

# COMPARISON OF FACTORS INFLUENCING CHINESE PEOPLE IN BANGKOK INTENTION TO USE TWO ONLINE PAYMENT APPLICATIONS IN THAILAND

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**ABSTRACT:** *Thailand is the biggest travel destination for Chinese people, and more and more Chinese people come to Thailand to invest, travel, study and live. In addition to this, the trend for online payment application is more and more popular. Therefore, the main objective for this study was to find out and determined the factors influencing Chinese people in Bangkok intention to use Alipay and K-PLUS online payment application in Thailand. The factors that we studied were ease of use, convenience, system quality and usefulness. The survey method is applied questionnaire to collect data from a total of 385 respondents who had used both Alipay and K-PLUS online payment application in Thailand. The researcher applied both descriptive and inferential analysis to analyze the general information and test hypotheses. As the results, the researcher found out that ease of use, convenience, system quality and usefulness all has a significant positive influence on intention to use Alipay and K-PLUS online payment application.*

**Keywords:** *Ease of use, convenience, system quality, usefulness and intention to use.*

## Introduction

In 2016, the number of non-cash transaction of global was 482.6 billion and the growth rate was 10.1% and still presented upward trend. In addition to this, people are more and more familiar with new digital payment methods, like example, E-wallets or mobile wallets, contactless payment via mobiles, In-app payment system, digital currency and so on.

Alipay as the biggest mobile payment service in the world and the second largest mobile service organization in the world, has more than 80,000 access lines in more than 20 countries around the world, covering catering, supermarkets, department stores, convenience stores, duty-free shops, etc., and covering Macao, Taiwan, Japan, Singapore, Thailand, France, Germany, the Netherlands, Australia, etc. In addition, Alipay also provides overseas taxis (Uber, Grab), overseas transportation cards, airline and hotel reservations, and overseas tax rebates for tourists. Alipay is one of the biggest independent third party payment platform in China and Chinese people have replaced

cash or credit card transactions with use the Alipay application to finish most of the daily transaction, it has become the most popular digital payment method in China when compared with the other payment methods. Alipay also can be applied in different stores and shopping malls in Thailand, such as 7-Eleven convenience stores, central world, King Power and so on. In addition to this, Alipay also partnered with Kasikorn Bank and designed a new mobile application which can support payment through scanning QR code.

K-PLUS online payment application is the largest mobile banking and maintaining its leadership position in Thailand and has more than 9.4 million as of October ,2018 and keep growing until today. K-PLUS online payment application users can transfer money directly to 20,000 banks with 77,000 branches in 24 countries since 15 May 2019, and these countries are Australia, Hong Kong, Singapore, USA, United Kingdom, Germany etc. The currency of the global money transfer of P-PLUS online payment application contains six currencies which are AUD, HKD, SCG,

USD, GBP and EUR. But the K-PLUS online payment application is still a one-way transfer mode until now.

### **Research Objective**

The main purpose of this study is to find out the factors influencing Chinese people in Bangkok intention to use two online payment application in Thailand, the following are objectives of this study:

1. To determine the factors influencing the intention to use online payment applications.
2. To find out the significant factors which influencing intention to use online payment applications.
3. To compare the factors influencing intention to use between Alipay application and K-PLUS application and compare Chinese people who live in Bangkok select which one most.

### **Literature Review**

There are three main theories applied in this study, which including Technology Acceptance Model (TAM), Theory of Reasoned Actions (TRA) and Theory of Planned Behaviour (TPB). The Technology Acceptance Model (TAM) was developed by Davis (1989) who try to understand the relationship of user attitudes or behaviour intention towards a new technology. Davis primary constructed a model and devised three crucial elements that affect users acceptances toward a new technology, which including the perceived usefulness (PU), perceived ease of use (EOU) and attitude toward usage (ATU) . Theory of Reasoned Action (TRA) was extracted from social psychology (Fishbein, M & Ajzen, I,1975) which imply an individual performance was mainly determined by his or her intention, and individual behaviour can be predicted measuring his or her intention toward using a technology and other factors that may influence users behaviour. The Theory of Planned Behaviour(TPB) states that all behavioural achievement are all depend on both motivation (intention) and

ability(behaviour control) , the crucial factors are attitudes, behavioural intention, subjective norms, social norms, perceived power and perceived behavioural control, thereinto, the perceived behavioural control refers to a person's perception of the ease of use or different to perform the behaviour control.

