of mobile payment system is positively correlated with users' perceived benefits of using mobile payment system. From the perspective of the characteristics of third-party mobile payment system, Yuan(2019) proposes that mobile payment system should be based on the characteristics of third-party mobile payment system. The more convenient the system is, the more consumers use. As one of the third party mobile payment platforms that occupy the main market scale, Alipay has introduced various functions that are suitable for different scenarios and greatly facilitated people's lives. Convenient livelihood, wealth management, capital exchanges, shopping and entertainment, educational public welfare and third-party services are the main functional sectors of the division. While trying to cater to users'

traditional payment habits and needs, operator should improve the efficiency of users' life. The compatibility and convenience of third-party mobile payment are embodied (yuan, 2019).

Bezhovski (2016) stated that there is consistency between convenience and consumer experience, value and demand. The reason why users choose E-wallet is that it is flexible and can be easily integrated into the daily life of consumers. The convenience of E-wallet is also reflected in the purchase of digital content and services. In general, the convenience of E-wallet inevitably promotes the further rise of E-wallet.

2.2.6 Behavior Intention to Use E-wallet

Zeithaml (1988) believes that there are two main aspects of consumers' intention to use: positive and negative. Positive intentions are expressed as: when consumers have positive intentions towards the company, then there is an invisible link between consumers and the company, so that consumers will unconsciously have a good feeling for the company, there is also a stronger bias towards the company, which will increase the purchase of the company's products or services. Strong stickiness to the company's products; negative intentions are expressed as: when consumers have negative intentions to the company, then consumers will have a conflict or indifference to the company's products or services, which will reduce or even not

buy the company's products or services.

Blackwell etal.(2001) holds that user's behavior intention to use refers to one kind of behavior that users take. Clear behavioral tendencies can also be considered as a subjective judgment of the things to be accomplished, of course, it can be consumer behavior, or it can be some behavior that consumers take when they know specific goals.

2.2.7 Usage of E-wallet

Wang (2016) determines the factors affecting the use of third-party payment mobile E-wallet in China by surveying users who use E-wallet on a TAM-based basis. Product value and service value have a significant impact on consumer's usage of e-wallet.

LAI (2012) conducted a quantitative study using questionnaire to identify what factors influence users' behavior intention to use E-wallet using TAM, revealed that perceived usefulness and perceived ease of use are directly affecting users to adopt E-wallet.

Amin (2009) studied the factors affecting the adoption of E-wallet by bank customers in Sabah, Malaysia. They distributed Questionnaires to collect data from

key respondents from Sabah's bank customers. The results suggested that bank customers' behavior intention have a significant impact on the adoption of e-wallet.

2.3 Summary

This chapter mainly describes literature review of each variable, and the research method, research framework and hypothesis will be introduced in the following chapter.

CHAPTER 3

MODEL AND HYPOTHESES DEVELOPMENT

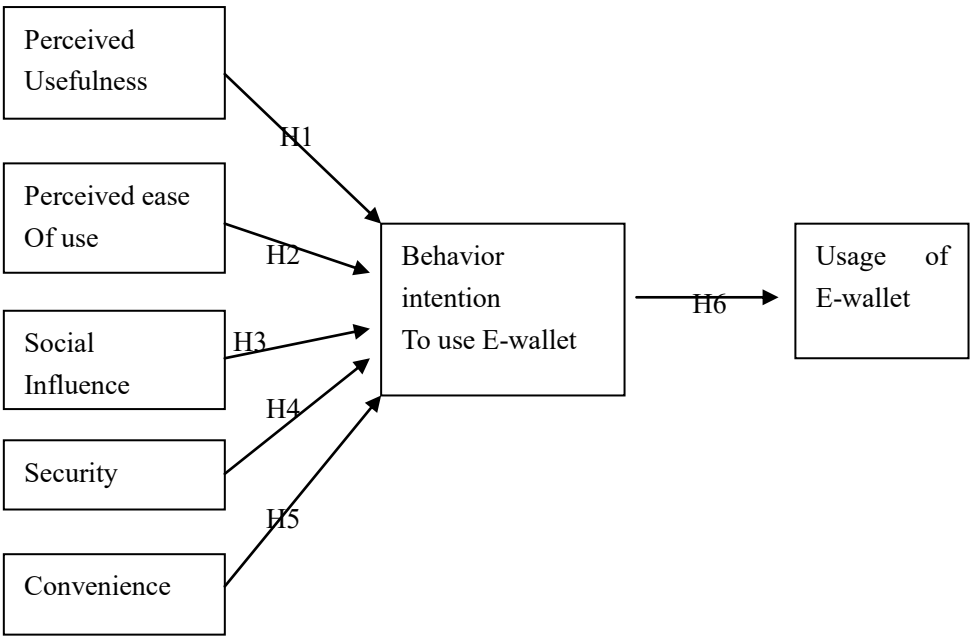
3.0 Introduction

This chapter mainly explains what research methods used in this research, which aims to solve the research objectives mentioned in Chapter 1. In addition, it will introduce the theoretical framework and hypotheses.

3.1 Theoretical framework

In this section, the theoretical framework will be introduced.

Table 3.1
Research Model



3.2 Hypotheses

This section will discuss in details with regards to the hypotheses developed.

3.2.1 Perceived Usefulness

There is plenty of proof that perceived usefulness has a significant impact on the intention to use the system (Jagangir and Begun, 2008). Amoroso and Magnier-Watanabe(2012) indicated that there is a greater and more coherent connection between perceived usefulness and use than other factors. Lai (2012) also demonstrated that perceived usefulness has a positive effect on the intent of behavior.

Hypothesis 1: There is a significant relationship between perceived usefulness and behavior intention to use e-wallet.

3.2.2 Perceived Ease of Use

Davis (1989) depicts perceived ease of use has a significant impact on users' behavior intention. Trivedi (2016) found that perceived ease of use is linked to the behavioral intention.

Hypothesis 2: There is a significant relationship between perceived ease to use and behavior intention to use e-wallet.

