

A CASE STUDY OF PERCEIVED EASY OF USE, PERCEIVED RISK AND  
PERFORMANCE EXPECTANCY FACTORS TOWARDS ACCEPTANCE OF  
ALIPPAY BY LOCAL MERCHANTS IN THAILAND



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This Independent Study Manuscript Presented to  
The Graduate School of Bangkok University  
in Partial Fulfillment  
of the Requirements for the Degree  
Master of Business Administration

Academic Year 2021

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This Independent Study has been approved by

The Graduate School

Bangkok University

Title : A Case Study of Perceived Easy of use, Perceived Risk and Performance  
Expectancy Factor Towards Acceptance of Alipay By Merchants In Thailand

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Xinyang, Chen. Master of Business Administration, March 2021, Graduate School, Bangkok University.

A Case Study of Perceived Easy of use, Perceived Risk and Performance Expectancy Factor Towards Acceptance of Alipay By Merchants In Thailand(50 pp.)

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## ABSTRACT

The purpose of this study is to investigate and study the acceptance of Alipay, as a Chinese mobile payment software by local Thai merchants, and the main factors that affect the acceptance, and how these factors affect the acceptance of local merchants. This research will use the quantitative research method and collect merchants' opinions on Alipay in the form of questionnaires to study the merchant's acceptance of Alipay. This research aims at the factors that affect the acceptance of Alipay, that is, the relationship between the independent variables and the dependent variables. After using a questionnaire to investigate 400 merchants, the results show that performance expectancy has the greatest positive impact on merchants' acceptance of Alipay, followed by ease of use. Perceived risk has no significant impact. According to the data results, opinions are put forward on the development of Alipay after Thailand. Ease of use and efficiency are the topics that Alipay needs to focus on. At the same time, although merchants are not very sensitive to security, as an external payment software, security also needs to be an important consideration.

*Keyword: Alipay, Mobile payment, Technology Acceptance Model*

## ACKNOWLEDGEMENT

I would like to express my special thanks of to my professor for the continued support encouragements: Dr. Nathanicha Na Nakorn who gave me the golden opportunity to do this wonderful project on the topic “A case study of perceived easy of use, perceived risk and performance expectancy factors towards acceptance of Alipay by local merchants in Thailand” , which also helped me in doing a lot of Research and I learned so many new things I are really thankful to them.

Secondly, I would like to also thank all professors in Bangkok University of Master Business Administration program for the guidance.

I would also like to thank my family members, especially my parents for helping me a lot in finalizing this project. My thanks and appreciations also go to my colleague and people who have willingly helped me out with their abilities.

Finally, I wish this research will benefit for those who are interested in future research.

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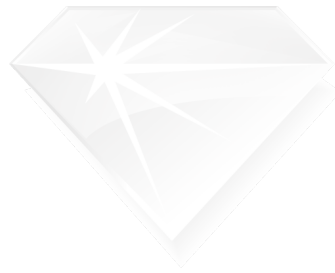
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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Rationale and Problem Statement**

##### **1.1.1 Topic Introduction**

Alipay is a mobile payment software developed by Alibaba. It entered the Thai market in 2015 and mainly provides third-party mobile payment services. In fact, mobile payment software from China does not serve local users in Thailand. It only serves Chinese tourists who come to Thailand or Chinese living in Thailand. Therefore, the research on the degree of acceptance of local merchants for the payment software that only serves foreigners is very meaningful. Thus, the purpose of this study is to investigate and study the acceptance of Alipay, as a Chinese mobile payment software by local Thai merchants, and the main factors that affect the acceptance, and how these factors affect the acceptance of local merchants.

##### **1.1.2 Research Background**

In recent years, the rapid development of Internet technology has promoted the development and innovation of information technology. In Thailand, the development of Internet technology, especially mobile Internet technology is proceeding rapidly. According to a research survey in 2019, the total population of Thailand in 2018 was 69.24 million, and mobile phone users were as high as 92.33 million, which is 133% of the total population, and the smartphone usage index is as high as 71% (Simon, 2019). It can be seen that smart phones have been very popular in Thailand, and the mobile payment

technology which spawned from this has also been well developed in Thailand.

Convenience and speed are the characteristics of mobile payment, such characteristics have brought a large number of users to mobile payment. According to the investigation, 77% of Thai respondents have heard of mobile payment and QR code payment, and 64% of them said they are using or have used mobile payment (Hayden, 2020).

Thailand, as a major tourism country, accounts for a large proportion of tourism revenue and is one of the main parts of Thailand's GDP. In 2017, tourism revenue accounted for 21.2% of the annual GDP, of which about 80% came from foreign consumption (Turner, 2018) , and the proportion of Chinese consumers is also very considerable. In 2019, a total of 11 million Chinese tourists visited Thailand (Sebastian, 2020), even if it is affected by the covid- 19 epidemic, there are still many Chinese tourists choose to travel to Thailand. Such a large number of tourists can bring a very considerable income to Thailand. The development of Thailand's tourism industry has had a positive impact on the daily use of Chinese mobile payment software, in order to better serve Chinese tourists, more and more stores have begun to support the use of Chinese mobile payment software, 7- 11, Family Mart, and even duty-free shops can use Chinese mobile payment software for consumption. Because of this, many local merchants in Thailand have also begun to use Chinese mobile payment software, hoping to attract more Chinese customers.

In order to study the acceptance of China's mobile payment software by local merchants, this study chose Alipay as the research object. Alipay as one of the most popular mobile payment software in China, it is an application under Alibaba, as of June 2019, Alipay and its local wallet partners have served more than 1.2 billion global users

(xinhuanet, 2019). Such a large number of users can provide a large amount of data for research, and it is a very worthy object of study and research.

As an emerging technology, this research will take the Technology Acceptance Model and Unified Theory of Acceptance and Use of Technology as the theoretical basis. The Technology Acceptance Model was proposed by scholar Davis in 1989 to explain people's acceptance of emerging technologies. Unified Theory of Acceptance and Use of Technology. Unified Theory of Acceptance. Use of Technology was proposed by scholar Venkatesh in 2003. It is used to analyze the factors that affect users' cognition based on the integration of TAM related research summaries. For local merchants in Thailand, mobile payment software from China is a brand-new technology, and this model can explain their acceptance of this technology.

### **1.1.3 Research Rationale**

Now, affected by the COVID- 19 epidemic, there are not so many Chinese tourists visiting Thailand, and the utilization rate of Alipay in Thailand is not as high as in previous years. But in the future, Thailand will remain a favorite tourist destination for Chinese tourists. According to Thai headline news reports, Thailand is still the number one country that Chinese tourists want to go to after the COVID- 19 pandemic. 71% of the people who participated in the survey chose Thailand as their first travel destination after the pandemic. Therefore, Alipay still has great potential in Thailand.

Although there are not as many Chinese tourists as in previous years, this is still a good time to investigate merchants' acceptance of Alipay. First of all, in the absence of so many benefits, Alipay may expose corresponding shortcomings, and can make suggestions on similar situations after research. Secondly, it has some reference

significance for some merchants who plan to use Alipay, so that merchants can understand some of the shortcomings of Alipay in dealing with the small customer flow, and can plan for the future. It is difficult to reveal related problems under the condition of large customer flow, and merchants cannot objectively evaluate Alipay when they have good revenue, and it is also difficult for merchants or related departments who do not know Alipay to provide more useful information. Therefore, it is meaningful for this research to choose to conduct the research at this time

## 1.2 Research Objectives

This study takes local merchants in Thailand as the main research object, and mainly discusses the factors influencing merchants' acceptance of Alipay. On the basis of reading the relevant literature, choose to use the Technology Acceptance Model and Unified Theory of Acceptance and Use of Technology as the basis, combined with the Perceived Risk Theory, to study the acceptance of Alipay by local businesses.

