

南華大學管理學院企業管理學系管理科學碩士班

碩士論文

Master Program in Management Sciences

Department of Business Administration

College of Management

Nanhua University

Master Thesis

邁向柬埔寨採用手機移動銀行之整合模式：前置，中介，及結果

Toward an Integrative Model of Mobile Banking Adoption in

Cambodia: Antecedents, Mediators, and Consequences

歐妮塔

Or Nita

指導教授：吳萬益 博士

廖英凱 博士

Advisor: Wann-Yih Wu, Ph.D.

Ying-Kai Liao, Ph.D.

中華民國 109 年 1 月

January 2020

南 華 大 學
企業管理學系管理科學碩士班
碩 士 學 位 論 文

邁向柬埔寨採用手機移動銀行之整合模式：前置、中介、及結果
Toward an Integrative Model of Mobile Banking Adoption in Cambodia:
Antecedents, Mediators, and Consequences

研究生：歐妮塔

經考試合格特此證明

口試委員：白純菁

紀信光

吳萬益

廖英凱

指導教授：吳萬益 廖英凱

系主任(所長)：莊東昇

口試日期：中華民國 108 年 12 月 10 日

LETTER OF RECOMMENDATION FOR ABT MASTERS

Or Nita, a student of NHU Master Program for Business Administration for 2 years, has completed all of the courses and theses required for graduation.

1. In terms of studies, Or Nita has acquired 27 credits, passed all of the obligatory subjects such as Research Method, Business Decision, Applied Statistics, Management Science etc. (Please refer to transcript)
2. In terms of theses, Or Nita has completed the following:
 - i. Master thesis : Toward an Integrative Model of Mobile Banking Adoption in Cambodia: Antecedents; Mediators; and Consequences
 - ii. Journal : International Journal of Management and Applied Science

I believe that Or Nita has already received full formative education of NHU Master Program for Business Management and is qualified to apply for Master's Degree Examination. Therefore, I hereby recommend his/her preliminary paper, Toward an Integrative Model of Mobile Banking Adoption in Cambodia: Antecedents; Mediators; and Consequences, for the oral defense.

Academic Advisor:



Date: 2019. 12. 02

ACKNOWLEDGEMENT

Today is the day of writing an expression and appreciation for the finishing touch on my thesis. I had been learning extremely since the time of beginning, not only in the scientific field, but also with an empirical measurement. Therefore, this dissertation has been influence on me and I would throw backing to the people who have engaged and helped me throughout this period.

Foremost, I would like to manifest wholehearted thankfulness to my advisor Professor WU WANN-YIH and Professor LIAO YING-KAI for consistently support of my master study and research. For the patience, motivation, enthusiasm, and immense knowledge of you both had helped me in all the time of research and writing of this thesis. Moreover, I would like extending thank to the rest of my thesis committees professor 紀信光 and professor 白純菁 for their encouragement, insightful comments, and significant questions to complete my graduation.

Data collection was a primary part of my master thesis. Thus, I also thank all the respondents who took part for providing me the feedback of my survey questions.

Last but not least, I would like to thank to my mother; family and friends for always supporting and motivating me. Particularly, gratefully expression to my sister Ao Bory for giving me this opportunity to graduate this degree. You all are my spiritually throughout my life.

Thank you very much, everyone!

OR NITA

January 6, 2020

南華大學企業管理學系管理科學碩士班

108 學年度第 1 學期碩士論文摘要

論文題目:邁向柬埔寨採用手機移動銀行之整合模式：前置，中介，及結果

研究生:歐妮塔

指導教授:吳萬益 博士

廖英凱 博士

論文摘要內容：

本研究旨在從科技接受模式(TAM)及價值增加模式(VAM)驗證影響柬埔寨消費者對採用行動銀行的重要因素。本研究首先就行動銀行採用行為來整合外部影響因素，如：口碑、信任、社會影響及社會規範。其次，著重在 TAM 理論所出的知覺有用及知覺易用，此二要素對於消費者採用行動銀行的態度及知覺價值有直接影響。第三，從 VAM 角度探討知覺犧牲中的知覺費用及技術如何影響知覺價值。第四，著重在知覺價值如何影響使用行動銀行之態度。最後，驗證外部利益、知覺利益、知覺價值、採用態度及採用行為之間的關係。二個干擾因子為知覺行為控制及知覺風險也進一步探討。本研究分為 2 階段進行：第 1 階段由一人利用網路問卷對 60 位行動銀行使用者及非使用者進行前測調查；第 2 階段蒐集了 253 份網路問卷。假設檢定採用 SPSS 及 PLS 進行。實證結果顯示本研究所提出之假設獲得支持，也再次確認這些因素是影響柬埔寨消費者對採用行動銀行的重要因素。本研究之結果可做為在採用新科技時之理論基礎，並提出了實證結果。此一結果對學術界及實務界都有相當參考之價值。

關鍵字: 行動銀行、科技接受模式(TAM)、價值增加模式(VAM)、外部影響、採用行動銀行之知覺行為控制、採用行動銀行之知覺風險

Title of Thesis: Toward an Integrative Model of Mobile Banking Adoption in Cambodia: Antecedents, Mediators, and Consequences.

Department: Department Master Program in Management Sciences, Department of Business Administration, Nanhua University.

Graduate Date: January, 2020

Degree Conferred: M.B.A.

Student: Or Nita

Advisor: Wann-Yih Wu, Ph.D.

Ying-Kai Liao, Ph.D.

ABSTRACT

This study tried to identify the crucial components for consumers' adoption of mobile banking in Cambodia by integrating the theory of Technology Acceptance Model (TAM) and Value-based Adoption Model (VAM). The purposes of this study firstly investigate the external influential elements such as word-of-mouth; trust; social influences and social norms for mobile banking adoption. Secondly, focus on TAM aspects such as perceived usefulness and perceived ease of use. These two parts of elements directly influence on attitude toward mobile banking and perceived value. Thirdly, focus on how VAM aspects of perceived sacrifice dimensions such as technicality and perceived fee which influence on perceived value. Fourthly, focus on how perceived value influence on attitude toward mobile banking. Moreover, to observe the relationships between external influence, perceived ease of use, perceived usefulness, perceived sacrifice, perceived benefit, perceived value, attitude toward mobile banking, and intention toward mobile banking in Cambodia. Two moderators: Perceived behavioral control, perceived risk toward using mobile banking are selected to investigate their moderating effects. The study was carried out in two stages: (1) In the qualitative study, 60 respondents from banking users and nonusers through online survey. (2) In the quantitative study, 253 data were collected from

Cambodia consumers by online surveys. The testing hypotheses in this study were used SPSS 23.0 software and the Partial Least Squares (PLS) software. This study outcome supported our hypotheses to confirm those important factors affecting consumers' adoption of mobile banking. This study's result has provided a theoretical foundation for new technology adoption and also provided empirical evidence to enhance mobile banking. These results are not only practical for professionals but also helpful for academics to investigate influential variables for mobile banking.

Keywords: Mobile Banking, TAM, VAM, External Influence, Perceived Behavioral Control, Perceived Risk Toward Using Mobile Banking



CONTENTS

LETTER OF RECOMMENDATION FOR ABT MASTERS.....	I
ACKNOWLEDGEMENT.....	II
中文摘要.....	III
ABSTRACT.....	IV
CONTENTS.....	VI
LIST OF FIGURES.....	X
LIST OF TABLES.....	XI
CHAPTER ONE	1
INTRODUCTION.....	1
1.1. Research Objectives.....	5
1.2. Research Structure	6
CHAPTER TWO	8
LITERATURE REVIEW	8
2.1 Theoretical Background.....	8
2.1.1 Theory of Reasoned Action	8
2.1.2 Technology Acceptance Model (TAM).....	9
2.1.3 Value-based Adoption Model (VAM).....	11
2.1.4 Perceived Risk Theory (PRT).....	12
2.2 Definition of Constructs.....	13
2.2.1 External Influence	13
2.2.2 Perceived Usefulness	14
2.2.3 Perceived Ease of Use (PEOU).....	14
2.2.4 Perceived Sacrifice.....	14
2.2.5 Perceived Value	15
2.2.6 Attitude toward mobile banking	15

2.2.7 Behavior Intention.....	16
2.2.8 Adoption.....	16
2.2.9 Perceived Behavior Control.....	17
2.2.10 Perceived Risk toward using mobile banking.....	17
2.3 Hypotheses Development	18
2.3.1 The Effect of External Influence on Perceived Usefulness, Perceived Ease of Use, Perceived Value and Attitude toward Mobile Banking	18
2.3.2 The Effect of Perceived Usefulness on Perceived Ease of Use and Attitude toward Mobile Banking	20
2.3.3 The Effect of Perceived Ease of Use on Attitude toward Mobile Banking and Perceived Value	21
2.3.4 The Effect of Technicality on Perceived Value.....	22
2.3.5 The Effect of Perceived Fee on Perceived Value	23
2.3.6 The Effect of perceived value on attitude toward mobile banking.....	24
2.3.7 The Effect of Attitude toward Mobile Banking on Behavior Intention	25
2.3.8 The Effect of Behavior Intention on Adoption.....	25
2.3.9 The Moderating Effect of Perceived Behavioral Control on the Relationship of Attitude toward Mobile Banking and Behavior Intention	26
2.3.10 The Moderating Effect of Perceived Risk toward Using Mobile .. Banking on the relationship of Attitude toward Mobile Banking and Behavior Intention	27
CHAPTER THREE.....	29
RESEARCH METHODOLOGY.....	29
3.1. Research Framework.....	29
3.2. Research Hypotheses	30

3.3. Sampling and Data Collection	31
3.4. Research Instruments	32
3.4.1. External Influence	32
3.4.2. Perceived Usefulness	34
3.4.3. Perceived Ease of Use.....	34
3.4.4. Technicality	35
3.4.5. Perceived Fee	35
3.4.6. Perceived Value	35
3.4.7. Attitude Toward Mobile Banking.....	36
3.4.8. Behavior Intention.....	36
3.4.9. Adoption Intention	37
3.4.10. Perceived Behavioral Control	37
3.4.11. Perceived Risk Toward Using Mobile Banking	38
3.5. Data Analysis Procedure	39
3.5.1. Descriptive Analysis	39
3.5.2. Reliability of the Measurement Variables	39
3.5.3. Hypotheses Testing Techniques	40
CHAPTER FOUR.....	41
RESULT AND DATA ANALYSIS	41
4.1. Descriptive Analysis	41
4.2. Response rates and Data Collection.....	41
4.3. Characteristics of Respondent.....	41
4.4. Measurement Results for Research Variables	43
4.5. Factor Analysis and Reliability Test.....	46
4.5.1. External Influence	47
4.5.2. Perceived Usefulness	49
4.5.3. Perceived Ease of Use.....	49

4.5.4. Technicality	50
4.5.5. Perceived Fee	51
4.5.6. Perceived Value	52
4.5.7. Attitude toward Mobile Banking	53
4.5.8. Behavior Intention.....	54
4.5.9. Adoption Intention	55
4.5.10. Perceived Behavior Control Moderator	56
4.5.11. Perceived Risk toward Using Mobile Banking Moderator.....	57
4.6 Result Analysis	58
4.6.1 Evaluation of the Measurement Model.....	58
4.6.2 Evaluation of the Structural Model.....	60
CHAPTER FIVE.....	63
CONCLUSIONS.....	63
5. Conclusions and Implications.....	63
5.1. Conclusions.....	63
5.2. Academic Implications	65
5.3. Managerial Implications	67
5.4. Limitations and Future Research Directions	68
REFERENCES.....	70
APPENDIX Questionnaire	93

LIST OF FIGURES

Figure 1- 1 The conceptual framework of this study	6
Figure 1- 2 Research flow	7
Figure 2- 1 Theory Reasoned Action	9
Figure 2- 2 Technology Acceptance Model (TAM)	10
Figure 2- 3 Value based Adoption Model (VAM).....	12
Figure 3- 1 Research Framework.....	29
Figure 4- 1 Structural Model.....	60



LIST OF TABLES

Table 4- 1: Characteristics of the Respondents.....	42
Table 4- 2: Characteristics of the Respondents (Continued)	43
Table 4- 3: Frequency experience on using Mobile Banking (N: 253)	43
Table 4- 4: Descriptive Analysis for Questionnaire Items.....	44
Table 4- 5: Descriptive Analysis for Questionnaire Items (Continued)	45
Table 4- 6: Descriptive Analysis for Questionnaire Items (Continued)	46
Table 4- 7: Results of Factor Analysis and Reliability Test of External Influence	48
Table 4- 8: Results of Factor Analysis and Reliability Test of Perceived Usefulness	49
Table 4- 9: Results of Factor Analysis and Reliability Test of Perceived Ease of Use	50
Table 4- 10: Results of Factor Analysis and Reliability Test of Technicality.....	51
Table 4- 11: Results of Factor Analysis and Reliability Test of Perceived Fee ..	52
Table 4- 12: Results of Factor Analysis and Reliability Test of Perceived Value	53
Table 4- 13: Results of Factor Analysis and Reliability Test of Attitude toward Mobile Banking.....	54
Table 4- 14: Results of Factor Analysis and Reliability Test of Behavior Intention.....	55
Table 4- 15: Results of Factor Analysis and Reliability Test of Adoption Intention.....	56
Table 4- 16: Results of Factor Analysis and Reliability Test of Perceived Behavior Control Moderator	57

Table 4- 17: Results of Factor Analysis and Reliability Test of Perceived Risk toward Using Mobile banking Moderator..... 58

Table 4- 18: Evaluation of the Measurement Model 59

Table 4- 19: Evaluation of Structural Model and Hypothesis Testing 62



CHAPTER ONE

INTRODUCTION

Information Technology (IT) has been growing rapidly for the last decade. IT has not only brought a lot of benefits for people in every feature of life, but the advancement of IT also urged users' ability to adapt to new technology. This challenge was also indicated as Digital (Huda et al., 2019). He indicated that continuous technology development with fast speed has caused customers unable to adopt. In particular, this technology advancement influences on every feature of the society, especially in obtaining information. With the growing power of information technology, mobile technology has provided new potential opportunities for marketing functions, especially in the financial industry. Zhao et al (2019), argued that in the banking industry, the services and operations had been experienced to innovate for decades to foster and advance with modern technology. Thus, banking services have rapidly developed to adapt to the change of the current market based on customer perspective by creating new innovative services and to ensure a competitive advantage.