3.2.3 Social Influence

Yang and Zhang (2012) said that social influence has an emphatically impact on the intention of user behaviour. Chen (2017) discovered the effct of social social influece on the decision-making of consummers. Slade (2015) stated that in customers, social influence plays a significant role in consumers' usage of new technologies.

Hypothesis 3: There is a significant relationship between social influence and behavior intention to use e-wallet.

3.2.4 Security

LAI (2016) believes that safety is critical to consumers ' choice to use electronic payment. Zhao (2018) proved that these perceived risks negatively affect college students' satisfaction with mobile payment system.

Hypothesis 4: There is a significant relationship between security and behavior intention to use e-wallet.

3.2.5 Convenience

Yuan (2019) said mobile payment system convenience saves time for customers and increases the living effectiveness of customers. Bezhovski (2016) further stated that e-wallet convenience encourages e-wallet growth.

Hypothesis 5: There is a significant relationship between convenience and behavior intention to use e-wallet.

3.2.6 Relation between Behavior Intention to use E-wallet and Usage of E-wallet

Zeithaml (1988) stated that the positive intention of customers increases acceptance of E-wallet use. Blackwell (2001) argues that the intention to use the conduct of the user relates to one type of conduct that consumers take. Amin (2009) used a questionnaire to investigate mobile wallet adoption reflecting mobile wallet execution in Malaysia.

Hypothesis 6: Behavior intention to use E-wallet has a positive impact on usage of E-wallet.

3.3 Summary

In this chapter, research model and hypotheses have already been discussed, the next chapter will discuss about the research methodology, including sampling design, questionnaire design and data analysis.

CHAPTER 4

DATA ANALYSIS

4.0 INTRODUCTION

In this chapter, sampling design, questionnaire design and data analysis method will be discussed. In the data analysis section, this research will introduce cronbach's alpha, composite reliability, average variance extracted and t-test etc.

4.1 Sampling Design

4.1.1 Target Population

This research takes all the students studying in UUM as the target group. The main reasons include the following two points. First, UUM students are generation Z who has been exposed to advanced technology and electronic products since childhood. They have a high acceptance of new things. As a new thing, E-wallet can be widely used by students. Second, because UUM students are about to graduate, they are looking for a job, and they have potential purchasing power. Based on these two reasons, companies and developers should pay more attention and comprehend the factors influencing university students ' use of E-wallet, boost their interest in and

acceptance of E-wallet, and expand E-wallet's use to a wider spectrum of clients.

4.1.2 Sampling Elements

400 questionnaires have been allocated to UUM students in this research, aged between 18 and 24 and over. The main target of the survey was people who had used and are using E-wallet. The questionnaire does not limit the level of education and nationality in order to study the factors influencing the use of E-wallet by students more extensively.

4.1.3 Sampling Technique

Sampling techniques can generally be split into two classifications: probabilistic and non-probabilistic sampling, or sequential sampling and simple random sampling. This study adopts simple random sampling method. Simple random sampling method is simple and intuitive. It is the most basic organizational form of random sampling theory and the cornerstone of sampling theory. By using this method, a more accurate population estimate can be achieved by sampling the population with wide variation, and the apparent partial distinction is often biased if the population variation is too large. In other words, the researcher chose the sample based on judgmental sampling method, which is more accurate for primary data with limited number of people.

4.1.4 Sampling Size

In this chapter, sampling size will be introduced.

Table 4.1
Sampling size

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note: N is population size; S is sample size.

Source: Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size forresearch activities. Educational and Psychological Measurement, 30, 607-610.

The total number of UUM students is 29525, which belongs to the category of

20,000 to 30,000 people. According to the information in the table, 379 questionnaires will be enough. However, in order to avoid incomplete or ambiguous data, 400 questionnaires were distributed to UUM students in this study.

4.2 Questionnaire Design

There are a total of eight parts in this questionnaire. The first part includes two questions related to the usage of e-wallet. These questions are “Do you use E-wallet?” and “How many times do you use E-wallet in one week?” Next part include questions related to variables used in the model, namely, Perceived Usefulness, Perceived Ease to Use, Security, Social Influence, Convenience, Behavior intention to use E-wallet and Usage of E-wallet. Every part has five questions.

Table 4.2

Sources of questionnaires

	variables	Questions	Sources
PU1	Perceived Usefulness	Overall, I am satisfied with how easy it is to use E-wallet	Chang (2015)
PU2		It was simple to use E-wallet.	
PU3		I felt comfortable using E-wallet.	
PU4		It was easy to learn to use E-wallet.	
PU5		I think E-wallet makes my life more efficient	
PEOU 1	Perceived Ease Of Use	I find the E-wallet easy to use.	Chang (2015)
PEOU 2		Learning to operate E-wallet is easy for me.	
PEOU 3		I find it easy to get the E-wallet to do what I want it to do.	
PEOU 4		The E-wallet is flexible to interact with.	Wang (2016)

PEOU 5		It is easy for me to remember how to perform tasks using E-wallet.	
SI1	Social Influence	People who influence my behavior think that I should use E-wallet.	Lu, Yao, & Yu (2005)
SI2		My friends think that I should use E-wallet.	
SI3		Using E-wallet is considered a status symbol among my friends.	
SI4		People who are important to me expect me to use E-wallet technology	Koening-Lewis , Marquet, Palmer, & Zhao (2015)
SI5		People who are important to me are likely to recommend using E-wallet technology	
SE1	Security	Satisfied with the security system	Davis, Balaji, & Gurusamy (2017)
SE2		E-wallet keep customers information private and confidential	
SE3		Customers' financial information are protected	
SE4		It keeps my payment credentials secure	Taheam, Sharma, & Goswami (2016)
SE5		E-wallet ensure protection against risk offraud and financial loss	Davis, Balaji, & Gurusamy (2017)
CO1	Convenience	E-wallet are easy to use	Davis, Balaji, &Gurusamy (2017
CO2		Ensures access of account when abroad	
CO3		Convenient to use while on travel	
CO4		I would find a E-wallet procedure to be flexible to interact with	Kim, Mirusmonov, & Lee (2010)
CO5		Using E-wallet would make me Perform my financial transactions more quickly	Abrahao, Moriguchi, & Andrade (2016)
BI1	Behavior Intention To use e-wallet	I think it's necessary to use an E-wallet.	Chen (2013)
BI2		I will give priority to E-wallet as payment method.	
BI3		I also use E-wallet abroad.	
BI4		I'll focus on the new features of the E-wallet.	
BI5		I will alsotry other countries' E-wallet (when I am abroad)	Wang (2016)