Through the quantitative research method, research the factors that affect the acceptance of Alipay by local merchants and the degree of influence of each factor, and provide corresponding suggestions for the development of local merchants and related industries based on the research conclusions.

Specifically, the research objectives of this study are:

( 1) In order to discover the usage of Alipay by local merchants in Thailand and their understandings on Alipay.

(2) In order to discover the impact on local merchants after using Alipay.

(3) In order to discover the problems encountered by local merchants when using Alipay, and then propose ways to improve.

(4) Analyze and draw conclusions based on the above problems, and provide corresponding opinions for local merchants and related departments

### **1.3 Scope of Study**

#### **1.3.1 Theoretical Base**

The theoretical basis of this research is TAM (Technology Acceptance Model) and UTAUT (Unified Theory of Acceptance and Use of Technology). These two theories are mainly used to analyze users' acceptance of new technologies and influencing factors. Therefore, the research scope of this study is the merchant's acceptance of mobile payment software and the factors and reasons that affect the acceptance.

#### **1.3.2 Research Method**

Alipay is a very large-scale mobile payment platform. Many local merchants in Thailand support the use of Alipay as a payment method. In order to obtain more opinions from merchants, this research will use the quantitative research method and collect merchants' opinions on Alipay in the form of questionnaires to study the merchant's acceptance of Alipay.

### **1.4 Research Questions**

This research aims at the factors that affect the acceptance of Alipay, that is, the relationship between the independent variables and the dependent variables.

Therefore, the research questions of this study are:

- ( 1) What are the factors that affect the acceptance of Alipayby merchants?
- (2) How do these factors affect the merchant’s acceptance ofAlipay?
- (3) Which factor has the greatest impact on the acceptance of Alipay, and which has the least impact?

### **1.5 Research Significance**

First of all, this research has certain theoretical significance. After data collection and analysis, the conclusions can be used to predict the future development of Alipay in Thailand in the future. At the same time, it also has certain reference significance for the future development of Thailand's cashless society.

Secondly, this research also has certain practical significance for Alipay and related industries in Thailand, the main applications are as follows:

( 1) It has certain guiding significance for the development of Alipay in Thailand. After understanding the factors that affect the acceptance of merchants, the merchants’ dissatisfaction with Alipay can be found and make corresponding improvement

(2) It has certain reference significance for whether merchants use Alipay.

According to the research conclusions, merchants who have not yet used Alipay can be used as a reference to understand its development and trends in Thailand.

(3) It has certain reference significance for related departments. After understanding various factors, relevant departments can better manage mobile payment platforms and merchants, and improve relevant laws and regulations.

### **1.6 Definition of Terms**

### **1.6.1 Perceived Ease of Use**

Perceived ease of use is an influencing factor in the technology acceptance model, used to describe the ease of use of a new technology. If a new technology is easier to use, users are more likely to accept the new technology.

### **1.6.2 Perceived Risk**

Perceived risk refers to the potential risks encountered when using a new technology or product. Generally speaking, the lower the potential analysis, the easier it is for people to accept the new technology. Perceived risk generally includes factors such as security and privacy.

### **1.6.3 Performance Expectancy**

Performance expectancy is a factor in the Unified Theory of Acceptance and Use of Technology, used to explain the extent to which new technologies help efficiency and



performance. The higher the efficiency that can help improve when using a new technology, the easier it is for people to accept the use of the technology.

#### **1.6.4 Mobile Payment**

Mobile payment is a new type of payment method that mainly depends on platforms such as mobile phones and tablets. Generally speaking, the payment only needs to be confirmed through the mobile platform instead of cash.

#### **1.7 Hypotheses**

H1: The perceived ease of use of Alipay by local merchants in Thailand will affect their acceptance.

H2: The perceived risk of Alipay by local merchants in Thailand will affect their acceptance.

H3: Alipay's performance expectancy will affect its acceptance by local merchants in Thailand.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Related Literature and Previous Studies

##### 2.1.1 The Concept of Mobile Payment

Mobile payment is a new technology that has emerged following the development of Internet technology. Because of the rapid development of the Internet, the concept and mode of mobile payment are constantly changing.

The concept of mobile payment was first proposed by the scholar Krueger (2001), who believed that mobile payment is a process. The process is when the buyer need to purchase products or services, buyer will transfers the deposit and credit to the mobile payment service provider online, and then the service provider transfers it to the seller. Scholar Heijden (2002) believes that mobile payment is an innovative payment method, which realizes payment between individuals or organizations through the Internet. Scholar Fuxing (2014) defines the concept of mobile payment more concisely. He believes that mobile payment is a payment method in which buyers and sellers use mobile devices to transfer funds in order to reach transactions.

Based on the above points of view, this research believes that mobile payment refers to users using mobile devices to exchange data by using Internet

technology to achieve the purpose of transfer funds and to complete the purchase.

As far as current technology is concerned, the existing mobile payment devices are mainly mobile phones, tablets PC and smart wearable devices, different devices have slightly different usage methods and procedures, but mobile phones are undoubtedly the most frequently used platform.

With the development of mobile payment, consumers also have new demands for mobile payment, which has brought out a third-party institution independent of banks, which is called third-party mobile payment. Alipay, the research object of this study, is a third-party mobile payment service provider. Third-party payment can provide better customer service and more diverse functions, and it has also promoted the development of mobile payment.

### **2.1.2 Features of Mobile Payment**

The emergence of mobile payment has undoubtedly brought a huge impact on consumer transaction behavior. According to a research conducted by scholar Daoyi in 2017, he believes that mobile payment mainly has the characteristics of convenience, integration and customization.

- Convenience. The feature that mobile payment can quickly complete transactions at any time gives it the convenience that cash and credit card payments do not have. Users only need a mobile phone to make purchases, eliminating the need to carry cash and cards. At the same time, the use of the Internet as a medium has reduced transaction costs, and users do not have to worry about damage or loss of cash or cards.
  
- Integration. Mobile payment is well integrated based on the Internet platform.

Mobile payment not only conduct offline transactions, but also complete online payments such as online shopping or complete many life payments.

Customization. Since mobile payment relies on the Internet, a large amount of data will be used. As long as users provide usage data as intended, mobile payment service providers can provide customized services based on usage habits.

### **2.1.3 Related Research**

Alipay is the third-party payment software of Chinese companies. This study reads related research conducted by Chinese scholars. But it is mainly research on consumers, and less research on merchant acceptance. The following is a summary of research related to merchants.

First of all, the research of scholar Yuanyuan (2009) found that from the perspective of market form, mobile payment presents the characteristics of a typical two-sided market, facing two types of user groups, individual consumers and corporate merchants. Due to the effect of cross-network externalities, the active adoption of enterprise business users can attract and consolidate a large number of individual consumers, thus playing an important role in the development of the mobile payment industry. For merchants, cost (transaction fees) and complexity (easy to use) are the main factors that influence the merchants willingness adoption of mobile payment. At the same time, the study also found that the higher the degree

of matching between work tasks and mobile payment technology, the easier it is to succeed in the application of mobile payment.