### ***Ease of use***

The perceived ease of use can be defined as the individual's perception that using the new technology will be free of effort, it has a strong influence on intention to technology acceptance. (Davis, 1989). The attitude of users toward a specific system is based on the impression of his or her perceived ease of use in its use their common beliefs (Elliott & Fu, 2008), besides, users would resist trying anything new for the reason of feelings about the risks and difficulties to use and learn a new thing.( Porter & Donthu, 2006).

### ***Convenience***

refers to an individual's preference for convenient product and services. Time and effort saving are the two key factors that determine whether a product or service is convenient (Berry, Seiders, & Grewel, 2002). Uses, gratification and expectancy-value have deemed to be convenience as a valid motivation for internet use (Thomas & Barbara, 2002).

### ***System quality***

Thee information processing system itself (DeLone & McLean, 1992), and is defined as the processing characteristic of IS. Seddon (1997) previously asserted that system quality is the result of the total consideration of consistency of the user interface, ease of use, documentation quality, program code quality, and maintenance quality. System quality is one of the crux predictors of usefulness, in addition to this, a good system can help to reduce operation time and improve efficiently to access information.

### **Usefulness**

The perceived usefulness refers to the individual's perception that using the new technology will enhance or improve his or her performance (Davis, 1989). Or the perceived usefulness can be interpreted as the users believe that the technology will help them to improve their performance (Venkatesh & Davis, 2000). Although the perceived ease of use and perceived usefulness are key factors for individuals to accept and use IT, the other external factors also can influence the acceptance of users (Kim & Moon, 2001).

### **Intention to use**

The intention is often used to understand how attitude affect actual behavior (Huang, Lee, & Ho, 2004). The Technology Acceptance Model (TAM) and Theory of Reasoned Action Models says that the intention to have a particular behavior determines a technology use. The behavior to use a technology could be estimated the intention influencing the user behavior, as well as the other influencing factors (Davis, Bagozzi & Warshaw, 1989).

## **Research Hypotheses**

### **Hypothesis 1**

H1o: Ease of use has no significant influence on usefulness.

H1a: Ease of use has a significant influence on usefulness.

### **Hypothesis 2**

H2o: Convenience has no significant influence on usefulness.

H2a: Convenience has a significant influence on usefulness.

### **Hypothesis 3**

H3o: System quality has no significant influence on usefulness.

H3a: System quality has a significant influence on usefulness.

### **Hypothesis 4**

H4o: Ease of use has no significant influence on intention to use.

H4a: Ease of use has a significant influence on intention to use.

### **Hypothesis 5**

H5a: Convenience has a significant influence on intention to use.

H6o: System quality has no significant influence on intention to use.

### **Hypothesis 6**

H6o: System quality has no significant influence on intention to use.

H6a: System quality has a significant influence on intention to use.

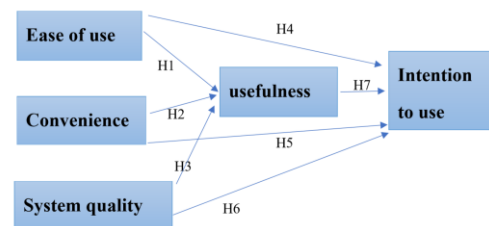
### **Hypothesis 7**

H7o: Usefulness has no significant influence on intention to use.

H7a: Usefulness has a significant influence on intention to use.

## **Conceptual Framework**

The figure 1 will be shown the conceptual framework of an empirical study of Chinese people in Bangkok intention to use two online payment application in Thailand, details as following:



**Figure 1:** Conceptual Framework

## **Research Methodology**

The researcher applied the quantitative method and used both primary and secondary data in collecting information and data from target population which combined both online and offline questionnaire survey. The target population of this study is Chinese people who live in Bangkok and had used both Alipay and K-PLUS online payment application in

Thailand. Firstly, for the convenience or accidental sampling, members or units are selected based on availability. Secondly, Researcher shared the online questionnaire link in WeChat groups which formed by Chinese people who live in Bangkok and ask them to help fill out the questionnaires, in addition to this, the researcher also shared the online questionnaire link to Chinese friends who live in Bangkok by QQ, E-mail and WeChat. There were 332 online respondents and 53 offline respondent's data has been collected.