US1	Usage of e-wallet	E-wallet can substitute the cash based payment method.	Manikandan & Jayakodi (2017)
US2		E-wallet can support the existing payment method.	
US3		Using E-wallet is beneficial.	Ajzen (1991)
US4		Using E-wallet is wise.	
US5		Using E-wallet is interesting.	Schierz, Schilke, & Wirtz (2010)

The last part collected basic demographic about respondents which include gender, age, educational level and Nationality.

4.2.1 Pre-testing

Pre-testing of the questionnaire was conducted with other researcher. No grammatical mistakes, misunderstandings or uncertain phrases was found..

4.2.2 Questionnaire Coding

Questionnaire coding is the digitization of questionnaire data, which is the process of converting the answers of words or sentences into digits, characters and alphabetic symbols for analysis and computer recognition. These include: determining the criteria for categorizing the answers to questions; selecting the appropriate numbers for each question and for each possible category of answers. In the questionnaires, researchers have assigned serial numbers to classify all categories in the

questionnaires. For example, in section A to section G, strongly disagree is 1, disagree is 2, neutrality is 3, agree 4, strongly agree is 5. This will save time for respondents to fill out questionnaires and simplify the data entry process.

4.3 Data Analysis

In this section, Smart PLS was employed to test the hypotheses.

4.3.1 Smart PLS

"Smart PLS is one of the prominent software applications for Partial Least Squares Structural Equation Modeling (PLS-SEM)."(Ken, 2013) PLS-SEM is used to determine the relationship between independent variables and dependent variables. PLS can determine the change of each variable based on how these variables identify their adjacent structures.

4.3.2 Cronbach's Alpha

Coefficient alpha is indeed an estimation of a total of parallel or (fundamentally) tau-equivalent measures ' reliability, according to Rosaroso (2015). Cronbach's alpha offers test or proportion internal consistency measurements with figures ranging from 0 to 1. Moreover, when the project is important, the alpha value improves. Lack

of issues, nasty correlation or heterogeneity between projects can affect the quality of alpha. Reliability analysis is used to study the reliability and precision of quantitative data. Sharma (2016) indicated that the value for Cronbach's Alpha above 0.9 is outstanding， if the value in the range from 0.8 to 0.9 is considered to have good accuracy and the outcome is appropriate ，if the value is between 0.7 to 0.8, meaning that the consequence is valid. If the value ranges from 0.6 to 0.7, the information is doubtful. If the alpha value ranges from 0.5 to 0.6, the data is poor. These information will not be recognized if the alpha value is less than 0.5.

Table 4.3
Scale of Cronbach's Alpha

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

Source: Sharma, B. (2016). A focus on reliability in developmental research through Cronbach's Alpha among medical, dental and paramedical professionals. *Asian Pacific Journal of Health Sciences*, 3(4), 271-278.

4.3.3 Composite Reliability (CR)

Composite reliability, also called CR, relates to a component score's reliability (a new variable made up of more than one variable). Reliability is an important analysis in past research.

The satisfaction criteria for internal consistency reliability are generally between 0.7 and 0.9. Reliability values above 0.8 or 0.9 have been regarded satisfactory and valid in previous research, when reliability values below 0.6 have been regarded as absence of reliability (Nunnally and Bernstein, 1994).

4.3.4 Average Variance Extracted (AVE)

AVE, the average extracting variance value, or average variable extracted, is a statistic used to test the internal consistency of structural variables in statistics. This is achieved by calculating the average variance extraction (AVE) of square roots, measuring the average variance between the constructions and measures shared, and calculating the correlation between different structures. The square root of a road that can be constructed by a matrix is in the diagonal line, and the correlation between the structure is disconnected from the diagonal line. The diagonal components should be greater than the respective non-diagonal components of rows and columns with adequate validity for discrimination (Fornell and Larcker 1981).

AVE is used to assess the convergent validity of the variables. AVE is an effective method suitable for convergence criterion. When AVE is greater than or equal to 0.5, the conclusion of sufficient convergence efficiency can be drawn.

4.4 Summary

This chapter mainly describes the theoretical framework, hypothesis, questionnaire design and data collection of this study. Through a simple analysis of the data, these data are reliability and will be analyzed in the next chapter.

CHAPTER 5

RESEARCH FINDINGS

5.0 Introduction

Analysis of data will be based on the questionnaires gathered. There has been a sum of 400 questionnaires spread to students from UUM. Descriptive analysis was carried out to evaluate the respondents ' population features. This study used Smart PLS as a tool to determine the factors that influence student e-wallet behavior. In this section, the findings will be obviously described to have a greater understanding.

5.1 Inclusion criteria Question

Two questions to be answered in this section. One of these is "Do you use E-wallet?" The second one is "How often do you use e-wallet in a week". Only by answering these two questions can we continue the follow-up questions.