Nowadays, the expansion of mobile technology is one of the most significant phenomena of electronic telecommunications across the world. Consumers can use it for implementing on banking, payment, shopping, etc. throughout accessing the internet. Moreover, in this era, the internet is the primary key to foster the revolution of mobile banking innovation. It assists banks to provide financial services such as balance inquiry, transfer money by account, payments, etc. The common use of mobile banking is performed through the internet of mobile phones. It normally has two options by download the bank's app or browses via the bank's web on the mobile phone. Mobile banking services have offered convenience to customers without spending money and time directly

to the bank. It offers a chance for banks to enlarge market incursion through mobile services (Khan et al., 2019). Sharma and Al-Muharrami (2018) argued that the number of mobile banking service users is still squat in the developing economies, and the use of the application in consumers' mobile phone is underused. For instance, even though there are ATM or internet banking (Chuang, 2019), mobile phones are still not widely used and adopted in mobile banking services.

Particularly, Cambodia is a developing country and according to the source from World Bank, Cambodia's economic growth has been strong over the last two decades and it just has been shifted status from low to lower-middle-income in 2015. On the other hand, on June 17th, 2016 Phnom Penh Post issued a report with the title of "Opportunities and A Challenges Lay Ahead in Cambodia's Shift to Digital". In this report, it is argued that "A paltry 40,000 people in Cambodia have adopted credit cards, and while the uptake of debit cards is better with approximately 1.5 million people in possession of bank cards and the popularity of the plastic in a country with 15.5 million people is the microscope." This statement arrayed the proportion of users is low compared to the developed countries, for instance in Southeast Asia like Singapore. In spite of this cashless amount, users are tiny figure, the electronic payments and transactions in Cambodia is still growing rapidly, which get to the point of crucial dollar bills in these recent years. National Bank of Cambodia (NBC) also issued the new Prakas (regulation) which is "Prakas on Membership of Fast System and Central Shared Switch" to all banks to promote mobile banking. This regulation needful banks to promote and innovate the new technology about mobile banking with free usage to the customer and make it compulsory by 2018. To promote financial conclusion, reduce the use of cash in the market, and to correspond the demand for ASEAN integration. These interventions lead to a change in the financial landscape of all

the commercial banks and enable consumers to adapt to modern times and current technology.

According to the Supervision Annual Reports (2016) from the National Bank of Cambodia, Cambodia has commercial banks 37; specialized banks 15 and microfinance institutions 71 and there are very few banks that have been actively involved with e-banking space. However, this industry has been challenging very hard in recent years for the reason that the system can move very fast through technology and banking evolution, as well as a large percentage of the population, has a smartphone that can access the internet in Cambodia. The financial or relevant managers in the bank field are proactive to figure out the right solution to improve their service on mobile banking and rise the amount of using mobile banking.

Moreover, As Menon and Fink (2019) mentioned that Technologies of the fourth industrial revolution are the transformative effect of ASEAN countries to take action on the policies and priorities at a state ranking. It could bring many opportunities for the countries under developing to get out of traditional phases of industrial development. For instance, mobile banking and online services reduce the demand to create networks of traditional bank branches (Menon & Fink, 2019).

Following the theory of Technology Acceptance Model (TAM), (Davis et al.; 1989), this study recognizes “perceived usefulness” (PU) and “perceived ease of use” (PEOU) as the crucial factors to promote technology adoption (Sakala & Phiri, 2019). Therefore, these two elements basically take part to study the attitude customer on using mobile banking. In the previous study, attitudes are considered as a customer behavior which impacts on behavioral and reality intention (Sakala & Phiri, 2019). Consequently, this research will move upward to study the influences of consumer’s attitudes toward mobile banking service. Le et al. (2018) stated with a better understanding of the original TAM variables (PU & PEOU),

managers can balance between new technology and customer's acceptance of the banking system.

Malaquias and Hwang (2019) examined a mobile banking adoption as new Information and Communication Technology (ICT), from both customer and technology viewpoints, they argued that in addition to the TAM perspective, individual customers tend to maximize value and preference. Thus, mobile banking may reinforce customer preference first and then transform it. For example, mobile users tend to see something new and exciting banking services on their mobile/internet platforms, such as transfer account, withdraw money without plastic card; top up a prepaid card and payment services. These are all convenient ways to bring their behavior of using a banking app. This phenomenon, the value-based model (VAM) was the element for studying on the technology adoption and value to perceive consumers' adoption of mobile technology.

VAM is developed to predict new technology adoption by using perceived sacrifice and TAM is a robust framework to comprehend the consumer's adoption of technology in a variety of themes including E-banking and mobile banking technology (Yu et al., 2019; Isaac et al., 2018). It seems that both TAM and VAM perspectives are essential to evaluate customer's mobile banking adoption behaviors.

Therefore, this study proposes to integrate TAM and VAM to provide a more understandable model of mobile banking adoption. Furthermore, two mediators (attitude toward mobile banking and behavior intention) and two moderators (perceived behavioral control and perceived risk toward using mobile banking) are also investigated in this study to understand their moderating effects on customer's adoption on mobile banking in Cambodia. Moreover, these four variables are the element keys for getting more comprehensive of the term for using mobile banking.

This study claims two main point contributions, firstly, the study offers an idea of some factors influencing the adoption of mobile banking services in Cambodia. By identifying those factors, it is expected to help Cambodia banks to set out a better strategy to further develop an innovative product for customers like mobile banking following recent demand. Secondly, the study is also contributing in terms of improving the literature available on mobile banking. Thirdly, there are limited studies for mobile banking in Cambodia. Therefore, this study is expected to discoverable for the research in exploring this matter.

1.1. Research Objectives

According to the above discussion, this study aims to collect data of banking users or nonusers who use the internet with a mobile phone, especially the mobile application that uses for banking. The objectives of this research study are as follows:

- To investigate the effective factors of consumers' adoption of mobile banking in Cambodia
- To understand the effective factors influence consumers' adoption of mobile banking.
- To investigate moderating effects of perceived behavioral control, and perceived risk toward using mobile banking.

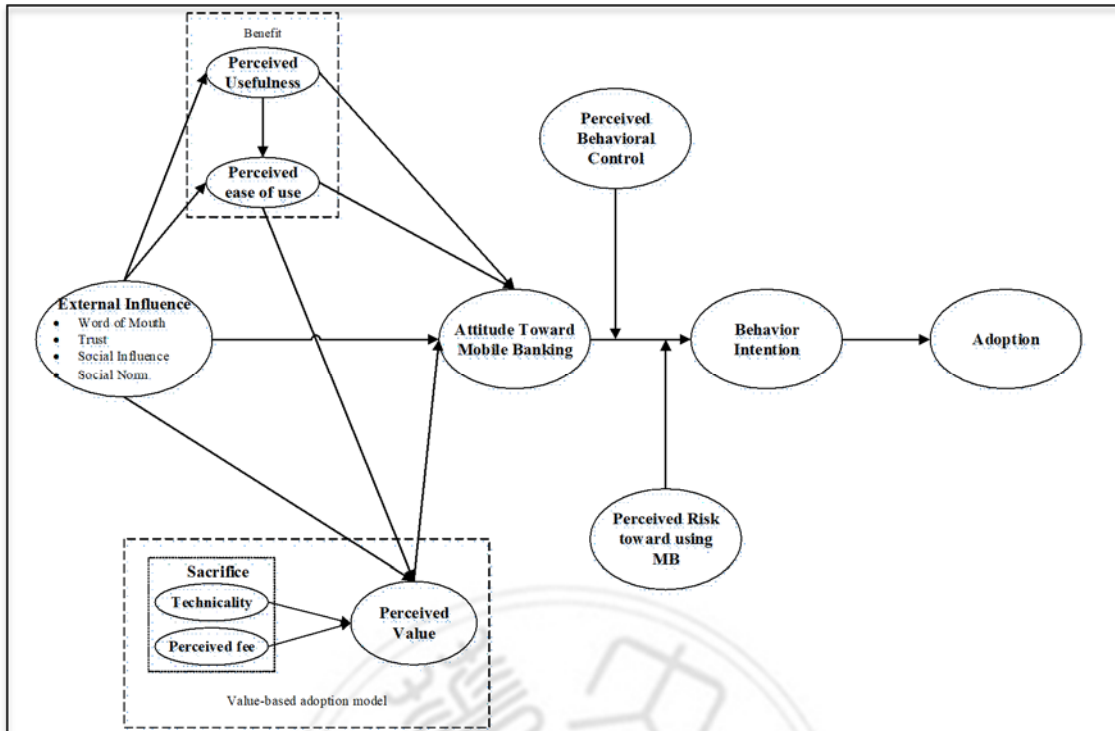


Figure 1- 1 The conceptual framework of this study

Source: Original study

1.2. Research Structure

This thesis consists of 5 chapters.

Chapter one indicated the research background and motivations, research objectives and research structure.

Chapter two indicated the literature review, such as the research variables definition, the theoretical formation evaluation, and the research hypotheses development.

Chapter three indicated the research design and methodology. The model of research was illustrated. The design of research contains (1) smart PLS and (2) survey were given. Particularly, the scales of measurement, data collection procedure, sampling plan and data analysis procedure for each study were presented in this chapter.

Chapter four presented the results of the statistical and descriptive results, including data collection, basic information of respondents, descriptive statistics of research items, and factor analysis. After that, the results will combine with each hypothesis which also is presented in this chapter. There are four kinds of method research will be used to examine hypotheses

Chapter five: Conclusion

The summary of the thesis will be indicated in this chapter. Based on results, suggestions and future research will be discussed.

Data analysis and hypotheses will be analyzed by technique:

- Descriptive Statistics Analysis
- Factor Analysis and Reliability Check
- Hierarchical Regression
- Smart PLS

The flow chart of this study may be shown in the figure below:



Figure 1- 2 Research flow

Source: Original study

CHAPTER TWO

LITERATURE REVIEW

This research study consists of three sections. The first section is the theoretical background whereas it defines the theory such as Theory Reasoned Action (TRA), Technology Acceptance Model (TAM), Value-based Adoption Model (VAM) and Perceives Risk Theory (PRT). The second section is the definition of research constructs. The Last section is hypothesis development.

2.1 Theoretical Background

2.1.1 Theory of Reasoned Action

Theory of Reasoned Action (TRA) was elaborated by Fishbein and Ajzen (1975) and is one of the most popular theories for researchers to look into human behavior (Fisher et al., 2013). Figure 2-1 indicates the framework of TRA.

The most common factor to predict behavior is behavioral intention. It is defined in people's behavior by the intention to implement action. Two more factors which influence the behavior intention are subjective norm and attitudes of consumers. Subjective norm is related to the normative belief that a person obeys and expects from other people, including friends or family (Fishbein & Ajzen, 1975), these people like consumers buy it or not. The effect of the subjective norm to the behavioral intention of consumers relies on the support level, resistance to the buy of the user and the user's reason do base on the desire of those affected. The extent of the effects which involve with behavioral intention and motivations of consumers, those relative are two primary elements to assess subjective norm. Summers and Abd-El-Khalick (2017) defined that attitude is the belief of actual objects which causes the intention of the act. Attitude is considered to the attitudinal belief that reacts a behavior and leads to a specific result (Mishra et al., 2014). In the TRA model, customers' beliefs about the product or brand will

influence their attitude toward behavior, which further influences behavioral intention preferably on direct behavior. Having said that, there is still a limitation for the previous study of this theory. There is an unclear analysis option in any circumstances by Fishbein and Ajzen. TRA specified the behavior of an individual by under control of the willingness and the individual intention is measured by the complete information within completely certain (Paul et al., 2016), and these assumptions rarely happen in the real situation. Moreover, TRA focus on individual behavior identification. However, in reality, people face deciding between many options of an act such as image; type; size; color. These restrictions limit the application of this theory to certain acts (Paul et al., 2016).

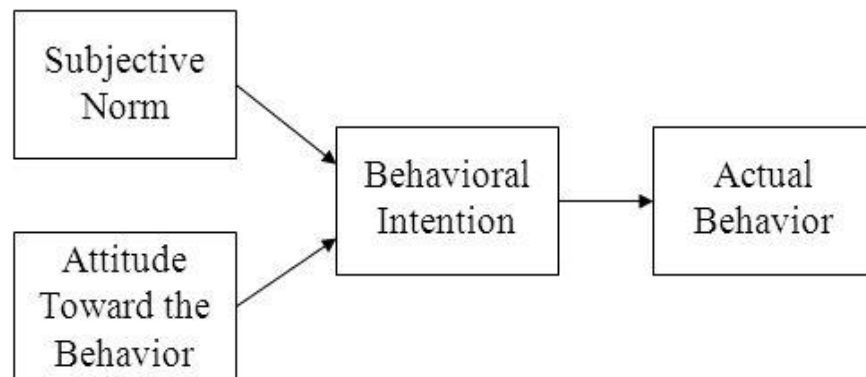


Figure 2- 1 Theory Reasoned Action

Source: Fishbein and Ajzen (1975)

2.1.2 Technology Acceptance Model (TAM)

The first introduction of the Technology Acceptance Model was Davis (1986) and it was explained and predicted from the Theory of Reasoned Action (Yoon, 2018). Figure 2-2 shows the framework of TAM. The TAM model is the primary explanation of acceptance of Information Technology usage. It is an information systems theory that illustrated the consent of using new technology (Munoz-Leiva et al., 2017). Moreover, TAM is the direct intention of the

individual on using technology and deciding factor of behavior (Maqbool, 2018). Two major factors affect an individual’s intention for using technology such as “perceived usefulness” and “perceived ease of use”. Mohd Thas Thaker et al. (2019) defined perceived usefulness as the belief of using new creative on technology could enhance the daily performance. Besides, perceived ease of use is defined as the belief of using the technology conveniently and there is no complexity (Selvanathan et al., 2017). These two factors are assumed as the crucial role which causes consumers to adopt new technology. Also, the perceived usefulness and perceived ease of use are the basic components for many creators on new technology that using them to get people’s adoption (Cakır & Solak, 2015). Furthermore, the actual System has a relationship with behavioral intention when the intention is a crucial factor in actual System use (Davis, 1989). However, TAM has its restriction to describe the new technology adoption such as mobile banking (Kim et al., 2007). For example, the fee of using mobile banking is the basic matter whereas the users will evaluate between cost and benefit. It is generally determined as the balance between total benefits be given and total sacrifices. Thus, this research intends to examine mobile banking adoption from the users’ perspective and not only from the technology user perspective but also concern about the value point of view. A value-based model would compare monetary sacrifice and adoption as costs and benefits (Kim et al., 2007).