Scholar Jiewen (2017) uses interviews and questionnaire surveys, based on the perspective of merchants, to study the factors that influence merchants to adopt mobile payment. The research found that the factors that have a significant impact on merchants' willingness to adopt mobile payments are competitive pressure, compatibility, consumer adoption, perceived usefulness, corporate innovation, and promotion. Factors that have insignificant effects on merchants' willingness to adopt mobile payments are perception of indirect benefits, perceived risk, and perceived ease of use. Scholars Erliang, Yi and Yonghuo conducted a study on the factors that influence the adoption of mobile payment merchants and the decision-making process in 2020. The study believes that in this bilateral market, the active participation of merchants and consumers is equally important. The research results show that network externality (the number of consumers and merchants) is the most basic requirement for merchants when choosing mobile payment, followed by ease of use, compatibility and cost rates. Accounting processing and transaction information security are higher-level requirements for merchants to choose mobile payment tools. In terms of the decision-making process, promotion and drainage, marketing platform, data support, and process support are important factors influencing the active use of mobile payment tools by merchants. At the same time, the study believes that in

this bilateral market, the active participation of merchants and consumers is equally important

Research by Chanchai (2015) investigates the factors influencing Thai consumers' willingness to adopt mobile payment (M-pay) services. The study developed a model based on the use of an extended version of the Construct Modified Technology Acceptance Model (TAM). Responses from 256 early adopters of M-payment Using Structural Equation Modeling (SEM) to empirically analyze the service, the results show that Thai consumers have The adoption of mobile payment services is determined by four factors - compatibility, subjective norms, perceived trust and perceived cost. Surprisingly, the construct of perceived risk and the two main TAM constructs—perceived usefulness (PU) and perceived ease of use (PEOU) were found to have no direct effect on behavioral intent.

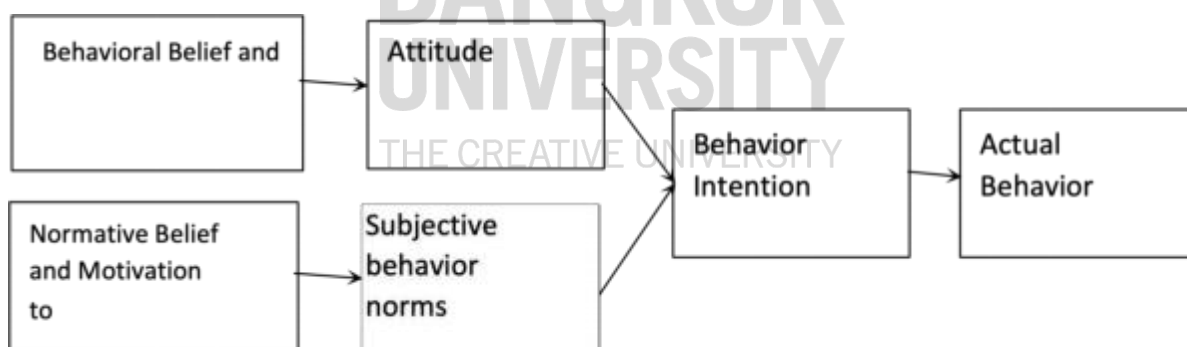
Scholars Wipapach (2017) conducted a study on a large sample of the Thai market in the form of an online questionnaire by extracting various influencing variables from the analysis. The findings show that ease of use and usefulness strongly influence users' intention to use mobile payments. Respondents also indicated that when they intend to use mobile payments, they are not concerned about the risks

## 2.2 Related Theories

### 2.2.1 Theory of Reasoned Action (TRA)

Fishbein and Ajzen put forward the theory of reasoned action based on the relevant theories of social psychology in 1975. This theory mainly uses behavior intention and behavior attitude to describe people's behavior and decision-making. This theory is often used to study consumer willingness to use. Alipay is a product for merchants, and they are also Alipay users. To understand merchants' acceptance of Alipay, it is essential to study their willingness to use it. The TRA model is shown in the figure below

Figure 2. 1 Theory of Reasoned Action Model



The model is explained as follows:

- Behavior Intention

Used to describe the probability of an individual taking actual actions. When the behavior intention is stronger, the probability that the individual will take actual

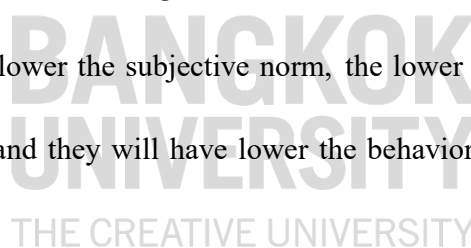
action is greater. According to the model, subjective behavior norms and attitudes are factors that directly affect behavioral intentions.

- Attitude

It refers to the positive or negative perception of a specific behavior before an individual takes an action. When the individual's attitude towards actual behavior is more positive, then the individual's behavioral intentions will also be more positive. Conversely, when the attitude is more negative, the behavior intention will also be more negative.

- Subjective Behavior Norm

Refers to the level of pressure an individual feels when they taking actions, such as the social environment and other factors. When the subjective norm is higher, the social pressure on the individual is higher and the behavioral intention shown is higher. On the contrary, the lower the subjective norm, the lower the social pressure that the individual will take and they will have lower the behavior intention.

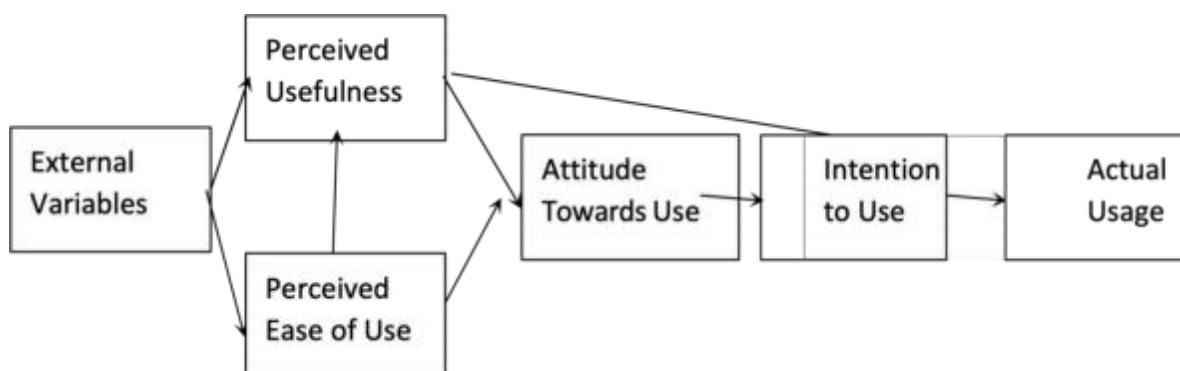


### **2.2.2 Technology Acceptance Model (TAM)**

According to Ajzen's theory, American scholar Davis proposed a technology acceptance model, which can be used to describe the determinants that affect users' use of Internet technologies and products. The theory believes that when users accept a new technology, their use attitude has a stronger effect than subjective norms, and the use attitude is mainly affected by two factors: perceived usefulness and perceived ease of use. The technology acceptance model is shown in the figure below.



Figure 2.2: Technology Acceptance Model The model is explained as follows:



- External Variables

Refers to all external factors, such as user preferences and personal characteristics or product design and function. The theory believes that external variables will indirectly affect the willingness to use. Adding external variables can better reflect the willingness of different individuals.

- Perceived Usefulness

Refers to the degree to which can help user improve efficiency when using a technology or product. Generally speaking, the higher the perceived usefulness, the easier the user thinks the technology is to use, and the higher the potential willingness to use it.