5.1.1 Do you use E-wallet

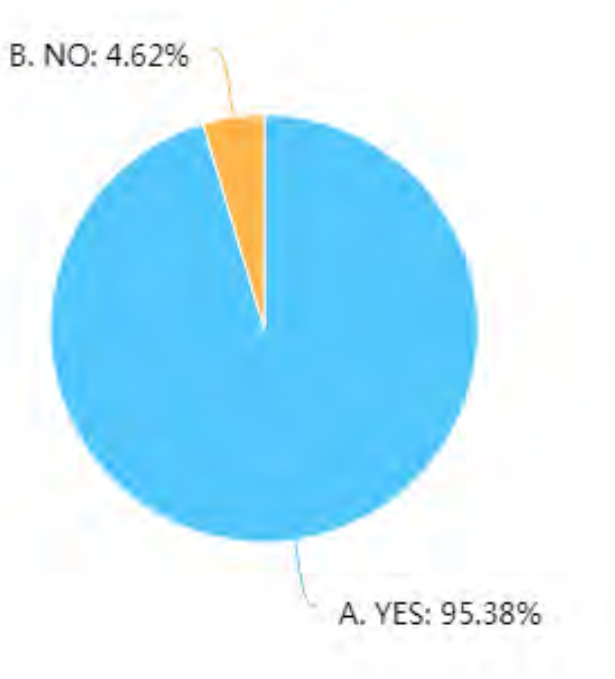


Figure 5.1:
Usage of E-wallet

In this research, UUM distributed 400 questionnaires and obtained 390 valid questionnaires. The first question was whether the respondents used e-wallet. Eighteen participants did not use e-wallet, accounting for 4.62percent of the total number. 372 participants had experience in using E-wallet, accounting for 95.38percent of the total number.

5.2 Demographic Question

In this part, the questionnaire respondents' demographic information is surveyed, such as the gender, age and education level of the participants.

5.2.1 Gender

This section will discuss the respondents' gender.

Table 5.1
Gender statistics

Gender	Frequency	Percentage
Male	225	60.48percent
Female	147	39.52percent
Total	372	100percent

Among the valid questionnaires collected, 372 respondents have used or are using E-wallet, and 18 respondents have never used E-wallet. Among those who used E-wallet, 147 were female, accounting for 39.52percent of the total number, while 225 were male, accounting for 60.48percent of the total number. Because it is a random sample of students to carry out questionnaires, so the proportion of male and female is not very balanced.

5.2.2 Respondent's Age

Respondent's age will be discussed in this section.

Table 5.2
Age statistics

Age	Frequency	Percentage
Below than 20	26	6.99percent
20-22	161	43.28percent
Over 22-24	127	34.14percent
Over 24	58	15.59percent
Total	372	100percent

In the age survey of respondents, most of the respondents are between the ages of 20 and 24, accounting for 77.42percent of the respondents. The youngest of respondents is under 20 years old, and the percentage is 6.99percent. UUM has undergraduate, postgraduate and doctoral students, so the respondents' age span is somewhat large.

5.2.3 Respondent's Education Level

This section will introduce the respondent's education level.

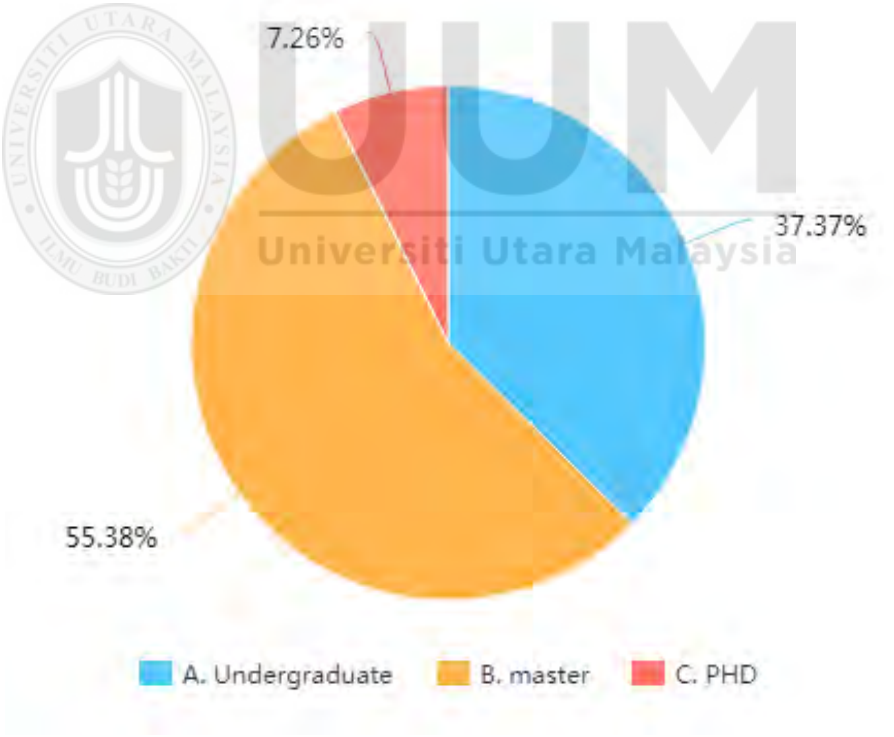


Figure 5.2
Educational level statistics

The survey collected information about participants at different levels of education by sending links to WhatsApp group, WeChat group and Weibo.

In the survey of educational level, from the above data, we can see that in this questionnaire survey, the largest number of people surveyed is graduate students, followed by undergraduate students, and finally doctoral students.

5.3 PLS Analysis

This chapter will introduce the PLS analysis of the collected data.

5.3.1 Outer Loading Analysis

The following of figure 5.3 will show the adopted factors' satisfaction and contribute.