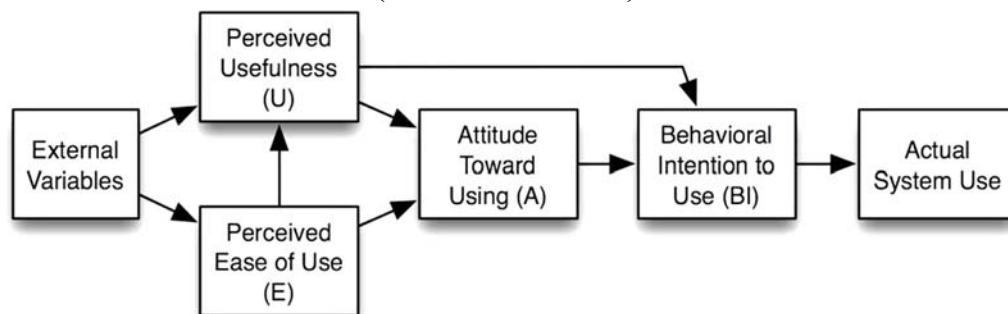


Figure 2- 2 Technology Acceptance Model (TAM)

Source: Davis (1986)

2.1.3 Value-based Adoption Model (VAM)

Value-based Adoption Model (VAM) was developed from TAM to strengthen the weaknesses and indicate the new technology adoption such as mobile banking (Kerviler et al., 2016). VAM was presented by Kim et al. (2007) and was asserted that TAM (Davis, 1989) had its limitation in illustrating the new technology acceptance. The users of new technology not only recognize as simply technology users but also as ‘consumers’ (Kim et al., 2017). Figure 2-3 shows the framework of VAM. By considering value maximization, VAM is considered as the maximization value to offer a normal and straightforward model in predicting mobile banking adoption. According to Kim et al., (2007) adoption intention is predicted through perceived value. Perceived value is a balance between benefit and sacrifice. They are the primary factors that are constructed by VAM. The benefits consist of usefulness and enjoyment, while sacrifice includes technicality and perceived fee. Besides, benefit not just only for consumers to gain the advantages and experiences but somehow it is a wonderful and joyful experience. For sacrifice means consumers have to spend on using new technology not even monetary or non-monetary such as money; time; effort; and try. Apart from monetary cost, perceived risk is the basic obstruct to widespread on using new technology (Pelaez et al., 2017), especially in mobile banking (Isaac et al., 2018) because the users could feel an insufficient sense of value and convenience obtained from mobile banking due to the possible mislay. Previous researches have also pointed out that perceived risk was negatively influenced on value perceptions (Wu & Li, 2018).

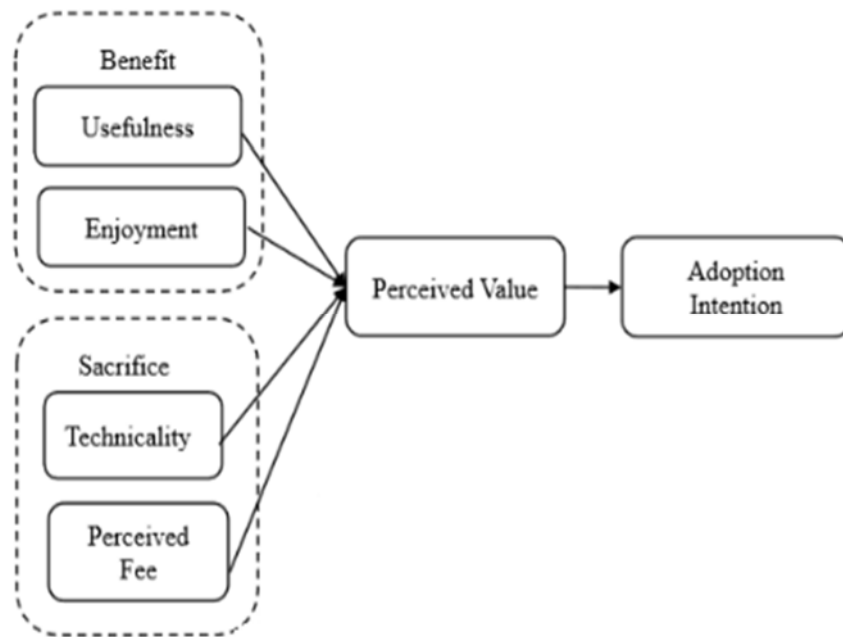


Figure 2- 3 Value based Adoption Model (VAM)

Source: Kim et al. (2007)

2.1.4 Perceived Risk Theory (PRT)

Perceived Risk Theory was presented firstly by Bauer (1960) in the marketing concept but a very wide level. Perceived risk has different research tradition and many authors ignored the prevalent construct in the stage of the buying process (Lafraxo et al., 2018). Pelaez et al. (2017) stated that failed purchase came from performance and the interrelationship of social factors; individual thought and behavior. Perceived risk is a part of consumer buying behavior. The types of buying behavior have four categories (Kotler & Armstrong, 2010), including complexity; habitual; dissonance-reducing and variety-seeking behavior. Complex buying behavior is described as involvement and there were differences between brands. Dissonance-reducing buying behavior characterized by maximizing involvement. The consumer lessens the involvement and lowers

the degree of brand difference is the habitual buying behavior. While consumer involves low but remarkable on brand differences is the variety-seeking behavior.

In mobile banking terms, perceived risk is the insecurity of using mobile transactions. Thus, users would concern about risks of privacy subjection or information release in transaction services (Abbas et al., 2018). The marketers can use perceived risk theory to encourage consumer issues or need identification (Hoque et al., 2019). This is completed through the use of urgent request based on the risk or loss types which are perceived by users.

2.2 Definition of Constructs

2.2.1 External Influence

According to Venkatesh et al. (2003), there are 4 dimensions of an external influence such as social influence, trust, social norm and word of mouth. Social influence is the individual consciousness of a person who is important with him/her and hope that the use of a new system will bring benefit to him/her (Beyari & Abareshi, 2018). A social norm is explained as the individual perception of important people whether or not to carry out the behavior in the query (Fishbein & Ajzen, 1975). Trust is referred to the individual readiness endanger to fulfill a demand without any experience or convincing, meaningful information (Raza et al., 2018). Trust is defined as an important factor for adopting mobile services (Afshan & Sharif, 2016; Hanafizadeh et al., 2014). Word of mouth is an efficient element for unpaid communication on a product or service (Mukerjee & Shaikh, 2018). It has got attention from many scholars and managers for studying. Words of mouth do not include official communication from consumer to company, for instance, customer's complaints or suggestions.

2.2.2 Perceived Usefulness

Perceived usefulness (PU) is defined as the advantages whereas consumers obtain from the activity of using a new technology system which is developed on mobile banking platform and must be improved generally to enhance the quality and easily use for the user (Davis, 1989). Therefore, this trend increased the intention of mobile banking. When consumers perceive their benefits on a technology tool, they possibly attempt to use technology daily and become real customers (Isaac et al., 2018). For instance, mobile banking leads to the user with crucial benefits and improve their performance for daily tasks. Davis (1989) stated that perceived usefulness is an origin that users believing in a positive way to perform on mobile banking. Thus, the TAM model is applicable to use mobile banking.

2.2.3 Perceived Ease of Use (PEOU)

Perceived ease of use is commonly variables of the TAM model which directly impacts consumers in using new technology. Perceived ease of use is defined as “the degree an individual believes that using a particular system would be free of effort” (Davis, 1989). Ease of use is demonstrated as a crucial variable that influences consumers’ level of adoption on new technology (Mutahar, 2018) because of the complication and difficulty of using mobile banking (Cakır & Solak, 2015). Some studies specified the convenience to use new technology is the main element among other variables that influence on mobile banking adoption (Malaquias & Hwang, 2019). It is reasonable to show that the more convenient to use of new technology, the greater the adoption level.

2.2.4 Perceived Sacrifice

Sacrifices refer to the refusal elements of the perceived value of products or services (Yang et al., 2016). Perceived sacrifices are not only monetary but also nonmonetary (Komlan et al., 2016). Generally, non-monetary is a cost such as

time, effort and other unsatisfactory which spend on a product's purchasing and use (Dirisu et al., 2018). Two components proposed in this study such as perceived fee and technicality (Lau et al., 2019). Lichtenstein et al. (1993) defined the perceived fee as the price in economic expend that a human abandons for changing goods or services (Wang et al., 2018). For instance, mobile banking, the fee that users need to spend and cause a negative influence on consumers' adoption. According to Wang and Wang (2010), technicality is the level that a person assumes that using mobile banking would spend in physical and mental effort. Mainly, the mobile phone has innovated mostly from day to day with new technology into the smartphone and the connection such as wireless internet could help consumers to use easily. The adapters on mobile banking believe that it could offer a simple and convenient application system.

2.2.5 Perceived Value

Perceived value is explained as the perception between the advantage and cost of consumers spend on products or services (Zeithaml 1988). Zeithaml (1988) also commented that the cost which spends out is got benefit based on user's perception of whether they obtain and make the decision over the evaluation of the user's utility of the product or service. Having said that, the best product or service occurs with the positive belief of consumer; possibly effort of excitement and utility when consumers believe that the benefit is obtained consistently on product or service.

2.2.6 Attitude toward mobile banking

Attitude is defined as an observer's assessment of persons, objects, and issues (Ajzen & Fishbein, 1980). Some scholars argued that behavior may not be based on attitudes but on behavior that influences behaviors. Attitude act as a key-value is a reason for its functionality. Attitude is an essential factor that leads to perception, information process, and behavior (Sharma, 2017). Overall, there are

three dimensions of attitude: passionate, information figure, and change resistance (Culbertson, 1968). Davis identified attitude as a way to cross in the cognitive process to receive new technology when TAM was developed. Furthermore, the attitude of consumers toward technology is set by two factors (Zhou et al., 2019). Perceived ease of use and perceived usefulness. This study intends to observe the relationship between attitude and perceived ease of use, perceived usefulness, and forecast an individual's intent on using technology. De Leon. (2019) stated that each consumer's attitude towards mobile banking will be higher when the devices are fine and joyful which leads to an impact on their intention to use. Sharma. (2019) convinced that attitude is crucial for taking part in an activity that brought to the intention of use regarding its customers.

2.2.7 Behavior Intention

Behavioral intention is explained as the purpose of the user to react in the outlook which shaped straightforward to get access and use of products or services (Sharma, 2017). A purchase attempt is an ultimate action which formed in advance for deciding to buy a product or a service (Mohamed, 2019). For mobile banking, the intention of consumers is an element that all the banks desire customer towards mobile banking, by spreading information to the customer attempt strongly and make sure they are positively intention toward mobile banking. In TAM research, this element has been mentioned in many previous studies.

2.2.8 Adoption

Adoption intention is proposed and came after the intention to use by Davis et al., (1989). Previous research (Zeithaml & Bitner., 2000) discovered that when a value to the max with attributed in an identified service, the behavioral intention to use the product or service will be better in the time ahead. Kim et al. (2007) illustrated in value-based adoption of mobile banking that the highest value enlarges mobile banking adoption. Besides, many researchers who studied with

empirical to form an idea of behavioral intention in the theory of behavioral and technological were only focused on adoption as a unique behavior (Shareef et al., 2018). Therefore, the behavioral intention will influence adoption intention.

2.2.9 Perceived Behavior Control

Perceived behavioral control is the beliefs of an individual that an exact behavior is convenient or hard to carry out, also the capability is perceived to cause a good result when agreeing on the behavior (Ajzen, 1991). There are inner and outer factors which influence these faiths. The inner factor refers to self-efficacy, which is one's belief in own ability to pledge on the behavior (Hong, 2019). The outer factor refers to easy conditions, which is one's perception of the obtainable assets, such as a dependable data connection which needed to engage in the behavior (Ahmadi Danyali, 2018).

2.2.10 Perceived Risk toward using mobile banking

In perceived risk concept is referred to the degree of risk perception of users when deciding to purchase products or services (Mohd Thas Thaker et al., 2019). Pelaez et al. (2019) illustrated that the perceived risk concept is related to unclear the loss of sale and purchase transactions such as finance, performance, social, psychological, security and time. Pelaez et al. (2019) offer that risk perceptions are individual thoughts about examining losses, with two involvement factors is the uncertainty and negative upshot. Shirazi and Puts (2019) stated that the risk conception relevance is the option of acts that carry out of acts whereas bringing different outcomes than expected. Having said that, in using mobile banking, consumer behavior pays attention to potential results but negative (Manser Payne et al., 2018). Besides, in mobile banking, the perceived risk could lead to negative effects on user's adoption of new technology such as mobile banking (Mutahar et al., 2018). Gumussoy et al. (2018) discovered that perceived risk moderates the effect of incongruity on assessments and that favorites for incongruity would not

show when risk is high. Therefore, the consumers' beliefs and satisfaction are established with lower stability when their perceived risk is at a high level (Tuu et al., 2011).

2.3 Hypotheses Development

2.3.1 The Effect of External Influence on Perceived Usefulness, Perceived Ease of Use, Perceived Value and Attitude toward Mobile Banking

For many studies related to TAM, their external elements (antecedents) are varied. The antecedent which influences on mobile banking for this research study is the social norm, social influence, trust and word of mouth. Mehrad and Mohammadi (2016) determined social norms as the simple beliefs in the total set which are expected by potential people. Consumers could be influenced by the social norm for creating a preference image in a group mentioned (Blay et al., 2019). Therefore, social norms are still validated for many studies on mobile banking adoption. Mohd Thas Thaker et al., (2019) and Chitungo and Munongo, (2013) also supported that social norm is a key inaccuracy for researching in mobile banking. Moreover, they also added that social influence is the factor in the adoption model. Social influence is the element of the Unified Theory of Acceptance and Use of Technology (UTAUT) and UTAUT is developed from Social Influence Theory, Perceived Risk Theory, Trust Theory, Theory of Reason Action and TAM (Baptista & Oliveira, 2015). Social influence is an antecedent that is directed to behavior intention (Venkatesh et al., 2003) and human behavior is affected by the group of people whose close relationship gives worth on using mobile banking (Oliveira et al., 2014). According to Afshan and Sharif (2016), trust was recognized as a fence to adopt mobile services such as mobile banking. It causes the problem on consumers' option to adopt mobile banking because people concern about the privacy and secrecy which manage information offered

by banks (Mazhar et al 2014). There is evidence that, compared to traditional banking, when mobile banking becomes the awareness of a relationship with higher risk, individual trust in services will be assumed as an important factor in using mobile banking Kim et al., (2009). Mehrad and Mohammadi (2016) recognized that word-of-mouth has a better effect on consumer behavior than advertising or promotion. For instance, Hogan et al. (2004) and Nouri (2019) illustrated that word of mouth can effectively more than advertising. Thus, word of mouth is a key in connection to promoting a product or service and it's a popular factor for many studies in mobile adoption (Nouri, 2019).

These antecedents of external influence impact on perceived value. In the mobile banking theme, when the consumers are seeking more detail about services, they would have checked with the platform and the comment from existing users. If those details are helpful, it will raise their perceived value (Karjaluoto et al., 2019; Kamtarin, 2012). Venkatesh et al. (2012) stated that social influence is the extension of consumers' perception from their friends, family or influence people who offer to use new technology. Guenzi et al. (2009) discovered that trust is also a part that effects on perceived value. Lim (2015) found that word of mouth is positively impacted customer perception.