- Perceived Ease of Use

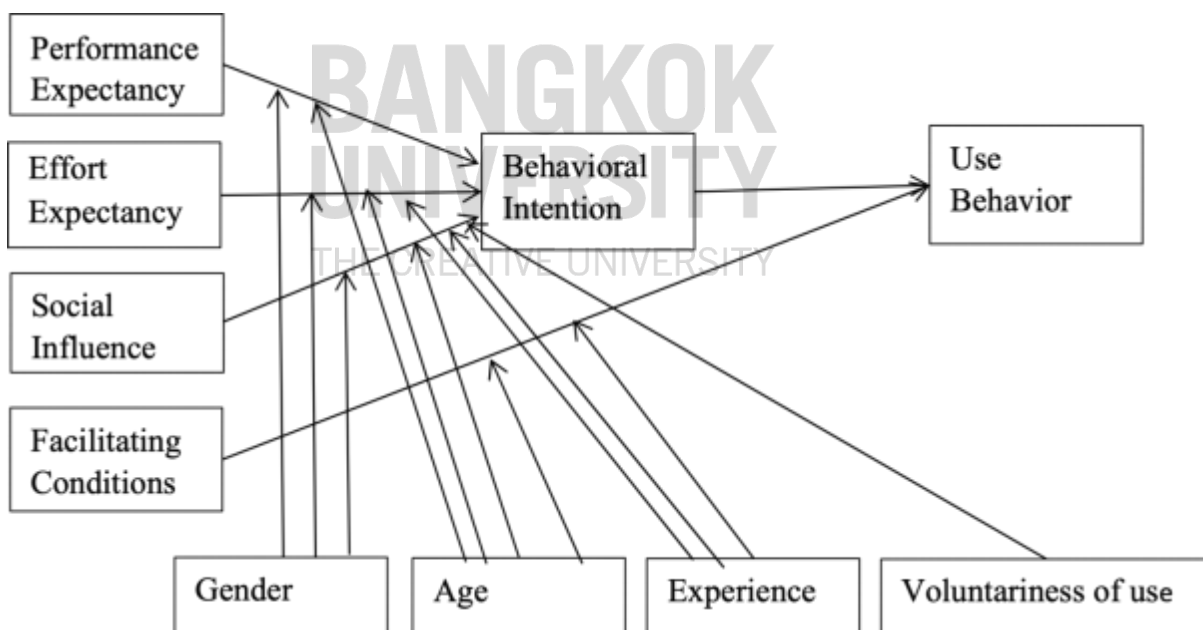
Refers to the degree of difficulty experienced by users when using a technology or product. Generally speaking, the higher the perceived ease of use,

the easier the product to use and the higher the potential willingness to use.

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

Venkatesh and Morris (2003) proposed the Unified Theory of Acceptance and Use of Technology (UTAUT) based on the TAM theory. The four main factors of the theory which is performance expectancy, effort expectancy, social influence and facilitating conditions have played an important role in user acceptance and use behavior. At the same time, the model also adds four factors which is gender, age, experience and voluntariness of use as adjustment variables to strengthen the explanatory degree of the model. The model of unified theory of acceptance and use of technology is shown in the figure below.

Figure 2.3 The Model of Unified Theory of Acceptance and Use of Technology The model is explained as follows:



- Performance Expectancy

Refers to the degree to which an individual feels the help given to them when using a certain technology or product. The theory believes that individuals who

feel that new technologies or products will help themselves will be more willing to use them, especially for individuals whose goal is to pursue efficiency.

#### -Effort Expectancy

Refers to the amount of effort required by an individual to use a certain technology or product. Which means, whether new technologies and products are easy to use for individuals is an important factor that affects the acceptance of new technologies and products.

#### -Social Influence

It refers to the pressure that the individual feels when he takes an action. The theory holds that the greater the pressure from society, the lower the acceptance of new technologies or products by individuals. Generally speaking, younger people are less affected than older people, and women are more affected than men.

#### -Facilitating Conditions

Refers to the degree of support for related technologies and equipment that an individual feels when using a new technology or product. Generally speaking, the higher the degree of support (such as after-sales, technical support, etc.), the higher the individual's acceptance of the new technology.

### **2.2.4 Perceived Risk Theory**

Scholar Bauer's research in 1960 gave a definition of perceived risk. The

research believes that consumers will have a lot of expected uncertainty in the process of purchasing goods. In other words, consumers cannot be sure of the quality of the goods purchased, nor can they predict the possible losses that may be caused by the purchase of the goods. Based on the above theories, scholar Liuqing researched and summarized the dimensions of perceived risk in 2019. The study believes that the risk factors that may be perceived for mobile payment include five aspects: finance, privacy, security, time and psychology.

### 2.3 Hypotheses

According to the combining and summary of the above-mentioned related theories, this study uses three factors as the independent variables of the study, which are perceived ease of use, perceived risk and performance expectancy. The hypotheses based on the above three variables are as follows:

#### - Perceived Easy of Use

Perceived ease of use is an influencing factor in the TAM model. According to the model, perceived ease of use directly affects the individual's intention to use new technologies and products, and the easier the technology and products are, the higher the individual's willingness to use. This puts forward the first hypothesis:

H1: The perceived ease of use of Alipay by local merchants in Thailand will affect their acceptance.

#### - Perceived Risk

Perceived risk can be used to describe the degree of risk an individual feels when acting. Generally speaking, the higher the risk, the lower the individual's

willingness to use the product. Therefore, this study puts forward a second hypothesis:

H2: The perceived risk of Alipay by local merchants in Thailand will effect their acceptance.

- Performance Expectancy

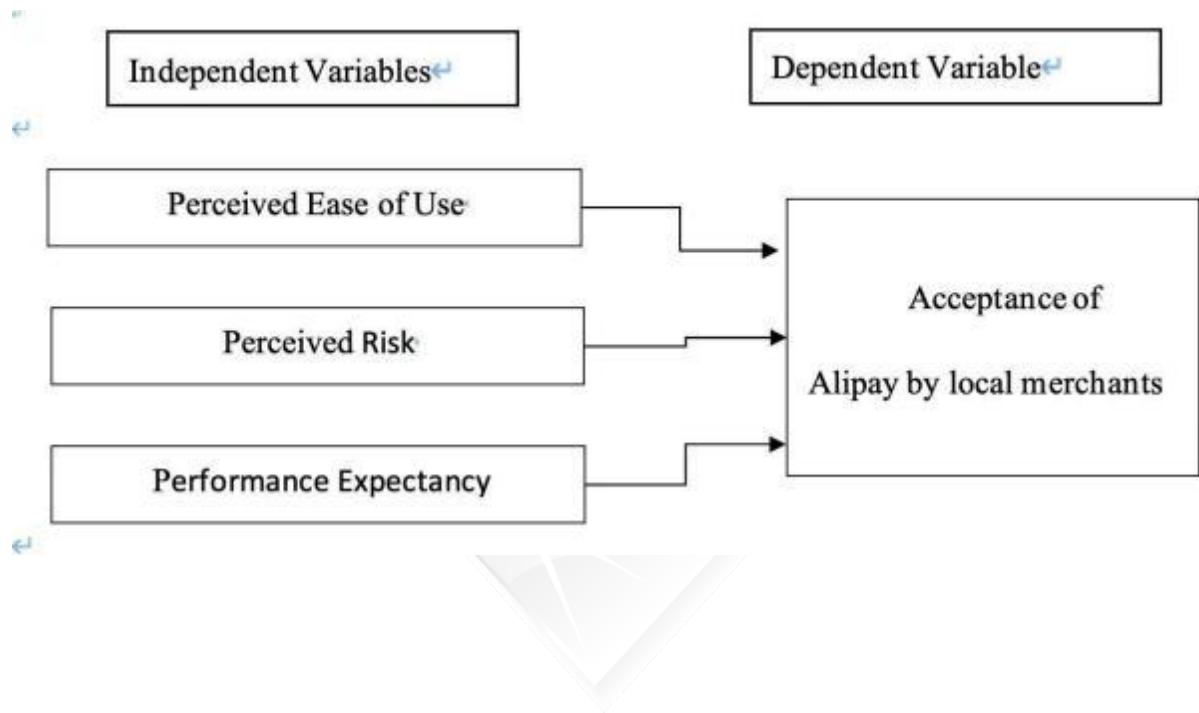
Performance expectancy is an important influencing factor in the UTAUT model. According to the model, Performance expectancy directly affects the behavioral intention of individuals. Generally speaking, the higher performance expectancy, the more efficient that the new technology can improve when use it, also the higher individual's acceptance of the technology. Therefore, this study puts forward a third hypothesis:

H3: Alipay's performance expectancy will affect its acceptance by local merchants in Thailand.

## 2.4 Conceptual Framework

Based on TAM (Technology Acceptance Model) and UTAUT (Unified Theory of Acceptance and Use of Technology), combined with Perceived Risk Theory, this study proposes three independent variables and one dependent variable. The conceptual framework is as follows :

Figure 2.4 Conceptual Framework



## CHAPTER 3

### METHODOLOGY

#### 3.1 Research Design

This research aims to investigate the acceptance of Alipay by local merchants in Thailand, which needs the wild opinion of many local merchants. Therefore, this research will apply quantitative research which questionnaire will be used as the research instrument. As the research framework established in the previous chapter, perceived easy of use, perceived risk, and performance expectancy are the independent variables, the questionnaire will establish according to those variables. The questionnaire will be distributed online and offline at the same time to the local merchants with the potential to use Alipay.

#### 3.2 Population and Sample Selection

According to the research purpose, all the local Thai merchants can be consider as the research objects, which means the population of this research is all local merchants in Thailand. However, in order to be more representative of the research result, local merchants with more potential to use Alipay or have already using Alipay are selected as the research samples. According to the research of scholar Yamane in 1967, if the population exceeds 100,000, and the 95% confidence level and  $\pm 5\%$  accuracy are required, the sample size needs to be 400. Thus, sample will select 400 local merchants near lager-scale commercial districts, night

markets, and tourist attractions in the center of Bangkok. They have more opportunities to contact with Chinese tourists and more likely to use Alipay.

The sample selection method will use the random selection method to select merchants of different scales, different business scopes and different target customers for investigation, so that the research data can be more representative of local merchants in Thailand.

### **3.3 Research Instrument**

As mentioned above, the questionnaire will be used as a research tool for this study. Among them, the questionnaire will consist of five parts, namely: basic information, perceived ease of use, perceived risk, performance expectancy, and acceptance of Alipay. First of all, the basic information will use multiple-choice questions, and the respondents will choose the corresponding options according to their actual situation. The remaining four parts will use a five-level scale to assess the respondents' awareness of Alipay. The respondent will choose from five levels of options based on their understanding of Alipay ( 1=extremely disagree, 2=disagree, 3=neutral, 4=agree, 5=extremely agree). The details of the five parts of the questionnaire are as follows.

#### **- Basic information**

This part will collect basic information about the merchant, including demographic data, business scope, monthly income, whether have contacted Chinese customers, and whether using a mobile payment platform.



-Perceived easy of use

This part mainly observes the merchant's understanding of ease of use of Alipay.

The specific questions are shown in the table below.

Table 3.1: The question of perceived easy of use

1	Registering as a merchant of Alipay is an easy task.
2	The operation interface of Alipay is simple and easy to use.
3	Alipay has perfect localization and accurate translation.
4	Alipay's payment process is fast and accurate.
5	Alipay's customer service is complete, can quickly get assistance when you encounter problems when using it.
6	Generally speaking, Alipay is simple and easy to use.

-Perceived risk

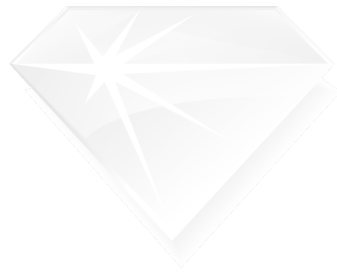
This part mainly observes the merchant's perception of the risk level of Alipay.

The main problems are shown in the table below.

Table 3.2: The question of perceived risk

1	My funds are very safe when using Alipay.
2	In the event of Alipay system failure and other problems, it will not cost any losses.
3	Alipay will not collect my personal information without my knowledge.

4	If a transaction error occurs when using Alipay, I will be compensated accordingly.
5	Generally speaking, Alipay is very safe to use.



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- Performance expectancy

This part is mainly used to understand whether merchants use Alipay to achieve the expected performance. The specific questions are shown in the table below.

Table 3.3: The questions of performance expectancy

1	Alipay's brand benefits are high, which attracts more customers.
2	Alipay's reliability is good, and cause only few errors.
3	Alipay is very practical, making the high collection efficiency .
4	Using Alipay can attract more Chinese customers.
5	Alipay has good promotion methods, which makes my shop more famous.
6	In general, using Alipay can improve my performance.

-Acceptance of Alipay

This part is used to understand the merchant's acceptance of Alipay. The specific questions are shown in the table below.

Table 3.4: The questions of acceptance of Alipay

1	I will continue to use Alipay as the collection software.
2	I will use Alipay as the main collection software.
3	If my relatives and friends also open stores, I would recommend them to use Alipay.
4	In general, I accept Alipay.

### 3.4 Instrument Pretest

In order to test the validity of the questionnaire, a pretest was conducted before the formal survey. A total of 40 questionnaires ( 10% of the total number of samples) were collected for the pretest as analysis samples. After using the analysis software to analyze, the Cronbach's Alpha value of this questionnaire is 0.894, which proves the reliability of the questionnaire.

Table 3.5: Cronbach's Alpha for All Variables

Reliability Statistics	
Cronbach's Alpha	N of Items
.894	21

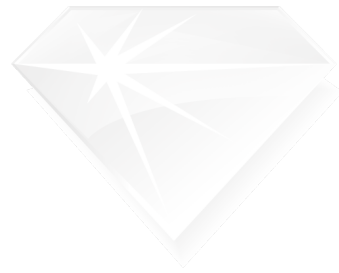
### 3.5 Data Collection Procedure

The data collection process was not going well. Due to the COVID- 19 situation, the Thai government implemented strict control policies from July to September, which resulted in offline stores not opening normally, and many businesses near tourist areas were closed. Finally, enough questionnaires were barely collected through the online questionnaires and after the end of the control policy.

### 3.6 Data Analysis Method

According to the conceptual framework of this study, this study will use the statistical analysis method of multiple regression to study the relationship between various variables. Multiple regression analysis refers to considering one variable as a dependent variable among related variables, and one or more other variables as independent variables, establishing a linear or nonlinear mathematical model quantitative relationship between multiple variables and using sample data for

analysis, This analysis method is very suitable for the research model of this study. According to the variables set above, there are a total of one dependent variable and three independent variables, Acceptance of Alipay as the dependent variable, Perceived Easy of use, Perceived Risk, and Performance Expectancy as the three independent variables.