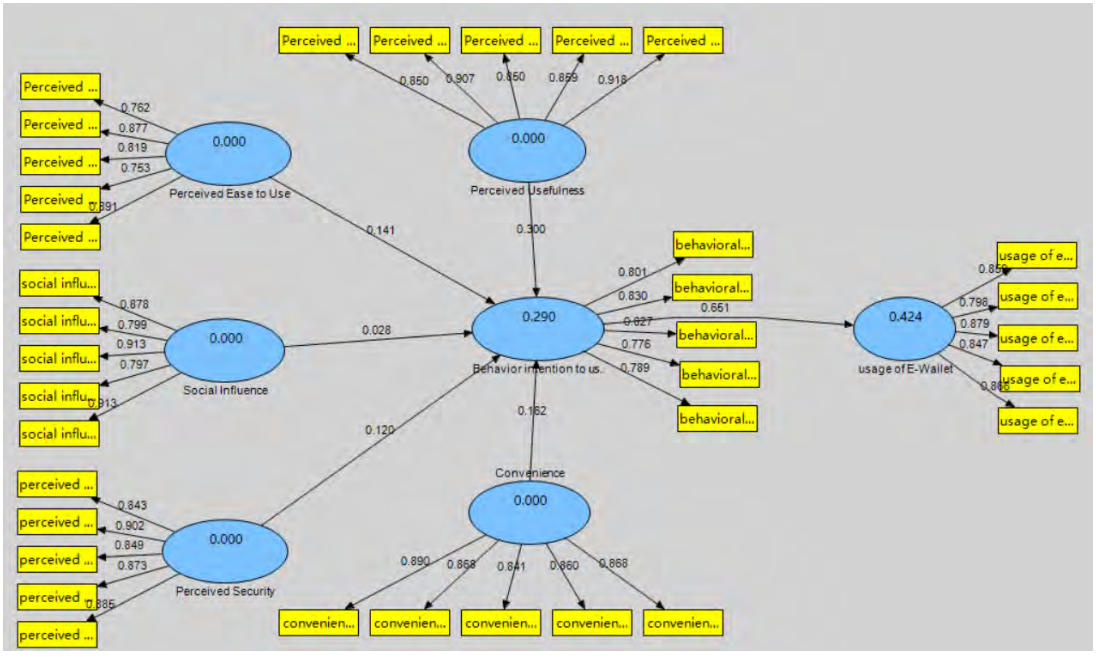


Figure 5.3
loading result

Table 5.3

Factor Analysis

	BI	CO	PEOU	PS	PU	SI	UE
BI 1	0.8010						
BI 2	0.8305						
BI 3	0.8272						
BI 4	0.7760						
BI 5	0.7886						
CO 1		0.8903					
CO 2		0.8676					
CO 3		0.8415					
CO 4		0.8604					
CO 5		0.8676					
PEOU 1			0.7624				
PEOU 2			0.8773				
PEOU 3			0.8195				
PEOU 4			0.7531				
PEOU 5			0.8905				
PS 1				0.8434			
PS 2				0.9022			
PS 3				0.8494			
PS 4				0.8726			
PS 5				0.8846			
PU 1					0.8500		
PU 2					0.9071		
PU 3					0.8497		
PU 4					0.8588		
PU 5					0.9183		
SI 1						0.8784	
SI 2						0.7985	
SI 3						0.9134	
SI 4						0.7967	
SI 5						0.9133	
UE 1							0.8590
UE 2							0.7977
UE 3							0.8787
UE 4							0.8470
UE 5							0.8662

Note: BI is behavior intention to use E-wallet; CO is Convenience; PU is Perceived usefulness; PEOU is perceived ease to use; SI is Social influence; PS is Perceived security; UE is Usage of E-wallet

As we can see in figure 5.3, all of the indicators' outer loadings are above the threshold value of 0.5. As can be seen from Table 5.3, the values of all variables are between 0.7 and 0.9, such as perceived ease of use, security and so on. From data shown in the table, we can see that PU5 has the highest value, 0.9183, and PEOU4 has the lowest value, 0.7531. Overall, the values of all items are higher than 0.7, so we think these variables are very satisfactory.

5.3.2 Reliability Test

This section will introduce the result of the reliability test.

5.3.2.1 Cronbach's Alpha

The following table will show the result of Cronbach's Alpha

Table 5.4
Cronbach's Alpha

Variables	Cronbach's Alpha	No of Item	Level of Reliability
Behavior intention to use E-wallet	0.864	5	Good
Convenience	0.9167	5	Excellent
Perceived Ease to Use	0.8789	5	Good
Perceived Security	0.9202	5	Excellent
Perceived Usefulness	0.9249	5	Excellent
Social Influence	0.9121	5	Excellent
Usage of E-wallet	0.904	5	Excellent

The Alpha values of Cronbach are greater than 0.9, showing great value reliability. From Table 4.4, we can see that the values of convenience, perceived security, perceived usefulness, social influence and usage of E-wallet's Cronbach's Alpha values are higher than 0.9, which shows that the data obtained by these five variables are highly reliable. Behavior intention to use E-wallet and Perceived ease to use ronbach's Alpha values are 0.864 and 0.8789, respectively. Although the reliability of the first five variables is not high, it is still higher than 0.8, and the reliability is good.

In summary, the values of Cronbach's Alpha of all variables are higher than 0.8, this demonstrates that data reliability is good and worth trusting.

5.3.2.2 Composite Reliability and Average Variance Extracted (AVE)

The result of composite reliability will be showed in the following table.

Table 5.5
Composite Reliability and AVE

Variables	Composite Reliability	AVE
Behavior intention to use E-Walle	0.9019	0.6479
Convenience	0.9373	0.7493
Perceived Ease to Use	0.9124	0.6766
Perceived Security	0.9400	0.7581
Perceived Usefulness	0.9434	0.7696
Social Influence	0.9349	0.7425
Usage of E-wallet	0.9287	0.7228

As shown in the Table 5.5, Perceived usefulness has the largest comprehensive reliability score for 0.9434, suggesting that perceived usefulness is the most reliable of all factors. The Behavior intention to use E-wallet's extensive reliability showed its smallest significance among all factors, 0.9019. Even though the value of Behavior intention to use E-wallet is the lowest, it is still higher than 0.9, which demonstrates that behavioral intent to use E-wallet still meets the extensive rel iability criteria and remains reliable.

According to the combined reliability results, the comprehensive reliability values of all factors are all greater than 0.9. It implies that those variables have greater extensive reliability values than 0.9. This outcome indicates that the internal consistency of variables is adequate and can be assessed.

As shown in Table 5.5, the perceived usefulness AVE value is the variable's highest value, which is 0.7696, followed by Perceived security and AVE value of 0.7581. In addition, the values of Covenience, Social Impact and Usage of E-wallet are 0.7493, 0.7425 and 0.7228, which are all higher than 0.7. Behavior intention to use E-wallet showed that the lowest AVE value of all variables was 0.6479. In addition, the AVE value of Perceived ease to use did not exceed 0.7, which was 0.6766.