In conclusion, researchers have formulated different models and theories for mobile banking adoption such as social norm from theory of reasoned action (Fishbein & Ajzen, 1975); social influence from UTAUT theory (Venkatesh et al., 2003); Trust from trust theory (Castelfranchi & Falcone, 2010) and words of mouth (Martensen & Grønholdt 2017). In this study, we will try to examine the effect of external influence on the relationship between perceived usefulness, perceived ease of use; perceived value and attitude toward mobile banking. So, we can propose the following hypotheses:

H1: External influence will positively influence on perceived usefulness.

H2: External influence will positively influence on perceived ease of use.

H3: External influence will positively influence on perceived value.

H4: External influence will positively influence on attitude toward mobile banking.

2.3.2 The Effect of Perceived Usefulness on Perceived Ease of Use and Attitude toward Mobile Banking

Previous studies show a strong relationship between usefulness and ease of use of new technology. When the innovation on technology is convenient to use, the benefit of performance will be raised as expected (Alalwan, 2016). This relationship was proved in the technology theme such as mobile banking (Shaikh & Karjaluoto, 2015). The perception will positively advance on attitude towards when the users of mobile banking are met and interact and they accept that it is convenient to use (Hanafizadeh et al., 2014). Many research used the model for applying technology to discover the effectiveness factors on mobile banking adoption, they proved that perceived ease of use and perceived usefulness are the crucial factor in awareness on the consumer. The result proved that it has a positive effect on perceived usefulness to perceived ease of use (Hanafizadeh et al., 2014). When consumers are well aware of using mobile banking and realize that it is convenient to use or explore, it will bring benefits for them such as time reduction, money, and effort (Zhou, 2018). Moreover, when the perceptions are set up, consumers' attitude toward mobile banking will be positive, which further enhance the ability to perceived mobile technology in the banking field. Besides, a few studies have directly indicated the impact of perceived usefulness on perceived ease of use because of some factors' effectiveness (He et al., 2018; Brown et al., 2010; Hallegatte & Nantel, 2006). Regarding to the research of Pikkarainen et al. (2004), about TAM implication in Finland, they found that

perceived usefulness determined on consumer's actual behavior. It inspired modern banking users to get more creative on new technology and use wisely on self-service which provides the user with a better performance in banking operations. Having said that, there is an argument from Sharma (2019) that perceived usefulness offered the services by banking such as balance inquiry, transfer money and make payment. Thus, the following hypotheses are developed:

H5: Perceived usefulness will positively influence on perceived ease of use.

H6: Perceived usefulness will positively influence on attitude toward mobile banking.

2.3.3 The Effect of Perceived Ease of Use on Attitude toward Mobile Banking and Perceived Value

Mehrad and Mohammadi (2016) defined that perceived ease of use is a part of attitude towards performance. For instance, when the perception of benefit is going low, the attitude of the user will tend to low on adopt new technology because of the insufficient benefit as expected. Consumers seem to perceive mobile banking as convenient to use if it has a great interface which leads to being positively on attitude towards mobile banking (Mehrad & Mohammadi, 2016). Recent researches proved that perceived ease of use influence on consumer attitudes toward and adoption of electronic applications (Lee & Chang, 2011; Nassuora, 2013; Chong, 2013; Hsu et al., 2014; Sun & Chi, 2018; Chi, 2018). Supporting this statement, Revythi & Tselios (2019), also indicated that perceived ease of use affected consumer attitudes toward the use of mobile services positively.

In decades, there are many studies revealed that perceived ease of use has notable effects on usage intention not even direct or indirect (Guriting & Ndubisi, 2006; Hernandez & Mazzon, 2007). Wang (2014) defined the information system as providing customers with services using wireless networks and portable devices.

For instance, mobile banking provides consumers with punctual and personalized information and services in a convenient way. It helps users enhance work performance and complete tasks anytime and anywhere (Maulana et al., 2019). With the enhancement of customization and personalization mobile devices, they are convenient to adopt. Thereby, mobile banking could provide extra advantages to consumers (Hong, 2019) and advance users' value (Mohd Thas Thaker et al., 2019). Thus, the following hypothesis is developed:

H7: Perceived ease of use will positively influence on attitude toward mobile banking.

H8: Perceived ease of use will positively influence on perceived value.

2.3.4 The Effect of Technicality on Perceived Value

Based on Kim et al., (2019), technicality is the perception of the technical difficulty of mobile internet which giving services such as recognition convenient to use and the reliability of the system. Nowadays, many smartphones are advanced by including more functions, the capacity of data processing and giving fast connection with the Internet to push consumers using rapidly. For instance, mobile banking adopters tend to believe that mobile banking could provide a simple and easy system to interact for banking performance more convenient for them (Hong, 2019). For new users, convenient to use is the primary factor (Mehrad & Mohammadi, 2016). The difficulty to use innovative and new mobile banking applications has a negative influence on customer perception. In the context of mobile banking, users could confuse the exact steps to perform completely in the transaction (Suoranta et al., 2005). Moreover, time, effort, convenience and psychological are non-monetary costs (Pelaez et al., 2017). In the theme of mobile banking, time costs were loaded and response time (Raza et al., 2019) and ease of use are effort costs and connectivity is convenience cost (Mehrad & Mohammadi, 2016). Psychological factors including internal argument, feeling upset,

depression, discomfort, anxiety, tension, annoyance, mental fatigue are also important for the customers to perceived value toward using mobile banking. All of these non-monetary costs are merged with the system's technicality. While Kim et al. (2007) illustrated that technicality is significantly influence on perceived value, there is an argument from Setterstrom et al. (2013) and Wang et al. (2013) who discovered that technicality is insignificant influence on perceived value. As these previous studies commonly utilized the technology adoption model and there were inconsistent conclusions about the antecedents of the Value-Based Adoption Model (Hasan et al., 2018). Therefore, this study will raise more effect of a technicality on perceived value. Thus, the following hypothesis is developed:

H9: Technicality will negatively influence on perceived value.

2.3.5 The Effect of Perceived Fee on Perceived Value

The perceived fee is explained as the high-priced that consumer thinks about using an online content service (Kim et al., 2007). The consumer behavior intention on new technology is affected by the value they got which is perceived fee (Zeithaml, 1988; Cheong & Park, 2005). The differentiation shall be made in case the value they receive from mobile banking to the costs that occurred. If the perceived value is higher than the perceived cost, then a purchase attempt will occur (Kim et al., 2019). In contrast, if the value to the bottom, they will reject service. In the context of mobile banking or service providers need to pay attention to the balance between costs and value that consumers perceived. The costs are not only monetary but also non-monetary factors (Chong et al., 2012; Kim et al., 2007). Previous studies often applied consumer's perception of fees to compute consumer's monetary sacrifice. Refer to Wang et al. (2013), the perceived fee is the monetary sacrifice that users pay for online content service. Similarly, Kim et al. (2007) used the perceived fee as the monetary sacrifice for the mobile internet. There are some arguments raised that perceived fee has a negative impact related

to perceived value (Chu & Lu, 2007; Kim et al., 2007). Therefore, we will find out more about the effect of perceived fees on perceived value in this study. Thus, the following hypothesis is proposed:

H10: Perceived fee will negatively influence on perceived value.

2.3.6 The Effect of perceived value on attitude toward mobile banking

The value is a crucial factor that gets from the consumer's perspective in further involvement of the user in a certain transaction. Mobile banking is a form of interchange whereas the users spend time collecting information from, and enjoying to use (Komulainen & Saraniemi, 2019). The benefits must be greater than the costs to strengthen a relationship itself. For mobile banking interface, the users perceive to be useful and easy to use while attitude toward mobile banking is a favorable or unfavorable response to a particular mobile application (Komulainen & Saraniemi, 2019). Woodruff (1997) and Lee et al. (2014) stated that perceived value is a crucial factor that impacts the option of users choosing a convenient way to get what they want with preference perception and exact assessment on a product or service. Moreover, attitude is a crucial factor for getting an evaluation of consumers in a product (Ajzen, 2001; Hsu & Lin, 2016). Hajiha et al. (2014) indicated that once perceived value gets higher, the consumers were more inclined to show an advantage attitude towards a product or service. According to Kim et al. (2017) illustrated that perceived value positively influences on attitude toward the product or service. Also, there are many studies discovered that perceived value is positively affected by users' attitudes of using Internet services (Hsu et al., 2017). Based on Izquierdo-Yusta et al. (2015) and Hsiao and Chen (2016), the correlation between perceived value and user attitude has a significant positive. Furthermore, for mobile phones and the internet, perceived value has its distinct role to comprehend the attitude towards using technology (Hsu et al., 2017). Thus, the following hypothesis is developed:

H11: Perceived value will positively influence on attitude toward mobile banking.

2.3.7 The Effect of Attitude toward Mobile Banking on Behavior Intention

According to Davis (1989), behavioral intention demonstrated the adoption of a new technology which combined with the individual's attitude and perceived usefulness. It defined based on TAM as the probability of individuals going to use new technology. In the TAM model, attitude toward using technology is a mediator's influence on behavior intention (Dwivedi et al., 2019). The attitude in this study is the role of a crucial part of the behavior intention to use new technology (Davis, 1989). Some previous studies revealed the correlation between attitude and intention as an example of online shopping shows that attitude is the highest effect on the intention to shop online (Limayem et al., 2000). Levitt et al., (2019) noted that attitude stays in the mind, come before and creates behavior. Hence, it should practice forecasting intention. Cao & Mokhtarian (2005) also indicated that attitudinal factors describe many variation behavior intentions. Besides, recent studies also indicated that attitude has a positive significant influence on behavior intention (Yeo et al., 2017). In the studied of Shaikh and Karjaluoto (2015), Puschel et al. (2010), and Lin (2011), mobile banking adoption pointed out that attitude is positively influenced by the user's intentions to persist in using mobile banking. Consequently, the attitude was estimated to predict strongly of their attempt to carry on using mobile banking. Thus, the following hypothesis is developed:

H12: Attitude toward mobile banking will positively influence on behavior intention.

2.3.8 The Effect of Behavior Intention on Adoption

The behavioral intention has a strong role in forming the actual usage and adoption of new technology (Venkatesh et al., 2003, 2012; Ajzen, 1991). The

current research proposes that mobile banking adoption is possibly predicted by the customers' readiness to adopt such a system. This interrelationship was greatly shown by most online banking studies such as Jaruwachirathanakul and Fink (2005), Martins et al. (2014), among others. Furthermore, recent studies also discussed the relationship of behavioral intention and adoption which indicated that behavior intention is a strong factor that impacts adoption. For example, Alalwan et al. (2016) supported that behavior intention positively influences on telebanking adoption, Mwiya et al. (2017) argued that behavior intention is highly positive effected e-banking adoption. Consequently, the following hypothesis is developed:

H13: Behavior intention will positively influence on adoption.

2.3.9 The Moderating Effect of Perceived Behavioral Control on the Relationship of Attitude toward Mobile Banking and Behavior Intention

Deventer et al., (2017) suggested that when consumers have self-confidence and necessary resources to commit mobile banking, they are probably improving a positive attitude towards mobile banking. Thus, attitude toward mobile banking is positively affected by perceived behavioral control. This hypothesis was unchanged with previous studies (Saibaba & Murthy, 2013; Crabbe et al., 2009). Besides, Notani (1998) stated that perceived behavior control shall become a measurement to predict behavior intention. This further enhances a positive attitude toward buying a product or service and has social reasons to do so. Therefore, in case consumers perceive that they have control over behavior performance, they are more likely to shape strongly on intentions to react to the behavior and conversely. Perceived behavior control is indirectly influence on attitude toward mobile banking through behavioral intention. Lin et al. (2014) supported that perceived behavioral control positively influences customer

intention in internet banking. Some Studies indicated the relationship between attitudes and perceived behavior control toward behaviors are significantly influence on behavioral intentions (Tavafian et al., 2011). Cristea & Gheorghiu (2016) concluded attitudes have positive and perceived behavioral control and have a high predict cyclists' intention to adopt risky behaviors. Thus, the following hypothesis is developed:

H14: Perceived behavioral control will strengthen the effect of attitude toward mobile banking on behavior intention.

2.3.10 The Moderating Effect of Perceived Risk toward Using Mobile

Banking on the relationship of Attitude toward Mobile Banking and Behavior Intention

There are numerous frauds and privacy crimes in the network, consumers have to sign again and again to ensure that their financial and personal information is controllable and security (Belanche et al., 2012). Consumers' perceptions can enhance their control when they understand how to use via online transactions (Casalo et al., 2007). Risk is the crucial factor in mobile service, banking industry particularly, due to the threat growth to be secured (Hanafizadeh et al., 2012). Based on Coursaris et al., (2003) discovered that mobile banking engaged with risk is high because consumers could encounter problems such as theft and loss of their mobile phone. When the risk is getting low, the satisfaction and adoption of innovation services are getting high (Lovelock et al., 2001; Mohd Thas Thaker et al., 2019). Regarding Shaikh et al. (2018) study, perceived risk is significantly correlated to the intention to use mobile banking. Moreover, Wessels and Drennan (2010) observed about the risk influence on attitude toward mobile banking. Thus, it could conclude that perceived risk has a negative effect on attitude toward mobile banking. When the perceived risk is high, the relationship between attitude

toward and behavior intention to use mobile banking is weak because of people's concern and has no willing to use mobile banking services.