The questionnaire of this study consisted of 7 parts and includes 34 questions and it was divided into 3 main parts, the first main part was screening information, the second main part was Five-Points Likert Scale questions to calculate and compare the influence of the dependent variables on the independent variables, the third main part was the demographic factors which showed the basic personal information of respondents, for example, gender, age, income and so on.

### The Reliability Testing

In this study, the researcher applied the Cronbach's Coefficient Alpha test in order to test the reliability of question each variable. As Sekaran and Bougie (2010) stated that the question of each variable is considered to be acceptable and reliable when the Coefficient Alpha test great than .6 of equal .6, which means that all questions are consistent to apply as the research instrument, the result of analysis are summarized in table 1 and 2 are consistent and reliable to apply as the research instrument for search study.

A sample size to of 65 responders was distributed to target population for pretest, and 4 questionnaires were screened out since as the responders have used both Alipay application or K-PLUS application in Thailand before, finally, there were only 61 effective sample size of the pretest left valid. From the pretest sample size data, the researcher finds out the reliability of the variables as follows:

**Table 1:** Summary of the pretest Cronbach's Alpha Coefficient value of Alipay online payment application variables (N=61).

| Part No. | Variables        | $\alpha$ – Coefficient value | Results of the pretest |
|----------|------------------|------------------------------|------------------------|
| 1        | Ease of use      | $.745 \geq .6$               | Pass                   |
| 2        | Convenience      | $.849 \geq .6$               | Pass                   |
| 3        | System quality   | $.765 \geq .6$               | Pass                   |
| 4        | Usefulness       | $.799 \geq .6$               | Pass                   |
| 5        | Intention to use | $.890 \geq .6$               | Pass                   |

**Table 2:** Summary of the pretest Cronbach's Alpha Coefficient value of K-PLUS online payment application variables (N=61).

| Part No. | Variables        | $\alpha$ – Coefficient value | Results of the pretest |
|----------|------------------|------------------------------|------------------------|
| 1        | Ease of use      | $.871 \geq .6$               | Pass                   |
| 2        | Convenience      | $.896 \geq .6$               | Pass                   |
| 3        | System quality   | $.917 \geq .6$               | Pass                   |
| 4        | Usefulness       | $.917 \geq .6$               | Pass                   |
| 5        | Intention to use | $.934 \geq .6$               | Pass                   |

Based on the result from table 1 and table 2, the researcher found that all variables reliability was above .6, which means all questions are able to apply to this study.

**Table 3:** Summary of Demographic Factors Analysis (N=385)

| Demographic Factors | Characteristics | Frequency | Percentage |
|---------------------|-----------------|-----------|------------|
|---------------------|-----------------|-----------|------------|

|                |                          |     |       |
|----------------|--------------------------|-----|-------|
| Gender         | Female                   | 203 | 52.7  |
| Age            | 21-30 years old          | 225 | 66.2  |
| Education      | Bachelor's degree        | 239 | 62.1% |
| Marital        | Single                   | 232 | 60.3  |
| Occupation     | Private company employee | 149 | 38.7  |
| Monthly income | 30001-40000 Baht         | 107 | 27.8  |

From table 3, the table shown that female is the majority respondents with 52.7% (203). Most of the respondents age is between 21 to 30 years old with 66.2% (225) and bachelor's degree education level with 62.1% (239). Also, a large proportion of respondents' marital situation is single which is 60.3% (232), and the biggest group respondents' occupation is private company employee with 38.7% (149). Most of the respondents' monthly income is between 30001 to 40000 Baht with 27.8% (107).

**Table 4:** Summary hypothesis results of Alipay (Simple Linear Regression, N=385)

| Hypotheses                                                      | Significant value | Standardized coefficient ( $\beta$ ) | Status   |
|-----------------------------------------------------------------|-------------------|--------------------------------------|----------|
| H1o: Ease of use has no significant influence on usefulness.    | .000              | .463                                 | Rejected |
| H2o: Convenience has no significant influence on usefulness.    | .000              | .479                                 | Rejected |
| H3o: System quality has no significant influence on usefulness. | .000              | .509                                 | Rejected |

|                                                                       |      |      |          |
|-----------------------------------------------------------------------|------|------|----------|
| H4o: Ease of use has no significant influence on intention to use.    | .000 | .405 | Rejected |
| H5o: Convenience has no significant influence on intention to use.    | .000 | .493 | Rejected |
| H6o: System quality has no significant influence on intention to use. | .000 | .437 | Rejected |
| H7o: Usefulness has no significant influence on intention to use.     | .000 | .549 | Rejected |

According to table 4, the result show that, for Alipay online payment application, 7 null hypotheses were all rejected, which means ease of use, convenience, system quality have a positive relationship with usefulness and intention to use.