The AVE values of all factors are above 0.6, as shown in the table. and all AVE values are larger. These results show that the mean values in this study are consistent with the convergence validity. Therefore, the following conclusions can be drawn:

sufficient convergence effectiveness.

5.3.2.3 Discriminant Validity

Discriminant validity is used to measure the degree of discrimination of structures. As shown in Table 5.6, the square root of ave of each structure is larger than the cross correlation between them, which indicates the validity of discrimination.

Table 5.6
Latent Variable Correlation

	BI	CO	PEOU	SE	PU	SI	US
BI	0.8049	0	0	0	0	0	0
CO	0.3829	0.8656	0	0	0	0	0
PEOU	0.3650	0.4665	0.8225	0	0	0	0
SE	0.2967	0.2728	0.3050	0.8706	0	0	0
PU	0.4442	0.3792	0.3254	0.2609	0.8772	0	0
SI	0.2657	0.3161	0.5116	0.4188	0.2144	0.8616	0
US	0.6509	0.3194	0.3014	0.3321	0.2511	0.2259	0.8501

5.3.3 Hypotheses testing

In order to check the validity of various path coefficients, Smart PLS was used for T test in this paper, and the findings of the tests are the proceeding.

Table 5.7

Hypothesis test result

Hypothesis	Beta	t-value	Result
H1: There is a significant relationship between Perceived Usefulness and Behavior intention to use E-wallet.	0.2997	4.6971	Support
H2: There is a significant relationship between Perceived Ease to Use and Behavior intention to use E-wallet.	0.1412	2.2549	Support
H3: There is a significant relationship between Social Influence and Behavior intention to use E-wallet.	0.0280	0.5320	Reject
H4: There is a significant relationship between Security and Behavior intention to use E-wallet.	0.1195	2.7092	Support
H5: There is a significant relationship between Convenience and Behavior intention to use E-wallet.	0.1620	2.4891	Support
H6: Behavior intention to use E-wallet has a positive impact on usage of E-wallet.	0.6509	15.6515	Support

5.3.4 Variance Explained (R^2)

Table 5.8 will show the variance explained of behavior intention to use e-wallet and usage of e-wallet is 0.2896, 0.4237

Table 5.8

R square

Constructs	R^2
Behavior intention to use e-wallet	0.2896
Usage of e-wallet	0.4237

Table 5.7 show us that social influence do not have an positive impact on the users' behavior intention to use e-wallet, the rest of the hypothesis are all supported. The framework result will be showed in the following table.

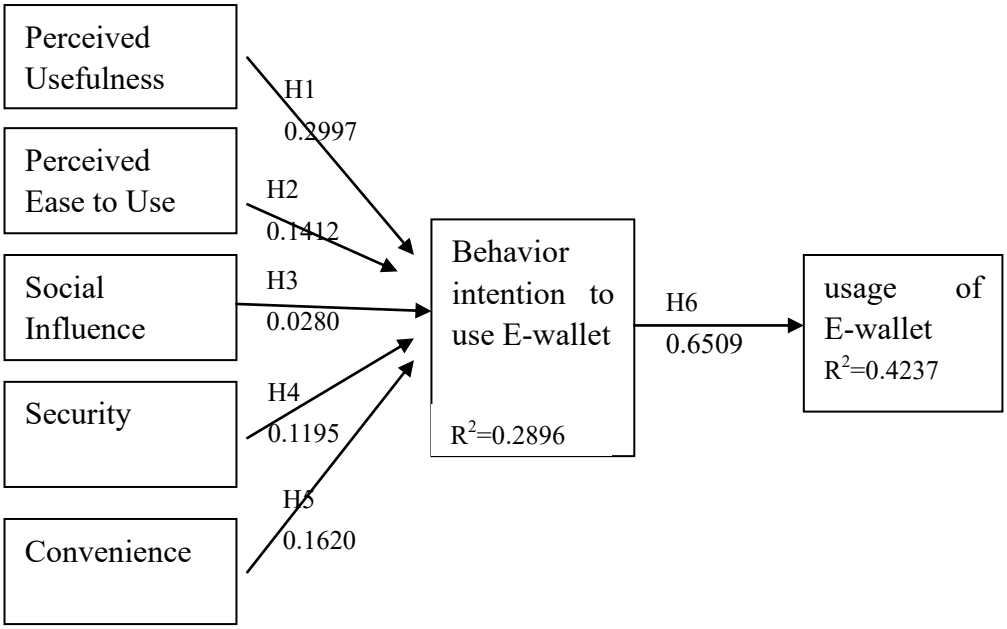


Figure 5.3

Framework result

5.4 Summary

In this chapter, SmartPLS was used to analyze the data. The techniques used in the data analysis phase include screening issue assessment, analysis of background information and analysis of reliability to evaluate UUM students ' questionnaire data.

CHAPTER 6

CONCLUSION ANDIMPLICATIONS

6.0 Introduction

This chapter focuses primarily on the debate in statistical research outcomes, accompanied by the constraints from this study's results and suggestions for future studies.

6.1 Discussion

H1: There is a significant relationship between Perceived Usefulness and Behavior intention to use E-wallet.

The H1 was supported since p-value more than 0.01. The result shows that the perceived usefulness has a significant relationship with behavior intention to use e-wallet. The results of this study is in line with Lai (2012) who also found that perceived usefulness is positively related to behavioral intention.

H2: There is a significant relationship between Perceived Ease of Use and Behavior intention to use E-wallet.

Because the p-value is more than 0.01, the H2 was supported. It means that

perceived ease of use has a positive impact on the behavior intention to use e-wallet. Similarly, Trivedi (2016) also found that that perceived ease of use is related to behavioral intention.

H3: There is a significant relationship between Social Influence and Behavior intention to use E-wallet.

The H3 was rejected because the p-value is less than 0.05. It showed to us that social influence do not have a significant relationship with behavior intention to use e-wallet. The result of this study differs with Yang, and Zhang (2012) who indicated that social influence has significant for behavior intention to use in direct effect. The main reason for this difference is that the respondents are university students, who have their own criteria for judging things and will not easily change their decisions because of the influence of others.