Moreover, some evidence reported that perceived risk is crucial when users decide to use new technology (Liu et al., 2019), users worry about the risk that leads from using mobile banking, they are attentive to the privacy and security of their financial information (Abdul-Hamid et al., 2019). As an example by users in Yemen, perceived risk is perceived as the key factor of intention to adopt mobile banking services (Mutahar et al., 2018). Therefore, perceived risk will role as a basic part to determine the acceptance of mobile banking. Previous studies revealed such as Zhao et al. (2010), Martins et al. (2014), Luo et al. (2010), Namahoot and Laohavichien (2018) all conclude that perceived risk is negatively impact on behavioral intentions to use internet banking. Moreover, Yousafzai et al. (2010), Chavali and Kumar (2018) discovered that perceived risk was negatively impact on attitude toward using internet banking which classified into social risk, financial risk, privacy risk, time risk, security risk, and performance risk. Related to the previous studies, the following hypothesis is updated to identify the moderating effects of perceived risk in the impact of an attitude toward mobile banking on behavior intention to use. Therefore, the following hypothesis is developed:

H15: Perceived risk toward using mobile banking will weaken the effect of attitude toward mobile banking on behavior intention.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Research Framework

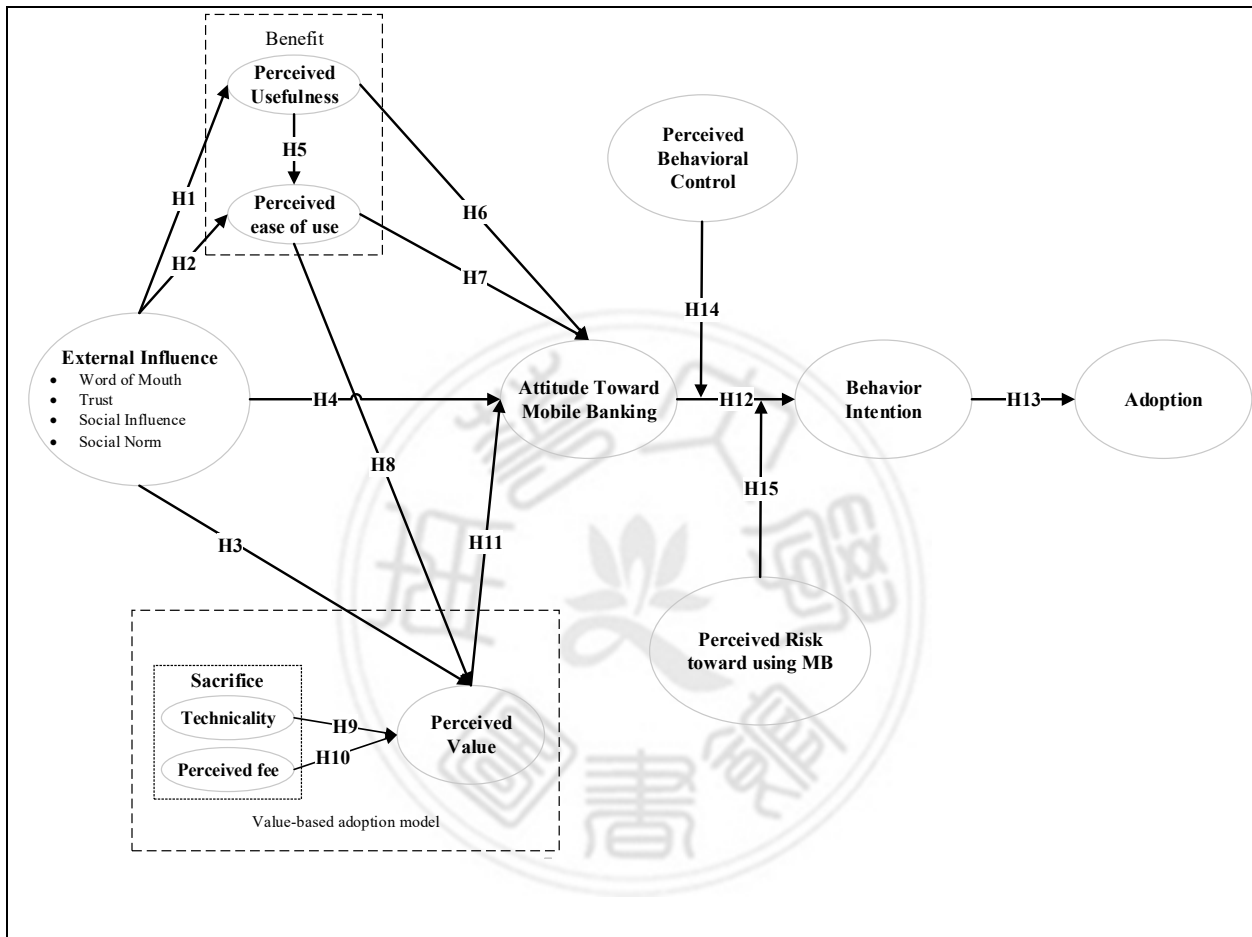


Figure 3- 1 Research Framework

Source: Original study

This study integrated the theoretical foundation of TAM and VAM to assess the effect of external stimuli, perceived ease of use, perceived usefulness, perceived sacrifice, and perceived value, attitude toward mobile banking on behavior intention, perceived behavioral control and perceived risk toward using mobile banking are used as the moderators for the relationship between TAM and VAM. To understand the elements that influence the consumers' perspective in

the application of new technologies, TAM and VAM are the important theories for the awareness through mobile banking adoption, in terms of supportive comments, convenient perception when using. Therefore, VAM comes up with a manifest understandable the effect of value perception and value cognition on behavioral intention. Meanwhile, TAM describes the application of traditional terms of technology which has its limitations in illustration the application of IT, such as mobile banking adoption. Through the implication limitation, the study integrates the variables of VAM, such as perceived sacrifice and perceived value into the research model (Kim et al., 2007), and deleted perceived enjoyment of the VAM attribute (Kim et al., 2014).

3.2. Research Hypotheses

According to the literature review, as shown in Chapter two, there are 15 hypotheses were instructed. Firstly, H1, H2, H3 and H4 test the effect of external influence with perceived usefulness, perceived ease of use, perceived value and attitude toward mobile banking. Secondly, H5 and H6 test perceived usefulness with perceived ease of use and attitude toward mobile banking. Thirdly, H7 and H8 test perceived ease of use with attitude toward mobile banking and perceived value. Fourthly, H9 and H10 test technicality and perceived fee. H11 tests perceived value with attitude toward mobile banking. Fifthly, H12 test attitude toward mobile banking with behavioral intention. Sixthly, H13 test between behavioral intention and adoption. Therefore, two moderators of H14 and H15 test the moderating effect of perceived behavior control and perceived risk for the influence of attitude on behavior toward using mobile banking. As a result, the hypotheses are as follow:

- H1: External influence will positively affect to perceived usefulness.*
- H2: External influence will positively affect to perceived ease of use.*
- H3: External influence will positively affect to perceived value.*
- H4: External influence will directly positively affect to attitude toward mobile banking.*
- H5: Perceived usefulness will positively affect to perceived ease of use.*
- H6: Perceived usefulness will positive affect to attitude toward mobile banking.*
- H7: Perceived ease of use will positive affect to attitude toward mobile banking.*
- H8: Perceived ease of use will positive affect to perceived value.*
- H9: Technicality will positive affect to perceived value.*
- H10: Perceived fee will positive affect to perceived value.*
- H11: Perceived value will positive effect to attitude toward mobile banking.*
- H12: Attitude toward mobile banking will positive effect to behavior intention.*
- H13: Behavior intention will positive effect to adoption.*
- H14: Perceived behavioral control will weaken the effect of attitude toward mobile banking on behavior intention.*
- H15: Perceived risk toward using mobile banking will weaken the effect of attitude toward mobile banking on behavior intention.*

3.3. Sampling and Data Collection

The questionnaire designed is created in the following ways. Mainly language is in English and then translated into Cambodian language (Khmer) for a convenient way to the participants. The author translated from English to Cambodian language and then one senior Cambodian translated back into English.

All questionnaire items measured with a seven-point Likert scale by marking 1= totally disagree, 7= totally agree. All participants in this study are freely joined from Cambodia. The survey consists of 68 questionnaire items and will be sent online to the respondents who are banking users or nonusers. The data were gathered through questionnaires survey in one year from the middle of March 2018, to the middle of March 2019 in Phnom Penh Capital City, Cambodia. Firstly, this study has completed the pretest to finalize the reliability of the questionnaires. The sample size of 60 participants has conducted in the pretest. The formal test has collected a total of 253 valid data. The result of the Cronbach's α shows that the factors of each construct have a relatively high coefficient α (>0.7) which is an acceptable level of internal consistency.

3.4. Research Instruments

Eleven research constructs were identified and evaluated the relationship among research constructs in this study. These constructs are external influence, perceived usefulness, perceived ease of use, technicality, perceived fee, perceived value, attitude toward mobile banking, behavior intention, adoption, perceived risk toward using mobile banking moderators, moderators of perceived behavioral control. The measurement items and operational definitions were also recognized for each construct. The questionnaire items are described as shown in the Appendix.

3.4.1. External Influence

This study identified social influence, word of mouth, trust and social norms as the external influence antecedents that could affect perceived usefulness perceived ease of use, perceived value and attitude toward mobile banking. Social influence was measured with 4 items and modified from Huang (2015) and Shen et al. (2006). Words of mouth have been measured with 5 items which revised

from Yoo & Donthu (1997), Delgado et al. (2005). Trust has been measured with 4 items which revised from Gefen et al. (2003); Lee (2005) and Zhou (2011). Social norms have been measured with 4 items which revised from Mehrad & Mohammadi (2016). All items above measured with a seven-point Likert scale ranging by marking 1= totally disagree, 7= totally agree.

Social Influence Huang 2016 and Shen (2006)

[SI1] People who influence my behavior think that I should use mobile banking

[SI2] People who are important to me think that I should use the mobile banking

[SI3] My classmates who have good performance have benefited from using mobile banking

[SI4] In general, the bank has supported the use of mobile banking

Words of Mouth Yoo and Donthu (1997) and Delgado et al. (2005)

[WOM1] I have been recommended by many people to use mobile banking.

[WOM2] I often got suggestion to use mobile banking from my friends.

[WOM3] My friends always try to convince me to use mobile banking.

[WOM4] Many people try to show the benefits of mobile banking to me

[WOM5] I try to spread the good-word about mobile banking.

Trust Gefen et al. (2003); Lee (2005) and Zhou (2011)

[TR1] Mobile banking has enough protection to make me feel comfortable using it

[TR2] I feel assured that legal structures adequately protect me from problems associated with using mobile banking services

[TR3] I feel confident that technological advances (such as encryption) on mobile make it safe for me to use mobile banking

[TR4] In general, the mobile device is a safe environment in which to transact banking activities through mobile devices

Social Norms Mehrad & Mohammadi (2016)

[SN1] People who are important to me would recommend using mobile banking services

[SN2] People who are important to me would find using mobile banking services beneficial

[SN3] People who are important to me would find using mobile banking services a good idea

[SN4] More and more people around me use mobile banking service

3.4.2. Perceived Usefulness

The study identified perceived usefulness influence to perceived ease of use and attitude toward mobile banking. Perceived usefulness is defined as the understandable degree of consumers on using new technologies such as mobile banking to improve their job performance (Davis, 1989). There were 6 items measured in this factor and revised from Al-Adwan et al. (2012) and Shroff et al. (2011). All items above measured with a seven-point Likert scale ranging by marking 1= totally disagree, 7= totally agree.

Perceived Usefulness Al-Adwan et al. (2012) and Shroff et al. (2011)

[PU1] Using mobile banking will allow me to accomplish tasks more quickly

[PU2] Using mobile banking add to my task effectiveness

[PU3] Using mobile banking makes it easier to do my task

[PU4] Using mobile banking improves my task performance

[PU5] Using mobile banking saves me time and effort in performing Tasks

[PU6] Mobile banking is useful in performing my task

3.4.3. Perceived Ease of Use

The study identified perceived ease of use influence to perceived value and attitude toward mobile banking. Perceived ease of use is described as “the degree to which a person believes that using a particular system would be free of effort” (Davis 1989) which means he/she could get used to service application easily and no additional effort. This factor was measured with 4 items based on Teo (2009) and Chang et al. (2012). All items above measured with a seven-point Likert scale ranging by marking 1= totally disagree, 7= totally agree.

Perceived Ease of Use Teo (2009) and Chang et al (2012)

[PEOU3] My interaction with mobile banking is clear and Understandable

[PEOU4] It is convenient to access mobile banking

[PEOU1] It is easy to use mobile banking

[PEOU2] It is easy to get mobile banking to do what I want it to do

3.4.4. Technicality

The study identified technicality influence on perceived value. Delone and McLean (1992) defined technicality as the perception of the technical difficulty of mobile banking in the process of providing products and services which include easy to understand on using it; system reliability; connectivity and efficiency. This factor was measured with 4 items modified from Davis (1989) and Delone and McLean (1992). All items above measured with a seven-point Likert scale ranging by marking 1= totally disagree, 7= totally agree.

Technicality Davis (1989) and Delone and McLean (1992)

[TCH1] I think mobile banking provides a convenient features

[TCH2] Mobile banking can be connected instantly

[TCH3] Mobile banking takes a short time to respond

[TCH4] The system of mobile banking is reliable

3.4.5. Perceived Fee

The study identified perceived fee influence to perceived value. The perceived fee is the consumer's acceptance of price about what they have to spend on adopting mobile banking such as money, time and effort. This factor is measured with 4 items revised from Kim et al (2007). All items above measured with a seven-point Likert scale ranging by marking 1= totally disagree, 7= totally agree.

Perceived Fee Kim et al (2007)

[PF1] The fee that I have to pay for the use of mobile banking is low

[PF2] The fee that I have to pay for access mobile banking is reasonable

[PF3] I am pleased with the price I have to pay for the use of mobile banking

[PF4] I think the transaction fee of using mobile banking is cheap

3.4.6. Perceived Value

The study identified perceived value influence to attitude toward mobile banking. Perceived value is explained as an all-inclusive assessment of consumers

whereas connecting with product features from the awareness of what is received and what is given. There were 5 items were measured and revised from Kim et al (2007), Khaled (2016). All items above measured with a seven-point Likert scale ranging by marking 1= totally disagree, 7= totally agree.

Perceived Value Kim et al (2007), Khaled (2016)

[PV1] Compared to the cost I need to pay, the use of mobile banking provides more benefit

[PV2] Compared to the effort I need to set up, the use of mobile banking is favorable to me

[PV3] Compared to the time I need to spend, the use of mobile banking is useful to me.

[PV4] Overall, using mobile banking delivers me good value.

[PV5] The experience that I've been using mobile banking has satisfied my needs and wants

3.4.7. Attitude Toward Mobile Banking

The study identified attitudes toward mobile banking influence on behavior intention. Attitudes toward a behavior are defined as the performance level of positive or negative behavior and the total set determines between reachable behavioral beliefs and the behavior to vary result and other features. There were 6 items were measured and revised from Aboelmaged & Gebba (2013) and Aixia et al. (2011). All items above measured with a seven-point Likert scale ranging by marking 1= totally disagree, 7= totally agree.

Attitude toward Mobile Banking Aboelmaged & Gebba (2013) and Aixia et al. (2011)

[ATMB1] I believe it is a good idea to use this mobile banking for my task performance.

[ATMB2] Operating through mobile banking is a wise idea

[ATMB3] I am positive toward mobile banking

[ATMB4] I would be interested in doing the process through mobile banking

[ATMB5] Using mobile banking will save my money

[ATMB6] I think that using mobile banking is pleasant

3.4.8. Behavior Intention

The study identified behavior intention influence to adoption. Behavior intention is defined as the action that an individual will aim to use new technology like mobile banking. There were 6 items in this factor were measured and revised

from Martins et al. (2014); Mehrad & Mohammadi (2016). All items above measured with a seven-point Likert scale ranging by marking 1= totally disagree, 7= totally agree.

Behavior Intention Martins et al. (2014); Mehrad & Mohammadi (2016)

[BI1] I'm going to use mobile banking services

[BI2] I want to gain more information on mobile banking

[BI3] I'm going to do transaction through mobile banking service

[BI4] I want to manage my bank accounts using mobile banking

[BI5] I intend to perform transactions via mobile banking, such as checking account balance.