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## CHAPTER 4

### FINDINGS

Based on research on perceived usefulness, perceived risk, and the impact of Performance expectancy on users' decision to use a real money wallet, 400 questionnaires were distributed in this study. After the data collection is completed, the statistical analysis software is used for analysis, and the analysis results are as follows

#### 4.1 Summary of Demographic Data

Table 4.1: Summary of Demographic Data

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	192	48.0	48.0	48.0
	Female	208	52.0	52.0	100.0
	Total	400	100.0	100.0	

		Age			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25 years old	61	15.3	15.3	15.3
	26-35 years old	68	17.0	17.0	32.3

36-45 years old	125	31.3	31.3	63.5
46-55 years old	91	22.8	22.8	86.3
56 and above	55	13.8	13.8	100.0
Total	400	100.0	100.0	

### Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Val id	High school or below	165	41.3	41.3	41.3
	Bachelor Degree	141	35.3	35.3	76.5
	Master Degree or higher	94	23.5	23.5	100.0
	Total	400	100.0	100.0	

### Business scope of the store

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Food and Beverage	87	21.8	21.8	21.8
	Drug and pharmacy	79	19.8	19.8	41.5
	Service	110	27.5	27.5	69.0
	Retail	86	21.5	21.5	90.5
	Other	38	9.5	9.5	100.0
	Total	400	100.0	100.0	

### Store monthly income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10,000-20,000 bahts	70	17.5	17.5	17.5
	20,001-30,000 bahts	145	36.3	36.3	53.8
	30,001-40,000 bahts	56	14.0	14.0	67.8
	40,001-50,000 bahts	57	14.2	14.2	82.0



More than 50,000 bahts	72	18.0	18.0	100.0
Total	400	100.0	100.0	

### Does the store often have Chinese customers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	220	55.0	55.0	55.0
	No	180	45.0	45.0	100.0
	Total	400	100.0	100.0	

### Whether you are using or have used mobile payment software as collection software

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	253	63.2	63.2	63.2
	No	147	36.8	36.8	100.0

According to the statistical results, 48% of the respondents who participated in the survey were men (total number was 192) and 52% were women (total number was 208).

Secondly, the age of the respondents is mainly concentrated in the 36-45 years old, a total of 125 people accounted for 31.3% of the total number of people, the second-most age is 46-55 years old, a total of 91 people accounted for 22.8% of the total number, the third-largest The age is 26-35 years old, a total of 68 people accounted for 17.0% of the total

number, followed by 18-25 years old, a total of 61 people accounted for 15.3%, and a total of 55 people aged 56 and above accounted for 13.8%. It is worth noting that there are no people under the age of 18 among the respondents.

The third part is education background. Among all the respondents, 165 respondents have only high school education or below accounting for 41.3%, followed by bachelor degree, a total of 141 people accounting for 35.3%, and the least is master degree or above. A total of 94 people, accounting for 23.5%.

The fourth part is the business scope of the store, the most is service, there are 110 stores, accounting for 27.5% of the total respondents, the second is food and beverage, there are 87 stores, accounting for 21.8% of the total respondents, and the third is retail, a total of 86 companies, accounting for 21.5% of the total respondents, followed by drug and pharmacy, a total of 79 companies accounted for 19.8%, and finally, only 38 other types, accounting for 9.5%.

The fifth part is the monthly income of stores. Most of the stores have incomes of 20,000 to 30,000 baht, with a total of 145 stores, accounting for 36.3% of the total respondents. The second is more than 50,000 baht, with 72 stores accounting for the total receipts. 18.0% of the interviewees, the third is 10,000 to 20,000 baht, a total of 70, accounting for 17.5% of the total respondents, the next is 40,000 to 50,000 baht, a total of 57, accounting for the total number of respondents 14.2%, and 30,000 to 40,000 baht, a total of 56 companies accounted for 14.0%. Among all the interviewees, there was no less than 10,000 baht.

The sixth part is whether there are often Chinese customers. 55.0% (220 in total) of the respondents said they often have Chinese customers, and the remaining 45.0% (180 in total) of the respondents said they do not often have Chinese customers.

The last part is While you are using or have used mobile payment software as collection software, 63.2% of the respondents said they are using mobile payment software, and there are 253 merchants in total. The remaining 36.8% of respondents said they did not use mobile payment software, and there were 147 merchants in total.

## 4.2 Descriptive Analysis

This chapter will mainly introduce the descriptive analysis of the collected data. In order to understand the interviewee's thoughts more intuitively, a five-level scale will be applied to this analysis. The five levels are 5 = Excellent, 4 = Good, 3 = Average, 2 = Poor, 1 = Very

Poor, where the number The corresponding mean value, which is the average. The average can represent the attitude of most respondents. At the same time, the standard deviation is also used in the table, which is an indicator for understanding individual differences. The larger the standard deviation, the greater the difference.

#### 4.2.1 Perceived easy of use

Table 4.2: Descriptive Analysis of Perceived Easy of use

<b>Descriptive Statistics</b>				
	N	Mea n	Std. Deviati o n	Interpretatio n
8、 Registering as a merchant of Alipay is an easy task.	40 0	3.55	1.098	Average
9、 The operation interface of Alipay is simple and easy to use.	40 0	3.28	1.146	Average
10、 Alipay has perfect localization and accurate translation.	40 0	3.72	1.016	Average
11、 Alipay's payment process is fast and accurate.	40 0	3.97	.916	Average
12、 Alipay's customer service is complete, can quickly get assistance when you encounter problems when using it.	40 0	3.81	.970	Average
13、 Generally speaking, Alipay is simple and easy to use.	40 0	3.83	.788	Average
Valid N (listwise)	40 0			

According to the above table, the average value of perceived easy of use is distributed between 3.97 and 3.28. All test items have been passed. Among them, the highest average score is Alipay's payment process is fast and accurate(mean=3.97, S.D=0.916),It can be seen

that most interviewees agree with this item, and the difference is also less than 1. The lowest average score is The operation interface of Alipay is simple and easy to use(mean=3.28, S.D= 1.146). The second highest is Alipay's customer service is complete, can quickly get assistance when you encounter problems when using it(mean=3.72, S.D=0.97). The third is Alipay has perfect localization and accurate translation(mean=3.72, S.D= 1.016. The fourth is Registering as a merchant of Alipay is an easy task(mean=3.55, S.D= 1.098). Respondents generally think Alipay is simple and easy to use. In this item, the mean value is 3.83, and the standard deviation is only 0.788.

#### 4.2.2 Perceived risk

Table 4.3: Descriptive Analysis of Perceived Risk

<b>Descriptive Statistics</b>				
	N	Mean	Std. Deviation	Interpretation
14、 My funds are very safe when using Alipay.	40	3.84	1.138	Average
15、 In the event of Alipay system failure and other problems, it will not cost any losses.	40	3.68	1.027	Average
16、 Alipay will not collect my personal information without my knowledge.	40	3.76	.967	Average
17、 If a transaction error occurs when using Alipay, I will be compensated accordingly.	40	3.76	.944	Average
18、 Generally speaking, Alipay is very safe to use.	40	3.88	.711	Average
Valid N (listwise)	40			

According to the above table, the average score of perceived risk is between 3.88 and 3.68, and all the test items have been passed. Except for the general test item, the highest is My funds are very safe when using Alipay(mean=3.84, SD= 1.138). The lowest is In the event

of Alipay system failure and other problems, it will not cost any losses(mean=3.68, SD= 1.027). The gap between the highest and the lowest is not very large, indicating that all respondents have similar attitudes towards this department. Followed by Alipay will not collect my personal information without my knowledge(mean=3.76, SD=0.967). and If a transaction error occurs when using Alipay, I will be compensated accordingly(mean=3.76, SD=0.944). Finally, The interviewers generally accepted this part, and most of them believed that Alipay is safe to use (mean=3.88, SD=0.711).