H4: There is a significant relationship between Security and Behavior intention to use E-wallet.

The result showed that security and behavior intention to use e-wallet have a significant relationship because the p-value is more than 0.05. Li and Ruan (2014) conducted a research on the influencing factors of consumer found that security had positive influence on users' behavior intention.

H5: There is a significant relationship between Convenience and Behavior intention to use E-wallet.

Through the data analysis, we can see the p-value is more than 0.05, so convenience and behavior intention have a significant relationship. This is supported by Bezhovski（2016）who revealed that the convenience of electronic wallets inevitably promotes the further rise of electronic wallets.

H6: Behavior intention to use E-wallet has a positive impact on usage of E-wallet.

We can see behavior intention has a positive influence on usage because the p-value is more than 0.1. Similarly, Kabir et al. (2017) found that behavior intention affected the adoption of e-wallet.

6.1 Contribution

Through this study, the results of this study may contribute to different aspects. First, based on the use of TAM, more factors are found. In future studies, more relevant factors can be taken into account. Secondly, the results of this study give some inspiration to operators. Malaysia's e-wallet’s market has not yet been fully developed. This study has clarified the factors affecting the use of e-wallet, which

can help operators better develop the Malaysian e-wallet market. Finally, for designers of electronic wallets, this study provides designers with a better direction for product development, which can help improve the services of e-wallet.

6.2 Recommendation

Studying the influencing factors of consumer behavior intention to use E-wallet is of excellent importance, which can improve the intention of customers to use E-wallet. This research presents the following four managerial suggestions for reference based on the above findings:

(1) Expanding the scope of services to meet diversified needs

First of all, consumers should try to enhance the perceived usefulness of E-wallet. In view of the serious homogeneity of E-wallet in the current market, it help this kind of E-wallet that how to tap the needs of users, conduct in-depth analysis and seek a differentiated route to provide more suitable services to satisfy the diverse needs of consumers. Therefore, in order to attract more potential users, we should consolidate the original functions, retain the developed users, weed out the old and bring forth the new, enrich the functions of products, further expand to life services, financial planning, travel services, leisure and entertainment services, and expand our business areas.

(2) Continuously improve the user experience of E-wallet and improve their usability

Perceived ease of use can also have an impact on user attitudes. So it's useful to enhance apps perceived ease to use is particularly important. In the growth of E-wallet, enhancing user experience and usability play a very significant part. The interface requirements are concise and easy to operate, which can enhance their perceived usefulness and willingness to use. Therefore, creating a pleasant interface and easy process for customers is also very essential in the future development and design of the E-wallet.

(3) Strengthen the promotion and increase the public's understanding and recognition of E-wallet

The research shows that behavior intention to use E-wallet is positively influenced by convenience. Therefore, in order to enhance users' behavior intention to use E-wallet, we should promote them extensively so that users can fully understand the E-wallet and the future impact on the "paperless money" era, to enhance their recognition and enhance their personal values with the public, the original way of life and consumption requirements and other aspects. This can easily promote the development of E-wallet.

(4) Strengthen safety precautions and reduce risks

As a new way of consumption, E-wallet brings great convenience to users, but also inevitably brings risks. How to solve the problem of risk better, it is particularly important to promote the trust of users.

Therefore, we can start from the following three aspects: First, we can increase security precautions: we can embrace more sophisticated authentication technology to guarantee data confidentiality and safety, as well as the privacy and property of clients; second, enhance user trust: among the public, call on users to use E-wallet correctly, enhance their self-protection awareness, and make public the efforts made by enterprises to protect users' use of security. The third is to appeal for the corresponding protection of the law: the laws and regulations of various countries on payment business need to be fully improved, especially in protecting the rights and interests of users' information, so we can also promote the reform of the legal system and increase the punishment for stealing users' information. In the growth of E-wallet, this way will play a guiding role.

6.3 Limitation

In this study, the factors influencing the intention to use E-wallet are explored

through questionnaires and empirical study. Although some achievements have been made, due to some objective reasons, this research still contains some limitations and shortcomings.

(1) The research model has limitations. In this study, we mainly use perceived usefulness, perceived ease of use, social influence, security, convenience to study the consumer's willingness to use E-wallet. In practical research, it may be necessary to introduce more variables, or to study the willingness to use from multiple dimensions, so as to build a more rigorous willingness to use model.

(2)The sample has some limitations. Although the samples in this study are widely distributed, they still have limitations, and the number of questionnaires is not particularly sufficient. Therefore, the sample selection in this study has some limitations.

6.4Future Research

For some of the problems mentioned in this study, in future behavioral intention to use E-wallet studies, the following improvements may be produced:

(1) Expanding the scope of questionnaire sample survey

Although the samples in this study are widely distributed, they still have limitations. Therefore, we should consider enlarging the questions, volume sample survey scope, increase sample coverage level and breadth, in order to enhance the value and significance of research.

(2) Classification of population characteristics

In future studies, the collected sample data can be classified according to the characteristics and usage of the population, to study the effect on the behavioral intention of using E-wallet of distinct population characteristics. In this way, the research results can effectively promote the development of E-wallet industry.

(3) Improving the Research Model

Because of the limitations of the research model, the problem may not be considered comprehensively enough. In future studies, This model can be situated to enhance its explanatory power.

6.5 Conclusion

The purpose of this study is to identify the factors that influence users' behavior intention to use e-wallet. The respondents are UUM students. A total of 372 valid

questionnaires were collected. The conclusions of this research are as follows::

(1) E-wallet usage intention is significantly influenced by perceived usefulness, perceived ease of use, social influence, security and convenience. Specifically, perceived usefulness, perceived ease of use, security and convenience have significant positive effects on E-wallet usage attitude, and social impact on E-wallet usage. Attitude had no significant effect.

(2) The order of influence from small to large is perceived usefulness, security, convenience and perceived ease of use. These conclusions verify the correctness of the acceptance model of science and technology. In addition, social impact has no special correlation with users' usage of E-wallet, indicating that users can be selected by others to a very small extent.