**Table 5:** Summary hypothesis results of K-PLUS (Simple Linear Regression, N=385)

| Hypotheses                                                      | Significant value | Standardized coefficient ( $\beta$ ) | Status   |
|-----------------------------------------------------------------|-------------------|--------------------------------------|----------|
| H1o: Ease of use has no significant influence on usefulness.    | .000              | .660                                 | Rejected |
| H2o: Convenience has no significant influence on usefulness.    | .000              | .682                                 | Rejected |
| H3o: System quality has no significant influence on usefulness. | .000              | .530                                 | Rejected |

|                                                                       |      |      |          |
|-----------------------------------------------------------------------|------|------|----------|
| influence on usefulness.                                              |      |      |          |
| H4o: Ease of use has no significant influence on intention to use.    | .000 | .586 | Rejected |
| H5o: Convenience has no significant influence on intention to use.    | .000 | .576 | Rejected |
| H6o: System quality has no significant influence on intention to use. | .000 | .602 | Rejected |
| H7o: Usefulness has no significant influence on intention to use.     | .000 | .586 | Rejected |

Based on table 5, the hypotheses result of K-PLUS online payment application, we could find that all of 7 null hypotheses all null to be rejected. From these results, we could find that ease of use, convenience, system quality all has a positive influencing on usefulness. In addition to this, ease of use, convenience, system quality and usefulness also has a positive influence on intention to use as well.

**Table 6:** Summary means of each variable toward Alipay online payment application hypotheses setting. (N=385)

| Variables        | Mean   | Ranking list |
|------------------|--------|--------------|
| Ease of use      | 4.4135 | 4            |
| Convenience      | 4.4732 | 2            |
| System quality   | 4.4613 | 3            |
| Usefulness       | 4.3958 | 5            |
| Intention to use | 4.5018 | 1            |

From table 6, the results shown that questionnaire responders have a high evaluation of Alipay online payment application and mean of 5 variables all above 4.3, among which, the intention to use got the highest mean which is equal to 4.5018, it means that respondents have highly intention to use Alipay online payment application. Then, followed by convenience, system quality, ease of use and usefulness accordingly. In addition to this, we could also find that all variables mean of Alipay were higher mean than K-PLUS variables mean, which means questionnaire respondents have a higher intention to use Alipay other than K-PLUS.

**Table 7:** Summary means of each variable toward K-PLUS online payment application hypotheses setting. (N=385)

| Variables        | Mean   | Ranking list |
|------------------|--------|--------------|
| Ease of use      | 3.8810 | 2            |
| Convenience      | 3.7595 | 3            |
| System quality   | 3.9964 | 1            |
| Usefulness       | 3.6883 | 5            |
| Intention to use | 3.6899 | 4            |

According to the table 7, the researcher found that 5 variables mean of K-PLUS all above 3.6 not lower than 4.0, among which, the system quality got the highest mean which is equal to 3,9964 and ranked first place. And the ease of use and the convenience ranked second and third place respectively. The intention to use position as fourth place, the usefulness got the lowest mean which compared to the other variables.

Under the same variables and respondents' conditions, after comparing we can know that peoples' intention to use K-PLUS online payment application will lower than the intention to use Alipay online payment application. Besides, all variables' mean of K-PLUS also lower than Alipay, this can also be interpreted as in

ease of use function, convenience function and system quality function, respondents evaluated Alipay would be better than K-PLUS.

### **Recommendation**

Based on the results of all tables, we could found that, even though Alipay online payment application got a higher mean than K-PLUS online payment application, but when we focus on the 5 variables mean ranking list and compare it with the correlation of the variables, we could see that, usefulness has a strongest correlation with intention to use but instead got the lowest mean since as the mean of ease of use lower the overall mean of the usefulness. So, it needs to improve ease of use of Alipay online payment application in Thailand. Beyond this, it is also necessary to keep improving the convenience, system quality and usefulness to gain more competitive advantage and take a dominant position in the market competition. Lastly, Alipay should also keep expanding the scope of use, increase cooperation with the local enterprise to add more other additional services to increase customer's intention to use Alipay online payment application, not just Chinese but Thai people as well.