#### 4.2.3 Performance expectancy

Table 4.4:Descriptive Analysis of Performance expectancy

<b>Descriptive Statistics</b>				
	N	Mean	Std. Deviation	Interpretation
19、 Alipay's brand benefits are high, which attracts more customers.	40	3.68	1.079	Average
20、 Alipay's reliability is good, and cause only few errors.	40	3.37	1.099	Average
21、 Alipay is very practical, making the high collection efficiency .	40	3.15	1.216	Average
22、 Using Alipay can attract more Chinese customers.	40	3.95	.999	Average
23 、 Alipay has good promotion methods, which makes my shop more famous.	40	3.69	1.152	Average
24、 In general, using Alipay can improve my performance.	40	3.78	.841	Average
Valid N (listwise)	40			

According to the above table, the average score of Performance expectancy is between 3.95 and 3.15, and all the test items have been passed. Except for the summary items, the

highest is Using Alipay can attract more Chinese customers. (mean=3.95, SD=0.999). The lowest is Alipay is very practical, making the high collection efficiency. (mean=3.15, SD= 1.216). The highest The large gap with the lowest indicates that all interviewees have different opinions on this part. The second is Alipay has good promotion methods, which makes my shop more famous.(mean=3.69, SD= 1.142). The third is Alipay's brand benefits are high, which attracts more customers.(mean=3.68, SD= 1.079). The fourth is Alipay's reliability is good, and cause only few errors (mean=3.37, SD= 1.099). Finally, the interviewees generally accept this part, and most of them think that Alipay can meet their expectations when used. (Mean=3.78, SD=0.841)

#### 4.2.4 Acceptance of Alipay

Table 4.5: Descriptive Analysis of Acceptance of Alipay

<b>Descriptive Statistics</b>				
	N	Mean	Std. Deviation	Interpretation
25、 I will continue to use Alipay as the collection software.	40	3.67	1.022	Average
26、 I will use Alipay as the main collection software.	40	3.73	1.007	Average
27 、 If my relatives and friends also open stores, I would recommend them to use Alipay.	40	3.73	.974	Average
28、 In general, I accept Alipay.	40	3.83	.753	Average
Valid N (listwise)	40			

According to the above table, the average score of Acceptance of Alipay is between 3.83 and 3.67, and all the test items have been passed. Except for the summary items, the highest is I will use Alipay as the main collection software.(mean=3.73, SD= 1.007), and If my relatives and friends also open stores, I would recommend them to use Alipay(mean=3.73,

SD =0.974). The lowest is I will continue to use Alipay as the collection software. (mean=3.67, SD= 1.022). The gap between the highest and the lowest is small, which means that all respondents have the same opinion on this part. Finally, the interviewees generally accepted this part, and most of them believed that they would continue to use Alipay and be able to accept Alipay (mean=3.83, S.D=0.753)

### 4.3 Hypotheses Findings

Based on the previous content, this research puts forward three hypotheses, which are:

H1: The perceived ease of use of Alipay by local merchants in Thailand will affect their acceptance.

H2: The perceived risk of Alipay by local merchants in Thailand will affect their acceptance.

H3: Alipay's performance expectancy will affect its acceptance by local merchants in Thailand.

In order to verify the hypothesis, this study used data analysis software to perform regression analysis on the collected data. The analysis results are as follows:

Table 4.6: Regression Analysis Result

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.653 <sup>a</sup>	.427	.422	.50237

a. Predictors: (Constant), Performance Expectancy, Perceived Easy of use, Perceived Risk

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	74.392	3	24.797	98.254	.000 <sup>b</sup>
	Residual	99.943	396	.252		
	Total	174.335	399			

a. Dependent Variable: Acceptance of Alipay

b. Predictors: (Constant), Performance Expectancy, Perceived Easy of use, Perceived Risk

### Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.868	.180		4.827	.000
Perceived Easy of use	.319	.051	.300	6.299	.000
Perceived Risk	.092	.053	.085	1.735	.084
Performance Expectancy	.373	.040	.409	9.339	.000

a. Dependent Variable: Acceptance of Alipay

According to the analysis results, first, the R Square value is 0.427, which represents that in this model, the independent variable can explain 42.7% of the variation of the dependent variable. Then, according to the results of ANOVA,  $F=98.254$   $P<0.001$  proves that the variables are indeed correlated, which means that the model is statistically meaningful.

After proving the correlation of each variable in the model, Coefficients can represent the correlation of each variable. First, Perceived Easy of use, Coefficients value is 0.319 and sig level lower than 0.05 the perceived easy of use has affect on acceptance . When Coefficients value is positive, the dependent variable and independent variable are positively correlated. In other words, the easier Alipay is to use, the more users will accept it. This also proves hypothesis 1: The perceived ease of use of Alipay by local merchants in Thailand wil affect their acceptance.

The second is Perceived Risk. The Coefficients value is 0.092, which is the lowest correlation among the three variables, (but the perceived risk's sig level is 0.084 which is higher than sig=0.05. the result sig level higher than 0.05 refers that the perceived risk does not have affect on their acceptance. Therefore, the H2 was rejected.

The last is Performance Expectancy. The Coefficients value is 0.373 and sig level lower than 0.05, the performance expectancy has affect on acceptance, which is the highest



correlation among the three variables. The data proves that the dependent variable and the independent variable are positively correlated. That is to say, the more Alipay can meet user expectations, the more users will accept it. This also proves Hypothesis 3: Alipay's performance expectancy will affect its acceptance by local merchants in Thailand.

#### 4.4 Other Findings

Table 4.7: Pearson Correlation

			<b>Correlations</b>			
			Acceptance of Alipay	Perceived Easy of use	Perceived Risk	Performance Expectancy
Acceptance of Alipay	Pearson Correlation	1	.517	.449	.571	
	Sig. ( 1-tailed)		.000	.000	.000	
	N	400	400	400	400	
Perceived Easy of use	Pearson Correlation	.517	1	.581	.409	
	Sig. ( 1-tailed)	.000		.000	.000	
	N	400	400	400	400	
Perceived Risk	Pearson Correlation	.449	.581	1	.463	
	Sig. ( 1-tailed)	.000	.000		.000	
	N	400	400	400	400	
Performance Expectancy	Pearson Correlation	.571	.409	.463	1	
	Sig. ( 1-tailed)	.000	.000	.000		
	N	400	400	400	400	

Pearson Correlation also explains the correlation between variables. In this test, the highest correlation is still Performance Expectancy, with a Pearson Correlation value of

0.571, and the second one is still Perceived Easy of use, with a Pearson Correlation value 0.517. All data can also prove that all independent variables and dependent variables are positively correlated, and can also be used to prove hypotheses1 and 3.

#### 4.5 Findings of the Study

First of all, Performance Expectancy is the variable with the highest correlation with the dependent variable, whether it is from regression analysis or Pearson Correlation.

Secondly, Perceived Easy of use is the variable with the second highest impact on the dependent variable. Whether from regression analysis or Pearson Correlation.

Finally, Perceived Risk is the variable which has not affect the dependent variable .