[BI6] Whenever possible, I will use mobile banking services, rather than traditional banking services.

3.4.9. Adoption Intention

Information advancement and communication technology could lead to mobile banking adoption (Aboelmaged & Gebba, 2013). Einav et al. (2014) stated that users had adopted mobile applications when making their first online activity. This study also adopted the intention and conducted an exploratory analysis. There were 5 items in this factor were measured and revised from Perdigoto and Picoto (2012) and Hsu and Chiu (2004). All items above measured with a seven-point Likert scale ranging by marking 1= totally disagree, 7= totally agree.

Adoption Intention Perdigoto and Picoto (2012) and Hsu and Chiu (2004)

[AI1] I plan to use mobile banking in the future.

[AI2] I will regularly use mobile banking in the future

[AI3] I will adopt mobile banking as soon as possible

[AI4] I am highly interested in trying out the mobile banking system.

[AI5] I will recommend the use of mobile banking to my friends.

3.4.10. Perceived Behavioral Control

The study identified perceived behavior control influence of attitude toward mobile banking on behavior intention. Perceived behavior control is the evaluation level which people aware that control over the intention of interest in using mobile banking. There were 6 items in this factor were measured and revised from Ho and

Ko (2008) and Wu and Chen (2005). All items above measured with a seven-point Likert scale ranging by marking 1= totally disagree, 7= totally agree.

Perceived behavioral control Ho and Ko (2008) and Wu and Chen (2005)

[PBC1] I think I can use the mobile banking services effectively.

[PBC2] Using mobile banking service is entirely within my control.

[PBC3] I would be able to use mobile banking well for financial transactions.

[PBC4] I think that I have the resources, knowledge, and ability to use mobile banking.

[PBC5] I am able to use mobile banking without help.

[PBC6] I have the power to decide whether I want to use mobile banking as check account, payment, and any other possible features.

3.4.11. Perceived Risk Toward Using Mobile Banking

The study identified perceived risk toward using mobile banking influence of attitude toward mobile banking on behavior intention. Perceived risk explained as the consumer perception upon a negative image or insecure which can happen when they are using the mobile banking system. There were 5 items in this factor were measured and revised from Chavali, & Kumar (2018), Pavlou (2001). All items above measured with a seven-point Likert scale ranging by marking 1= totally disagree, 7= totally agree.

Perceived Risk Toward Using Mobile banking Chavali, & Kumar (2018), Pavlou (2001)

[PRT1] I feel not very safe when using mobile banking

[PRT2] I am worried that private information would be leaked when using mobile banking

[PRT3] I do not believe that the design of the mobile banking system can provide security and privacy.

[PRT4] I am concerned about the security of banking via mobile phones.

[PRT5] I think the security risk is higher using mobile banking service than using traditional bank transactions.

3.5. Data Analysis Procedure

The testing hypotheses in this study will be implemented SPSS 23.0 software to analyze the data collection. The data analysis techniques is followed.

3.5.1. Descriptive Analysis

To comprehend the characteristics of each variable, descriptive statistics were implicated to analyze the data collection in quantitative terms. Besides, descriptive statistics consist of the frequency of distribution; means and standard deviation of each variable among dependent and independent sides.

3.5.2. Reliability of the Measurement Variables

Factor analysis was used to observe and confirm the dimensionality and reliability from data collection of each research constructs. The purpose is to pick out questionnaire items whichever factor loadings have a high effect and then the chosen items were compared with item theoretically suggested. In the next process after using factor analysis, Cronbach's alpha was conducted to analyze correlation and internal consistency. Coefficient alpha and item-to total correlation were the assessment to pinpoint the internal consistency and reliability of the constructs. Then, eigenvalues, screen test, will be used for determining the figure of dimensions which extracted from the principal component factor analysis.

According to Hair et al. (2010), the following criteria:

- (1) $KMO > 0.5$ and Barlett $p < 0.05$
- (2) $Communality > 0.5$
- (3) $Explained\ Variance\ (Accumulative) > 0.6$
- (4) $Eigen\ Value > 1$
- (5) $Difference\ between\ Loading > 0.3$
- (6) $Factor\ Loading > 0.6$
- (7) $Cronbach's\ \alpha > 0.7$; (8) $Item\ to\ Total\ Correlation > 0.5$

Those questionnaire items that do not fulfill these rules of thumb were excluded from further analyses.

3.5.3. Hypotheses Testing Techniques

Both of the measurement model and the structural model was used the Partial Least Squares (PLS) path modeling algorithm. Smart PLS is not much restrictive whereas the distribution assumption, sample size limitation, and multicollinearity situation are normal (Ribbink et al., 2004; Anderson & Swaminathan, 2011) than other alternatives. The basic rules of thumb for assessing the model of PLS were the coefficients of determination (R^2). The second is the crucial global criterion is that the goodness-of-fit (i.e., the GoF index). According to Schroer and Hertel (2009), there is three determination of R^2 value. R^2 greater than 0.672 is assumed to be substantial; 0.33 is explained as moderate, while 0.19 is explained as weak. Therefore, the R^2 in this study will be determined by 0.33 as the criteria. Based on Vinzi et al. (2010), the goodness of fit index (GoF) better than 0.36 is assumed to be large; 0.25 is explained as a medium, while 0.10 is explained as small. Moreover, the average variance extracted (AVEs) of the constructs is much greater than the benchmark of 0.5 as recommended (Hair, et al., 2011). The composite reliability (CR) should be better than 0.6 (Nunnally & Bernstein, 2010). Those criteria can justify the validity and reliability of the measurement model. When the structural and measurement model were reliable by verifying, then testing the hypotheses will use coefficients of the path parameters as advanced in this study.

CHAPTER FOUR

RESULT AND DATA ANALYSIS

4.1. Descriptive Analysis

To illustrate information about respondent characteristics and the results, preliminary analyses were conducted in this section.

4.2. Response rates and Data Collection

The data were gathered through questionnaire survey in one-year period from the middle of March 2018, to the middle of March 2019 in Phnom Penh Capital City, Cambodia. The survey was sent through online to 125 students at Center for Banking Studies; 50 from banking users and 160 questionnaires was sent direct to the students at Royal University of Phnom Penh. The participant of 253 respondents were collected which is equal to 75.52%. There is no missing data from the 253 questionnaires; hence there were 253 are applicable.

4.3. Characteristics of Respondent

Table 4–1 illustrates the descriptive analysis of this study. There are eight major points: (1) Gender, (2) Marriage, (3) Age, (4) Education, (5) Occupation, (6) Monthly Income, (7) Experience in Mobile Banking, (8) Preference Mobile Banking Features. There was 253 respondents validity in this survey, whereas female were 151 (59.68%) and single were 208 (82.21%). Mostly, respondents' aged were between 16 and 25 years old (64.82%), 26-35 years old (32.02%), respectively. The respondents who hold a Bachelor's degree or above were more than 93%. Respondent occupation 59.29% were student, the rest were employed. The higher percentage for monthly income were ranged between smaller than US\$100 and US\$101-US\$350 which is respectively 29.64% and 36.76%. The experience of using mobile banking was mostly from 1-12 months (54.55%).

Followed by 1-2 years (25.30%). There was 3 mobile banking feature such as check account; transfer money and payment were similarly preferred used which is respectively 37.93%; 23.32% and 30.04%.

Table 4-2 indicates the frequency experience of using mobile banking. The feature was such as check account; transfer money; payment; send cash to ATM; phone top-up and others. The result shows that send cash to ATM and others feature were mostly never use (50.59%; 46.64%). The most common use of mobile features was check account (40.32%). For transfer, money features were the same as phone top-up in common use (27.67%). The most frequent use among other features was payment (25.69%).

Table 4- 1: Characteristics of the Respondents

Demographic Variables		Frequency	Percent
Gender	Male	102	40.32%
	Female	151	59.68%
Marriage	Single	208	82.21%
	Married	45	17.79%
Age	16-25 years old	164	64.82%
	26-35 years old	81	32.02%
	36-45 years old	7	2.77%
	> 66 years old	1	0.40%
Education	High School	19	7.5
	Bachelor	197	77.9
	Master	33	13.0
	Doctoral	4	1.6
Occupation	Student	150	59.29%
	Industrial sector	18	7.11%
	Service sector employee	54	21.34%
	Other	31	12.25%
Monthly Income	US\$100 or less	75	29.64%
	US\$101 to US\$350	93	36.76%
	US\$351 to US\$500	34	13.44%
	US\$501 to US\$1,000	33	13.04%
	US\$1,001 to US\$2,000	12	4.74%
	US\$2,001 to US\$3,000	4	1.58%
Over US\$3,000	2	0.79%	

Table 4- 2: Characteristics of the Respondents (Continued)

Experience in MB	1-12 months	138	54.55%
	1-2 years	64	25.30%
	3-5 years	42	16.60%
	6-10 years	8	3.16%
	> 10 year	1	0.40%
Preference MB features	Check account	96	37.94%
	Transfer money	59	23.32%
	Payments	76	30.04%
	Other	22	8.70%

(N = 253)

Source: Original study

Table 4- 3: Frequency experience on using Mobile Banking (N: 253)

Categories	Never use		Seldom use		Common use		Frequent use		Very frequent use	
Check account	53	20.95%	27	10.67%	102	40.32%	44	17.39%	27	10.67%
Transfer money	75	29.64%	58	22.92%	70	27.67%	32	12.65%	18	7.11%
Payment	80	31.62%	40	15.81%	65	25.69%	52	20.55%	16	6.32%
Send cash to ATM	128	50.59%	41	16.21%	52	20.55%	20	7.91%	12	4.74%
Phone top up	59	23.32%	30	11.86%	70	27.67%	53	20.95%	41	16.21%
Others	118	46.64%	46	18.18%	64	25.30%	17	6.72%	8	3.16%

Source: Original study

4.4. Measurement Results for Research Variables

Table 4-3 showed the statistics of descriptive which conform from each variable of 253 respondents such as mean and standard deviations. The results of means and standard deviations were demonstrated as Table 4-3 illustrated that all participants describe with high levels as the mean were above 4 for most items of the research framework constructs. Particularly, perceived usefulness, perceived ease of use, technicality, perceived fee, perceived value, attitude toward mobile banking, behavior intention, adoption intention, perceived behavior control has mean scores over 5.0 in a seven-point Likert scale except the construct external

influence which has 4 factors such as social influence (M=4.688-5.585), word of mouth (M=4.237-4.842), trust (M=4.925-5.170) and Social norm (M=4.747-5.348) and construct of perceived risk toward using mobile banking (M=4.423-4.783).

Table 4- 4: Descriptive Analysis for Questionnaire Items

Research Items	Mean	Standard Deviation
Research constructs: External Influence		
Social Influence		
[SI1] People who influence my behavior think that I should use mobile banking	4.826	1.489
[SI2] People who are important to me think that I should use the mobile banking	5.047	1.394
[SI3] My classmates who have good performance have benefited from using mobile banking	4.688	1.624
[SI4] In general, the bank has supported the use of mobile banking	5.585	1.157
Word of Mouth		
[WOM1] I have recommended by many people to use mobile banking.	4.787	1.569
[WOM2] I often got suggestion to use mobile banking from my friends.	4.621	1.613
[WOM3] My friends always try to convince me to use mobile banking.	4.237	1.750
[WOM4] Many people try to show the benefits of mobile banking to me	4.842	1.535
[WOM5] I try to spread the good-word about mobile banking.	4.680	1.534
Trust		
[TR1] Mobile banking has enough protection to make me feel comfortable using it	5.138	1.369
[TR2] I feel assured that legal structures adequately protect me from problems associated with using mobile banking services	4.925	1.400
[TR3] I feel confident that technological advances (such as encryption) on mobile make it safe for me to use mobile banking	5.170	1.237
[TR4] In general, the mobile device is a safe environment in which to transact banking activities through mobile devices	5.115	1.333
Social Norm		
[SN1] People who are important to me would recommend using mobile banking services	4.747	1.591
[SN2] People who are important to me would find using mobile banking services beneficial	4.921	1.420
[SN3] People who are important to me would find using mobile banking services a good idea	5.142	1.451
[SN4] More and more people around me use mobile banking service	5.348	1.311
Perceived Usefulness		
[PU1] Using mobile banking will allow me to accomplish tasks more quickly	5.798	1.110
[PU2] Using mobile banking add to my task effectiveness	5.455	1.173
[PU3] Using mobile banking makes it easier to do my task	5.597	1.139
[PU4] Using mobile banking improves my task performance	5.375	1.136
[PU5] Using mobile banking saves me time and effort in performing tasks	5.830	1.057
[PU6] Mobile banking is useful in performing my task	5.530	1.118
Perceived Ease of Use		
[PEOU1] It is easy to use mobile banking	5.644	1.148
[PEOU2] It is easy to get mobile banking to do what I want it to do	5.502	1.164
[PEOU3] My interaction with mobile banking is clear and understandable	5.277	1.200
[PEOU4] It is convenient to access mobile banking	5.407	1.217

Table 4- 5: Descriptive Analysis for Questionnaire Items (Continued)

Technicality		
[TCH1] I think mobile banking provides a convenient features	5.589	1.097
[TCH2] Mobile banking can be connected instantly	5.439	1.172
[TCH3] Mobile banking takes a short time to respond	5.684	0.997
[TCH4] The system of mobile banking is reliable	5.399	1.149
Perceived Fee		
[PF1] The fee that I have to pay for the use of mobile banking is low	5.158	1.371
[PF2] The fee that I have to pay for access mobile banking is reasonable	5.285	1.262
[PF3] I am pleased with the price I have to pay for the use of mobile banking	5.158	1.359
[PF4] I think the transaction fee of using mobile banking is cheap.	5.099	1.415
Perceived Value		
[PV1] Compared to the cost I need to pay, the use of mobile banking provides more benefit	5.415	1.178
[PV2] Compared to the effect I need to set up, the use of mobile banking is favorable to me	5.229	1.135
[PV3] Compared to the time I need to spend, the use of mobile banking is useful to me.	5.447	1.189
[PV4] Overall, using mobile banking delivers me good value.	5.490	1.129
[PV5] The experience that I've been using mobile banking has satisfied my needs and wants	5.360	1.209
Attitude toward Mobile Banking		
[ATMB1] I believe it is (would be) a good idea to use this mobile banking for my task performance.	5.573	1.109
[ATMB2] Operating through mobile banking is a wise idea	5.561	1.179
[ATMB3] I am positive toward mobile banking	5.565	1.127
[ATMB4] I would be interested in doing the process through mobile banking	5.577	1.038
[ATMB5] Using mobile banking will save my money	5.340	1.203
[ATMB6] I think that using mobile banking is pleasant	5.316	1.135
Behavior Intention		
[BI1] I'm going to use mobile banking services	5.605	1.267
[BI2] I want to gain more information on mobile banking	5.696	1.154
[BI3] I'm going to do transaction through mobile banking service	5.644	1.172
[BI4] I want to manage my bank accounts using mobile banking	5.755	1.078
[BI5] I intend to perform transactions via mobile banking, such as checking account balance.	5.739	1.193
[BI6] Whenever possible, I will use mobile banking services, rather than traditional banking services.	5.791	1.102
Adoption Intention		
[AI1] I plan to use mobile banking in the future.	5.858	1.166
[AI2] I will regularly use mobile banking in the future	5.700	1.100
[AI3] I will adopt mobile banking as soon as possible	5.526	1.233
[AI4] I am highly interested in trying out the mobile banking system.	5.589	1.174
[AI5] I will recommend the use of mobile banking to my friends.	5.542	1.200
Perceived Behavior Control		
[PBC1] I think I can use the mobile banking services effectively.	5.510	1.143
[PBC2] Using mobile banking service is entirely within my control.	5.352	1.188
[PBC3] I would be able to use mobile banking well for financial transactions	5.415	1.133