When we focus on the K-PLUS online payment application, we could found that mean 5 variables (ease of use, convenience, system quality, usefulness and intention to use) were all lower than Alipay, which means Chinese people who live in Bangkok have lower evaluation and lower intention to use K-PLUS when compare with Alipay. Among which, the highest mean is the system quality mean, which is equal to 3.9964, and the lowest mean is usefulness. So that, Kasikorn Bank should focus on improving the process of reaction and operation to make it more easier to operate for the customer, like the example, add the Chinese language into the K-PLUS and make it to be a regular system language to attract more Chinese people to use it. Kasikorn Bank should also continue

to improve ease of use, convenience and usefulness by expanse scope of use and add additional life service function to make K-PLUS online payment application closely connected with customer's life. System quality always be the most important and biggest challenge to online payment application, so Kasikorn Bank should continuously improve the system quality to make sure that customers have no security concerns about using K-PLUS online payment application. Kasikorn Bank should integrate all influencing factors (ease of use, convenience, system quality and usefulness) to improve customers' intention to use and increase the competitiveness of the company.

### **Future Study**

This study focus on only Chinese people who live in Bangkok and haven't use Alipay and K-PLUS online payment application in Thailand, there were only 385 respondents opinion to be collected which cannot represent the other Chinese people who live in Bangkok other than the respondents and cannot represent who Chinese people in the different Thailand province areas other than Bangkok as well. Thus, the future study may be expanded to conduct in other Thailand province areas and try to comparison opinions from other areas people toward Alipay and K-PLUS online payment application.

Besides, there only four independent variables (ease of use, convenience, system quality and usefulness) were selected to study in comparison influencing Chinese people live in Bangkok intention to use Alipay and K-PLUS online payment application. Hence, other independent variables which haven't covered by this study could take into consideration and test and determine the relationship with intention to use Alipay and K-PLUS online payment application in the future study. Lastly, there other online payment applications like Alipay and K-PLUS, so in the future, the researcher may study other

similar online payment applications and compare the differences among them.

## References

- Berry, L. L., Seiders, K., & Grewal, D. (2002). Understanding service convenience. *Journal of Marketing Research*, 66, 1-17.
- Brown, L. G. (1989). The strategic and tactical implications of convenience in consumer product marketing. *Journal of Consumer Marketing*, 6, 13-19.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
- DeLone, W. H., & Mclean, E. R., (1992). Information systems success: The quest for the dependent variable. *Information Systems Research*, 3(1), 60-95.  
<http://dx.doi.org/10.1287/isre.3.1.60>
- Elliott, M. T., & Fu, F. Q. (2008). Consumer Acceptance of Technology Products: The Impact of Selling Tactical Approaches. *Marketing Management Journal*, 18(2), 47-64.
- Fishbein, M., & Ajzen, I. (1975). Beliefs, attitude, intention, and behavior: An introduction to theory and research. M. A.: Addison-Wesley.
- Huang, J. H., Lee, C. Y. B., & Ho, S. H. (2004). Consumer attitude toward gray market goods. *International Marketing Review*, 21(6), 598 – 614.
- Kim, Y. G. & J. W. (2001). Extending the TAM for a world-wide-Web context. *Information and Management*, 38, 217-230.
- Porter, C. E., & Donthu, N. (2006). Using the technology acceptance model to explain how attitudes determine Internet usage: The role of perceived access barriers and demographics. *Business Research*, 59(9), 999-1007.
- Palmer, J. W. (2002). Web site usability, design, and performance metrics. *Information Systems Research*, 13(2), 151-167.  
<http://dx.doi.org/10.1287/isre.13.2.151.88>
- Sekaran, U. & Bougie, R. (2010). Research methods for business: A skill building approach (5th ed.). Chichester: John Wiley & Sons Ltd.
- Seddon, P. B. (1997). A respecification and extension of the DeLone and McLean model of IS success. *Information Systems Research*, 8(3), 240-253.  
<http://dx.doi.org/10.1287/isre.8.3.240>
- Thomas, V. P., Delphine, S. C., Patricia, M. H., Ange`le, G. A. (2014). Sample size for pre-tests of questionnaires. Springer International Publishing Switzerland 2014, qual life res, doi 10.1007/s11136-014-0752-2.
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186-204.  
<http://dx.doi.org/10.1287/mnsc.46.2.186.11926>