(3) E-wallet usage is considerably influenced by intended use and has a substantial beneficial effect. The purpose of use has a substantial beneficial effect on user use, which also verifies the validity of the acceptance model of technology.

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Appendix: Questionnaire

FACTORS INFLUENCING USAGE OF E-WALLET

AMONG

UUM STUDENTS

Letter for questionnaire

Dear participant:

My name is LIU YANRAN, and I am a master student at UUM. Currently, I am conducting a research as a compulsory project for completing my study.

The objective of my study is to examine factors that affect university students' behavior intention to use E-wallet.You have been randomly selected to participate in this study. This survey will not take more than 10-15 minutes of your valuable time. I hope that you will take time to complete the questionnaire. Your answers will be kept strictly confidential and they will be used strictly for research purpose only.

Thank you for your time and corporation for completing this questionnaire.

Yours sincerely

LIU YANRAN

MATRIC NO:823835

1） Do you use E-wallet?

A. YES B. NO

2) How frequent do you use E-wallet in a week?

Section A: Perceived usefulness

In this section, I would like to understand your view on the E-wallet usage based on E-wallet usefulness. Use the following scale to indicate your level of agreement to each statement. Please circle your choice.

1= strongly disagree 2=disagree 3=neutral 4=agree 5=strongly agree

1.Overall, Iam satisfied with how easy it is to use E-wallet	1	2	3	4	5
2.It was simple to use E-wallet.	1	2	3	4	5
3.I felt comfortable using E-wallet.	1	2	3	4	5
4.It was easy to learn to use E-wallet.	1	2	3	4	5
5.I think E-wallet makes my life more efficient	1	2	3	4	5

Section B: Perceived ease to use

In this section, I would like to understand your view on E-wallet usage based on ease-of-use. Use the following scale to indicate your level of agreement to each statement. Please circle your choice.

1= strongly disagree 2=disagree 3=neutral 4=agree 5=strongly agree

1.I find the E-wallet easy to use.	1	2	3	4	5
2. Learning to operate E-wallet is easy for me.	1	2	3	4	5
3.I find it easy to get the E-wallet to do what I want it to do.	1	2	3	4	5
4.The E-wallet is flexible to interact with.	1	2	3	4	5
5.It is easy for me to remember how to perform tasks using E-wallet.	1	2	3	4	5

Section C: social influence

In this section, I would like to understand your view on the E-wallet usage based on social influence. Use the following scale to indicate your level of agreement to each statement. Please circle your choice.

1= strongly disagree 2=disagree 3=neutral 4=agree 5=strongly agree

1.People who influence my behavior think that I should use E-wallet.	1	2	3	4	5
2. My friends think that I shoulduse E-wallet.	1	2	3	4	5
3. Using E-wallet is considered a status symbol among my friends.	1	2	3	4	5
4. People who are important to me expect me to use E-wallet technology	1	2	3	4	5
5.People who are important to me are likely to recommend using E-wallet technology	1	2	3	4	5

Section D: perceived security

In this section, I would like to understand your view on security of E-wallet usage. Use the following scale to indicate your level of agreement to each statement. Please circle your choice.

1= strongly disagree 2=disagree 3=neutral 4=agree 5=strongly agree

1. Satisfied with the security system	1	2	3	4	5
2.E-wallet keep customers information private and confidential	1	2	3	4	5
3.Customers' financial information are protected	1	2	3	4	5
4.It keeps my payment credentials secure	1	2	3	4	5
5.E-wallet ensure protection against risk offraud and financial loss	1	2	3	4	5

Section E: convenience

In this section, I would like to understand your view on the convenience of E-wallet usage. Use the following scale to indicate your level of agreement to each statement. Please circle your choice.

1= strongly disagree 2=disagree 3=neutral 4=agree 5=strongly agree

1.E-wallet are easy to use	1	2	3	4	5
2. Ensures access of account when abroad	1	2	3	4	5
3. Convenient to use while on travel	1	2	3	4	5
4. I would find a E-wallet procedure tobe flexible to interact with	1	2	3	4	5
5.Using E-wallet would make me Performmy financial transactions more quickly	1	2	3	4	5

Section F: behavioral intention to use

In this section, I would like to understand your view on the intention to use E-wallet. Use the following scale to indicate your level of agreement to each statement. Please circle your choice.

1= strongly disagree 2=disagree 3=neutral 4=agree 5=strongly agree

1.I think it's necessary to use an E-wallet.	1	2	3	4	5
2.I will give priority to E-wallet as payment method.	1	2	3	4	5
3. I also use E-wallet abroad.	1	2	3	4	5
4.I'll focus on the new features of the E-wallet.	1	2	3	4	5
5.I will alsotry other countries' E-wallet (when I am abroad)	1	2	3	4	5

Section G: usage of E-wallet

In this section, I would like to understand your view on the current usage of E-wallet. Use the following scale to indicate your level of agreement to each statement. Please circle your choice.

1= strongly disagree 2=disagree 3=neutral 4=agree 5=strongly agree

1.E-wallet can substitute the cash based payment method.	1	2	3	4	5
2.E-wallet can support the existing payment method.	1	2	3	4	5
3. Using E-wallet is beneficial.	1	2	3	4	5
4. Using E-wallet is wise.	1	2	3	4	5
5. Using E-wallet is interesting.	1	2	3	4	5

Section H: Background information

In this section, I would like to know about you.

1. Your gender

   A. Male B. female

2. Your age

   A. Below than 20B. 20~22C. Over 22~24 D.over 24

3. Your educational level

   A. Undergraduate B. master C. PHD

4. Nationality

   A. Malaysia B. China C. India D. Indonesia

   E. others (please identify:_____)

OTHERS:

(1) Please indicate any offer factors that you would like to add related to E-wallet.

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(2) Would you like to participate in future research related to E-wallet?

Yes___ Kindlyprovide contact Number/Email.

No ___

Thank you again for your participation in this survey!