Table 4- 6: Descriptive Analysis for Questionnaire Items (Continued)

[PBC4] I think that I have the resources, knowledge, and ability to use mobile banking.	5.490	1.246
[PBC5] I am able to use mobile banking without help.	5.111	1.367
[PBC6] I have the power to decide whether I want to use mobile banking as check account, payment, and any other possible features.	5.656	1.160
Perceived Risk toward Using Mobile Banking		
[PRT1] I feel not very safe when using mobile banking	4.447	1.818
[PRT2] I am worried that private information would be leaked when using mobile banking	4.711	1.601
[PRT3] I do not believe that the design of the mobile banking system can provide security and privacy.	4.423	1.669
[PRT4] I am concerned about the security of banking via mobile phones.	4.783	1.562
[PRT5] I think the security risk is higher using mobile banking service than using traditional bank transactions.	4.565	1.667

Source: Original study

4.5. Factor Analysis and Reliability Test

This study was verified the construct dimensionality and reliability, purification processes. Moreover, the factor analysis and Cronbach's alpha analysis were conducted in this study. Factor analysis is the process of examination the primary structure of the data. Coefficient (Cronbach's) alpha internally measured the consistency of each identified dimension. Firstly, factor analysis was performed to recognize the construct dimensionality to select maximum factor loading of questionnaire items base on the determination criterion. Secondly, item to total correlation and coefficient alpha were compiled to identify the internal consistency and reliability of the construct. The method applied in the process of factor analysis was principal component and varimax rotated method to take out the related factors of which eigenvalue is higher than 1. There are two important criteria such as factor loading which are greater than 0.6 and the variance of factor loadings between each item is bigger than 0.3 to ensure in the specification. The item-to-total correlation is to analyze the reliability which must be greater than 0.5. Cronbach's coefficient alpha (α) must be greater than 0.7 (Hair et al., 2010).

The factor analysis and reliability test results for each construct are demonstrated from Table 4-4 to Table 4-14.

4.5.1. External Influence

Table 4-4 illustrated the results of factor loadings which were measured External Influence construct. This construct has four factors including social influence; word of mouth; trust and social norm. The results illustrate that for the factor of “Social Influence”, the variance explained by this factor is 69.531%. One item, “SI4: In general, the bank has supported the use of mobile banking”, was deleted due to the factor loading smaller than 0.7 while the other items were higher than 0.8 (0.813-0.844). Cronbach’s α value is 0.781, including all variables of item-to-total correlation (0.588~0.629) which have a high coefficient. For the factor of “Word of Mouth”, the variance explained by this factor is 69.266%. The factor loading of all items was ranged from 0.816 to 0.859. The results also show that the value of Cronbach’s α for the factor of word of mouth is 0.889, including the variables of item-to-total correlation (0.712~0.768) which have a high coefficient. “Trust” factor, the variance explained is 71.279% and the Cronbach’s α value is 0.866, including item-to-total correlation (0.666~0.752) which has a high coefficient. “Social Norm” factor, the variance explained is 81.201% and was deleted one item because factor loading was smaller than 0.7, “SN4: More and more people around me use mobile banking service”. The other items have a high coefficient of factor loading (0.879-0.921). The value for the Cronbach’s α of this factor is 0.884, including item-to-total correlation (0.735~0.809) which has a high coefficient.

Table 4- 7: Results of Factor Analysis and Reliability Test of External Influence

Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
<i>Social Influence</i>		2.086	69.531		0.781
[SI2] People who are important to me think that I should use the mobile banking	0.844			0.629	
[SI1] People who influence my behavior think that I should use mobile banking	0.844			0.632	
[SI3] My classmates who have good performance have benefited from using mobile banking	0.813			0.588	
[SI4] In general, the bank has supported the use of mobile banking	Factor Loading < 0.7				Deleted
<i>Word of Mouth</i>		3.463	69.266		0.889
[WOM2] I often got suggestion to use mobile banking from my friends.	0.859			0.712	
[WOM3] My friends always try to convince me to use mobile banking.	0.847			0.768	
[WOM1] I have recommended by many people to use mobile banking.	0.820			0.749	
[WOM4] Many people try to show the benefits of mobile banking to me	0.819			0.713	
[WOM5] I try to spread the good-word about mobile banking.	0.816			0.709	
<i>Trust</i>		2.855	71.279		0.866
[TR2] I feel assured that legal structures adequately protect me from problems associated with using mobile banking services	0.869			0.752	
[TR3] I feel confident that technological advances (such as encryption) on mobile make it safe for me to use mobile banking	0.856			0.732	
[TR1] Mobile banking has enough protection to make me feel comfortable using it	0.844			0.714	
[TR4] In general, the mobile device is a safe environment in which to transact banking activities through mobile devices	0.810			0.666	
<i>Social Norm</i>		2.436	81.201		0.884
[SN2] People who are important to me would find using mobile banking services beneficial	0.921			0.809	
[SN3] People who are important to me would find using mobile banking services a good idea	0.904			0.775	
[SN1] People who are important to me would recommend using mobile banking services	0.879			0.735	
[SN4] More and more people around me use mobile banking service	Factor Loading < 0.7				Deleted

Source: Original study

4.5.2. Perceived Usefulness

Perceived Usefulness construct has 5 items which are detailed in table 4-5. In general, all items have factor loadings higher than 0.7 (0.732-0.837). Besides, the construct's eigenvalue is 3.720 higher than 1, while the accumulative explained was 62.000% which shows these are important underlying factors for this construct. For reliability test indicated all variables were significant when the item-to-total correlations of all items were over 0.5 (0.618-0.745), contributing to the high value of Cronbach's coefficient alpha $\alpha = 0.877$, thus representing the variable were reliable and consistency in construct.

Table 4- 8: Results of Factor Analysis and Reliability Test of Perceived Usefulness

Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
Perceived Usefulness		3.720	62.000		0.877
[PU3] Using mobile banking makes it easier to do my task	0.837			0.745	
[PU4] Using mobile banking improves my task performance	0.805			0.702	
[PU2] Using mobile banking add to my task effectiveness	0.799			0.698	
[PU6] Mobile banking is useful in performing my task	0.780			0.672	
[PU5] Using mobile banking saves me time and effort in performing tasks	0.768			0.658	
[PU1] Using mobile banking will allow me to accomplish tasks more quickly	0.732			0.618	

Source: Original study

4.5.3. Perceived Ease of Use

Table 4-6 illustrated the perceived ease of use construct which has 4 items. All items have high factor loading which ranged from 0.807 to 0.850. Between each item, item PEOU3 "My interaction with mobile banking is clear and understandable" has the highest Factor loading is 0.850. Moreover, the construct's eigenvalue is 2.744 higher than 1, which getting a reasonable proportion of accumulative explained is 68.611% and substantive sense, which shows these are

important underlying factors for this construct. The reliability test showed all variables are significant when the item-to-total correlations of all items are above 0.6 (0.656-0.717), contributing to the high value of Cronbach's coefficient alpha $\alpha = 0.842$, thus representing a high internal consistency in construct.

Table 4- 9: Results of Factor Analysis and Reliability Test of Perceived Ease of Use

Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
Perceived Ease of Use		<i>2.744</i>	<i>68.611</i>		<i>0.842</i>
[PEOU3] My interaction with mobile banking is clear and understandable	0.850			0.717	
[PEOU4] It is convenient to access mobile banking	0.828			0.684	
[PEOU2] It is easy to get mobile banking to do what I want it to do	0.827			0.683	
[PEOU1] It is easy to use mobile banking	0.807			0.656	

Source: Original study

4.5.4. Technicality

Table 4-7 shows the factor loadings result for the measurements of Technicality. The results indicate that the "Technicality" construct, the variance explained is 63.668%, the factor loading of all items was greater than 0.7 (0.772-0.816) and the eigenvalue was over 1 (2.547). The value of Cronbach's α for the factor is 0.0.810, including item-to-total correlation (0.595~0.649) which has a high coefficient. According to all criteria, we can wrap up that the internal consistency and reliability of this factor are reliable.

Table 4- 10: Results of Factor Analysis and Reliability Test of Technicality

Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
Technicality		2.547	63.668		0.810
[TCH2] Mobile banking can be connected instantly	0.816			0.649	
[TCH3] Mobile banking takes a short time to respond	0.803			0.632	
[TCH1] I think mobile banking provides a convenient feature	0.800			0.629	
[TCH4] The system of mobile banking is reliable	0.772			0.595	

Source: Original study

4.5.5. Perceived Fee

This construct has 4 items that used to explain the perceived fee construct. The items of each factor are indicated in table 4-8. In this construct, all the variables have factor loadings value higher than 0.7. The highest value was item PF3 “I am pleased with the price I have to pay for the use of mobile banking.” had the highest factor loading of 0.883 and eigenvalue = 2.966. The components had accumulated a total of 74.146% of explained variance which shows these are important underlying factors for this construct. A high internal consistency within the perceived sacrifice of this factor is represented by all item to total correlation are greater than 0.5 (0.701-0.806), Cronbach’s $\alpha = 0.883$. According to all criteria, we can wrap up that the internal consistency and reliability of this factor are reliable.

Table 4- 11: Results of Factor Analysis and Reliability Test of Perceived Fee

Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
Perceived Fee		2.966	74.146		0.883
[PF3] I am pleased with the price I have to pay for the use of mobile banking	0.900			0.806	
[PF2] The fee that I have to pay for access mobile banking is reasonable	0.871			0.760	
[PF4] I think the transaction fee of using mobile banking is cheap.	0.841			0.717	
[PF1] The fee that I have to pay for the use of mobile banking is low	0.830			0.701	

Source: Original study

4.5.6. Perceived Value

Table 4-9 indicates the perceived value which has 5 items. In this construct, all the variables have factor loadings value higher than 0.6 (0.818-0.836). Item PV4 “Overall, using mobile banking delivers me the good value” had the highest factor loading of 0.836, indicating this item had the highest relation to perceived value. A high internal consistency within the perceived value of this factor is represented by all item to total correlation are greater than 0.5 (0.710-0.734), Cronbach’s $\alpha = 0.887$ and eigenvalue = 3.447. The components had accumulated a total of 68.943% of explained variance which shows these are important underlying factors for this construct. Based on all criteria, we can conclude that the reliability and internal consistency of this factor are acceptable.

Table 4- 12: Results of Factor Analysis and Reliability Test of Perceived Value

Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
Perceived Value		<i>3.447</i>	<i>68.943</i>		<i>0.887</i>
[PV4] Overall, using mobile banking delivers me good value.	0.836			0.734	
[PV3] Compared to the time I need to spend, the use of mobile banking is useful to me.	0.834			0.732	
[PV1] Compared to the cost I need to pay, the use of mobile banking provides more benefit	0.833			0.728	
[PV2] Compared to the effect I need to set up, the use of mobile banking is favorable to me	0.832			0.727	
[PV5] The experience that I've been using mobile banking has satisfied my needs and wants	0.818			0.710	

Source: Original study

4.5.7. Attitude toward Mobile Banking

Table 4-10 shows the factor loadings result for the measurements of attitude toward mobile banking. The results show that the construct of “attitude toward mobile banking”, the variance explained is 62.649%. There are 6 items in this factor and one item was deleted due to factor loading lower than 0.7. The rest of the other items, factor loading were higher than 0.7 (0.751-0.837). The value of Cronbach's α is 0.850, including all variables of item-to-total correlation (0.614~0.716) which have a high coefficient. According to all criteria, we can wrap up that the reliability and internal consistency of this factor are reliable.

Table 4- 13: Results of Factor Analysis and Reliability Test of Attitude toward Mobile Banking

Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
Attitude toward mobile banking		<i>3.132</i>	<i>62.649</i>		<i>0.850</i>
[ATMB3] I am positive toward mobile banking	0.837			0.716	
[ATMB4] I would be interested in doing the process through mobile banking	0.819			0.694	
[ATMB6] I think that using mobile banking is pleasant	0.775			0.644	
[ATMB1] I believe it is (would be) a good idea to use this mobile banking for my task performance.	0.772			0.632	
[ATMB5] Using mobile banking will save my money	0.751			0.614	
[ATMB2] Operating through mobile banking is a wise idea	Factor Loading < 0.7				Deleted

Source: Original study

4.5.8. Behavior Intention

Table 4-11 shows the factor loadings result for the measurements of behavioral intention. The results show that the construct of “behavior intention”, the variance explained by this factor is 65.691%. There are 6 items in this factor and one item was deleted due to factor loading lower than 0.7. The rest of the other items, factor loading were higher than 0.7 (0.766-0.849). The Cronbach's α value for the factor is 0.869, including all variables of item-to-total correlation (0.638~0.748) which have a high coefficient. According to all criteria, we can wrap up that the internal consistency and reliability of this factor are reliable.

Table 4- 14: Results of Factor Analysis and Reliability Test of Behavior

Intention

Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
Behavior Intention		3.285	65.691		0.869
[BI3] I'm going to do transaction through mobile banking service	0.849			0.748	
[BI5] I intend to perform transactions via mobile banking, such as checking account balance.	0.831			0.719	
[BI1] I'm going to use mobile banking services	0.829			0.717	
[BI4] I want to manage my bank accounts using mobile banking	0.774			0.647	
[BI6] Whenever possible, I will use mobile banking services, rather than traditional banking services.	0.766			0.638	
[BI2] I want to gain more information on mobile banking	Factor Loading < 0.7				Deleted

Source: Original study

4.5.9. Adoption Intention

Table 4-12 shows the factor loadings result for the measurements of adoption intention. The results show that the construct of “adoption intention”, the variance explained by this factor is 68.100%. There are 5 items in this factor has factor loading higher than 0.7 (0.806-0.861). The Cronbach’s α value for the factor is 0.883, including all variables of item-to-total correlation (0.692~0.769) which have a high coefficient. According to all criteria, we can wrap up that the internal consistency and reliability of this factor are reliable.