Supported by two sets of analyses, hypotheses1 and hypothesis 3 have been proved.

#### 4.6 Results of the Hypothesis Testing

Table 4.8:Hypothesis Testing

H1: The perceived ease of use of Alipay by local merchants in Thailand will affect their acceptance.	Accepted
H2: The perceived risk of Alipay by local merchants in Thailand will affect their acceptance.	Rejected
H3: Alipay's performance expectancy will affect its acceptance by local merchants in Thailand.	Accepted

#### 4.7 Conclusion

According to the above results, it can be proved that all the independent variables are positively correlated with the dependent variables except the perceived risk of alipay. Among them, the performance expectancy has the highest impact, followed by the performed ease of use:

## CHAPTER 5

### CONCLUSION AND DISCUSSION

#### 5.1 Results Summary

This study is based on the theory of technology acceptance, with user acceptance as the dependent variable, and perceived usefulness, perceived risk, and performance expectancy as independent variables. The degree of influence of each independent variable on the dependent variable was calculated by a multiple linear regression equation. The results of the analysis show that all the independent variables are positively correlated with the dependent variables. Among them, the performance expectancy has the highest impact, followed by the performed ease of use, and the lowest impact is the perceived risk. This chapter will discuss the basis of the results of the analysis. The results are summarized and discussed, with recommendations for future applications, as well as recommendations for similar research in the future.

#### 5.2 Hypotheses Summary

H1: The perceived ease of use of Alipay by local merchants in Thailand will affect their acceptance.

According to the results of data analysis, perceived ease of use has a positive impact on merchant acceptance. The Alipay payment process is quick and accurate, and the customer service is thoughtful, which makes merchants more willing to use Alipay as the

payment software. According to a previous study by Yuanyuan (2009), ease of use has a very strong impact on merchants' acceptance. The study also found that the higher the degree of matching between work tasks and mobile payment technology, the easier it is to succeed in the application of mobile payment. At the same time, the research of Jiewen (2017) also draws a similar conclusion that ease of use usually has a positive impact on acceptance.

H2 : The perceived risk of Alipay by local merchants in Thailand will affect their acceptance.

From the results of data analysis, merchants believe that Alipay is relatively safe, especially in terms of fund security. Alipay also guarantees the information security of merchants. Even if Alipay is not a local company's software, the lower risk still allows many merchants to choose to use it. Research by Wipapach (2017) has reached a similar point of view on the Thai market. The study pointed out that users in the Thai market have less perception of risk, and as long as they use it intentionally, they will not worry about the risk.

H3 : Alipay ' s performance expectancy will affect its acceptance by local merchants in Thailand.

Finally, there is Performance Expectancy. According to the results of data analysis, it can also be confirmed that the higher the Performance Expectancy, the more merchants intend to use Alipay. Most merchants believe that using Alipay will attract more Chinese customers and bring them good benefits through higher brand benefits. Both Chanchai (2015) and Jiewen (2017) studies show that both usability and performance have a positive impact on merchants. At the same time, Scholars Erliang, Yi and Yonghuo's research is more in-depth, the research believes that marketing platform, data support, and process support are important factors influencing the active use of mobile payment tools by merchants. These are also the embodiment of practicality and performance

### 5.3 Discussion

According to the results of the hypothetical verification, the research questions raised in Chapter 1 can be answered

What are the factors that affect the acceptance of Alipay by merchants?

According to the research model and data analysis results, the factors that influence merchants' acceptance of Alipay include perceived ease of use, perceived risk and performance expectancy

How do these factors affect the merchant's acceptance of Alipay?

According to the research model and the results of data analysis, perceived ease of use and performance expectancy have a positive impact on merchants' acceptance. The easier Alipay is, the higher the amount of benefits it brings to merchants, the more merchants will accept it. Perceived risks have a negative impact on merchant acceptance. Merchants feel that using Alipay is unsafe or risky will reduce acceptance

Which factor has the greatest impact on the acceptance of Alipay, and which has the least impact?

First of all, Performance Expectancy is the variable that has the highest impact on acceptance, whether it comes from regression analysis or Pearson Correlation.

Second, perceived ease of use is the second most important variable that affects acceptance. Whether it comes from regression analysis or Pearson correlation.

Finally, perceived risk is the variable that has the least impact on acceptance. Whether it comes from regression analysis or Pearson correlation.

At the same time, the results are similar to those of other scholars in China. The research results of Scholar Jiewen (2017) also obtained the perceived risk and perceived ease of use. It is the main influencing factor of merchant acceptance

#### **5.4 Recommendation for Further Application**

First, according to the results of data analysis, perceived ease of use has the second impact on merchant acceptance, and it has a positive impact. As a foreign payment software, Alipay may not conform to the usage habits of local merchants in Thailand, which will cause certain troubles to merchants. Alipay should listen more to user feedback, strengthen localization work, add some functions that Thai merchants really need to use, and delete some functions that are not suitable for the Thai market, so as to make Alipay easier to use.

Secondly, safety is also a very important factor. Foreign software is not easy for local users to trust, and the safety of funds and personal information need to be protected. Alipay should strengthen its security and win the trust of local businesses

Third, according to the research results, Performance Expectancy has the highest acceptance. Most of the merchants surveyed believe that using Alipay can bring them more Chinese customers. This is also an important reason why they choose Alipay. Now that the impact of the epidemic has gradually faded, Thailand has reopened its doors to welcome tourists. It is believed that Thailand will once again become a favorite tourist destination for Chinese tourists in the near future. Alipay should take this opportunity to develop more merchants.

#### **5.5 Recommendation for Further Research**

First of all, this study is limited by the impact of the epidemic. Many businesses do not have good returns, and there are not as many Chinese tourists as in previous years, so the results may not represent the real situation of Alipay's development in Thailand. Subsequent research should conduct interviews with merchants again on this basis after the epidemic is over.

Secondly, the choice of research models can be more diverse. TAM can only be used to explain user acceptance, without a complete understanding of the market and user psychology. In the future, you can try to use different research models and variables to discover the development of Alipay in the Thai market.

Finally, the questionnaire in this study is relatively simple, and may not cover all the situations, and may not reflect all the real situations. Future research can use questionnaires and interviews to gain a deeper understanding of merchants' views on Alipay with different income situations.



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	Alipay has perfect localization and accurate translation.						
	Alipay' s payment process is fast and accurate.						
	Alipay' s customer service is complete, can quickly get assistance when you encounter problems when using it.						
	Generally speaking, Alipay is simple and easy to use.						
	<b>Perceived Risk</b>						
	My funds are very safe when using Alipay.						
	In the event of Alipay system failure and other problems, it will not cost any losses.						
	Alipay will not collect my personal information without my knowledge.						
	If a transaction error occurs when using Alipay, I will be compensated accordingly.						
	Generally speaking, Alipay is very safe to use.						
	<b>Performance Expectancy</b>						
	Alipay's brand benefits are high, which attracts more customers.						
	Alipay' s reliability is good, and cause only few errors.						
	Alipay is very practical, making the high collection efficiency .						
	Using Alipay can attract more Chinese customers.						
	Alipay has good promotion methods, which makes my shop more famous.						
	In general, using Alipay can improve my performance.						
	<b>Acceptance of Alipay</b>						
	I will continue to use Alipay as the collection software.						
	I will use Alipay as the main collection software.						
	If my relatives and friends also open stores, I would recommend them to use Alipay.						
	In general, I accept Alipay.						

**Thank you for your time and cooperation!**

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