Table 4- 15: Results of Factor Analysis and Reliability Test of Adoption

Intention

Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
Adoption Intention		3.405	68.100		0.883
[AI4] I am highly interested in trying out the mobile banking system.	0.861			0.769	
[AI1] I plan to use mobile banking in the future.	0.826			0.716	
[AI2] I will regularly use mobile banking in the future	0.818			0.709	
[AI5] I will recommend the use of mobile banking to my friends.	0.814			0.702	
[AI3] I will adopt mobile banking as soon as possible	0.806			0.692	

Source: Original study

4.5.10. Perceived Behavior Control Moderator

Table 4-13 shows the factor loadings result for the measurements of relational moderators. The results show that “perceived behavior control”, the variance explained by this factor is 64.614%, factor loading of 6 items has a high coefficient (0.713-0.834). The Cronbach’s α value for the factor is 0.890, including all variables of item-to-total correlation (0.603~0.740) which have a high coefficient. According to all criteria, we can wrap up that the internal consistency and reliability of this factor are reliable.

Table 4- 16: Results of Factor Analysis and Reliability Test of Perceived Behavior Control Moderator

Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
Perceived Behavioral Control		3.877	64.614		0.890
[PBC3] I would be able to use mobile banking well for financial transactions	0.834			0.740	
[PBC1] I think I can use the mobile banking services effectively.	0.832			0.737	
[PBC2] Using mobile banking service is entirely within my control.	0.826			0.735	
[PBC4] I think that I have the resources, knowledge, and ability to use mobile banking.	0.820			0.727	
[PBC6] I have the power to decide whether I want to use mobile banking as check account, payment, and any other possible features.	0.791			0.691	
[PBC5] I am able to use mobile banking without help.	0.713			0.603	

Source: Original study

4.5.11. Perceived Risk toward Using Mobile Banking Moderator

Table 4-14 indicates the factor loadings result for the relational moderators' measurement. The results show that the construct of "perceived risk toward using mobile banking", the variance explained by this factor is 76.186%, factor loading of 5 items has a high coefficient (0.858-0.904). The Cronbach's α value for the factor is 0.922, including all variables of item-to-total correlation (0.777~0.840) which have a high coefficient. According to all criteria, we can wrap up that the internal consistency and reliability of this factor are reliable.

Table 4- 17: Results of Factor Analysis and Reliability Test of Perceived Risk toward Using Mobile banking Moderator

Research Items	Factor Loading	Eigen-value	Cumulative Explained	Item-to-total correlation	Cronbach's Alpha (α)
Perceived Risk toward Using Mobile banking		3.809	76.186		0.922
[PRT4] I am concerned about the security of banking via mobile phones.	0.904			0.840	
[PRT2] I am worried that private information would be leaked when using mobile banking	0.874			0.799	
[PRT5] I think the security risk is higher using mobile banking service than using traditional bank transactions.	0.867			0.787	
[PRT3] I do not believe that the design of the mobile banking system can provide security and privacy.	0.861			0.779	
[PRT1] I feel not very safe when using mobile banking	0.858			0.777	

Source: Original study

4.6 Result Analysis

4.6.1 Evaluation of the Measurement Model

There are four rules of thumbs to measure the validity and reliability of the measurement model (Hair et al., 2011). Following to Schroer and Herterl (2009), the R2 value of greater than 0.672 is assumed to be substantial, 0.33 is assumed as moderate, and less than 0.19 is assumed to be weak. Thus, this study will use the value of 0.33 as the criteria. Moreover, to confirm the convergent validity, we use the average variance extracted (AVE). Once AVE is higher than 0.5, it could assure the latent variables explain more than average (Henseler et al, 2009). The composite reliability (CR) was used to confirm the variance and it should be higher than 0.6 which shared by the respective indicators is strong (Nunnally & Bernstein, 2010). Cronbach's alpha coefficient was implemented to assure the internal consistency and it should be higher than 0.7 of the research construct. Therefore, table 4-15, the partial evaluation of endogenous variables variance (R2) indicates that 0.350 for Perceived Usefulness, 0.467 for Perceived Ease of Use, 0.350 for

Perceived Value, 0.688 for Attitude toward Mobile Banking, 0.649 for Behavior Intention and 0.623 for Adoption Intention. These R² coefficients are considered to be a large effect according to Cohen (1988). The AVEs of the constructs are ranged from 0.544 to 0.748, which are greater than the criteria of 0.5 as suggested. Therefore, when the AVEs are higher than 0.50 we could wrap up that the model converges are fulfill expectations (Fornell & Larcker, 1981). After assuring the Convergent Validity, next is to notice the internal consistency values (Cronbach's Alpha) and the Composite Reliability (CR) (Dillon-Goldstein's rho). The Cronbach's alpha coefficients were ranged from 0.810 to 0.986, whereas higher than the benchmark of 0.7 and confirms the internal consistency of the measurement items. The CR coefficients are ranged from 0.853 to 0.989, whereas considered satisfactory (Hair et al., 2011). As a result, it should be wrapped up that the reliability and convergent validity of the constructed model are applicable, which accepts us to evaluate the structural model.

Table 4- 18: Evaluation of the Measurement Model

	AVE	Composite Reliability	Cronbachs Alpha	R ²
External Influence	0.721	0.912	0.871	-
Perceived Usefulness	0.620	0.907	0.877	0.350
Perceived ease of use	0.686	0.897	0.847	0.467
Technicality	0.636	0.875	0.810	-
Perceived fee	0.741	0.920	0.883	-
Perceived Value	0.620	0.907	0.877	0.350
Attitude toward mobile banking	0.627	0.893	0.850	0.688
Behavior Intention	0.656	0.905	0.869	0.649
Adoption Intention	0.681	0.914	0.883	0.623
Perceived behavioral control	0.645	0.916	0.890	-
Perceived risk toward using mobile banking	0.544	0.853	0.922	-
Attitude toward mobile banking * Perceived behavioral control	0.741	0.989	0.988	-
Attitude toward mobile banking * Perceived risk toward using mobile banking	0.748	0.987	0.986	-

Source: Original study

4.6.2 Evaluation of the Structural Model

In this study, the structural model of hypotheses was tested by using the path parameter estimate of each construct. As a sample size of 253, using a non-parametric bootstrapping method with 2,500 sub-samples to get the statistical significance of individual path coefficient to test hypotheses. The goodness-of-fit (GoF) index measures the entire fitness between data and model. According to Vinzi et al. (2010), GoF higher than 0.36 is assumed to be large, 0.25 is considered as medium and 0.10 is considered as small. As a result, the GoF of this structural model is 0.40, which assumed to be large. This result assumed that the structural model is significantly predictable power. Regarding the structural model as demonstrated in Figure 4-1, and Table 4-16.

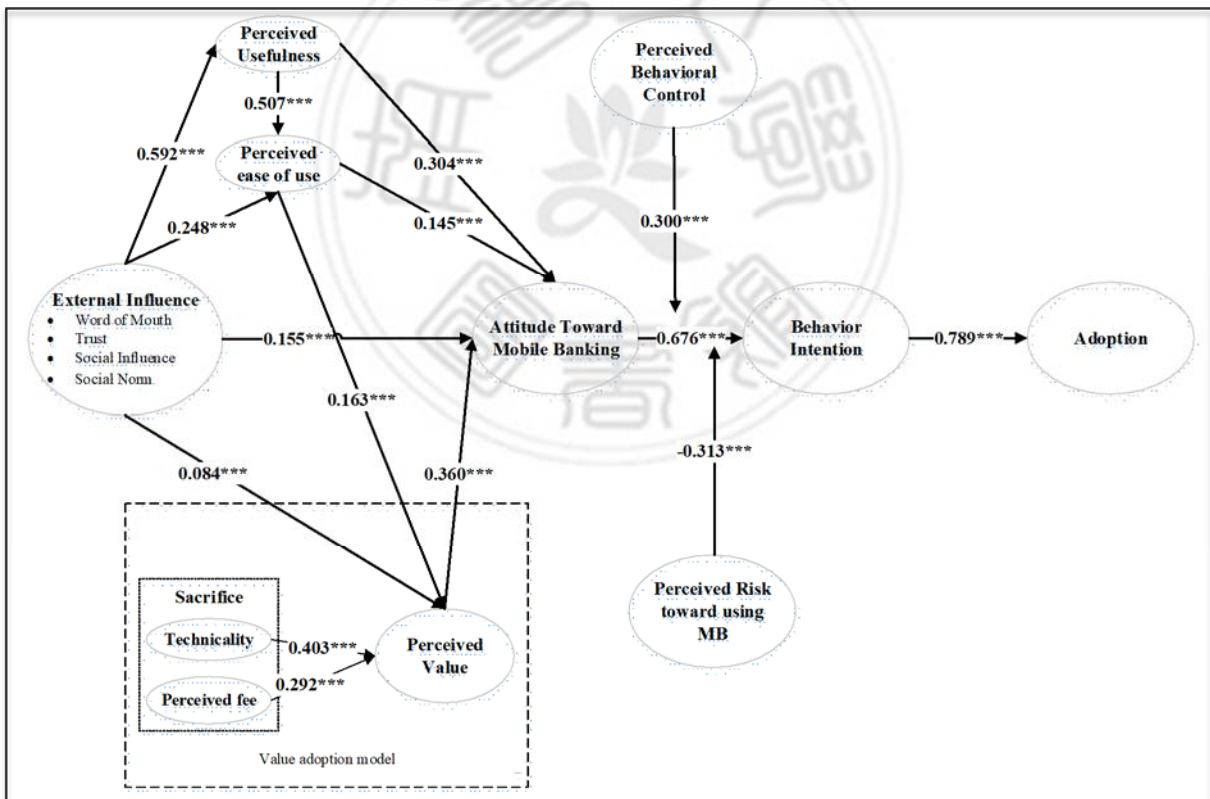


Figure 4- 1 Structural Model

(Source: Original study)

Table 4-16 and figure 4-1 illustrate the empirical result of 15 hypotheses in this study. The hypotheses development illustrated that external influence has a positive influence on perceived usefulness (H1), perceived ease of use (H2), perceived value (H3) and attitude toward mobile banking (H4). Furthermore, perceived usefulness has a positive influence on perceived ease of use (H5) and attitude toward mobile banking (H6), perceived ease of use has a positive influence on attitude toward mobile banking (H7) and perceived value (H8). Technicality has a positive influence on perceived value (H9). The perceived fee influences perceived value (H10). Perceived value influences attitude toward mobile banking (H11). Attitude toward mobile banking has a positive influence on behavior intention (H12). Behavior intention has a positive influence on adoption intention (H13). Perceived behavior control strengthens the effect of attitude toward mobile banking on behavior intention (H14). Perceived risk toward using mobile banking weakens the effect of attitude toward mobile banking on behavior intention (H15). The empirical result indicates that external influence is significantly influenced on perceived usefulness ($\beta=0.592$, $t=44.525$), perceived ease of use ($\beta=0.248$, $t=14.348$), perceived value ($\beta=0.084$, $t=5.572$) and attitude toward mobile banking ($\beta=0.155$, $t=9.388$). Furthermore, perceived usefulness is significantly influenced by perceived ease of use ($\beta=0.507$, $t=26.516$), attitude toward mobile banking ($\beta=0.304$, $t=14.391$). Moreover, perceived ease of use significantly influences on attitude toward mobile banking ($\beta=0.145$, $t=7.657$), perceived value ($\beta=0.163$, $t=6.751$). Technicality is significantly influenced by perceived value ($\beta=0.403$, $t=14.856$). The perceived fee is significantly influenced by perceived value ($\beta=0.292$, $t=14.682$). Perceived value significantly influences on attitude toward mobile banking ($\beta=0.360$, $t=18.405$). Attitude toward mobile banking is significantly influence on behavior intention ($\beta=0.676$, $t=5.386$). Behavior intention is significantly influenced by adoption intention ($\beta=0.789$, $t=76.749$).

Also, the 2 moderator effects of perceived behavior control significantly influence attitude toward mobile banking on behavior intention ($\beta = 0.300$, $t=2.197$) and perceived risk toward using mobile banking is the negatively significant influence of attitude toward mobile banking on behavior intention ($\beta = -0.313$, $t=2.258$). Therefore, H15 is also supported.

Table 4- 19: Evaluation of Structural Model and Hypothesis Testing

Hyp.	Path	Standardize Estimate	T-Value	P-Value
H1	External Influence -> Perceived Usefulness	0.592	44.525	***
H2	External Influence -> Perceived ease of use	0.248	14.348	***
H3	External Influence -> Perceived Value	0.084	5.572	***
H4	External Influence -> Attitude toward mobile banking	0.155	9.388	***
H5	Perceived Usefulness -> Perceived ease of use	0.507	26.516	***
H6	Perceived Usefulness -> Attitude toward mobile banking	0.304	14.391	***
H7	Perceived ease of use -> Attitude toward mobile banking	0.145	7.657	***
H8	Perceived ease of use -> Perceived Value	0.163	6.751	***
H9	Technicality -> Perceived Value	0.403	14.856	***
H10	Perceived fee -> Perceived Value	0.292	14.682	***
H11	Perceived Value -> Attitude toward mobile banking	0.360	18.405	***
H12	Attitude toward mobile banking -> Behavior Intention	0.676	5.386	***
H13	Behavior Intention -> Adoption Intention	0.789	76.749	***
H14	Attitude toward mobile banking * Perceived behavioral control -> Behavior Intention	0.300	2.197	***
H15	Attitude toward mobile banking * Perceived risk toward using mobile banking -> Behavior Intention	-0.313	2.258	***

Source: Original study

CHAPTER FIVE

CONCLUSIONS

In this chapter, conclusions, implications of managerial, limitations, and directions of future research are indicated. For the first part, the results study from chapter four is wrapped up. For those results, managerial implications for academics and practitioners are proposed. Lastly, future research directions and its' limitations are discussed.

5. Conclusions and Implications

5.1. Conclusions

This study has a purpose to identify the antecedents, mediators, moderators, and consequences of mobile banking adoption. Some conclusions could be drawn from the results of this process.

Firstly, external influence antecedents such as social influence, word of mouth, trust, and social norm have significant effects on attitude toward mobile banking; perceived usefulness; perceived ease of use and perceived value. The results are identical with the previous studies (e.g. Aboelmaged & Gebba (2013); Chitungo & Munongo (2013); Oliveira et al. (2014); Kim et al. (2009)). Therefore, banking marketers should focus on these factors to make marketing strategies, such as creating a preference image of the bank brand; encouraging consumers to use the application of the bank service widely, so that also can increase the incentive of others to adopt its app. As well as the bank should have a strong system to protect consumers' privacy and secrecy when consumers trust the bank security technique, they are willing to adopt it. Especially, experienced consumers' comments and recommendations will lead the potential consumers' adoption

intention, therefore, carefully operating the online community or the community of social media will be critical to building up the positive word of mouth.

Secondly, perceived usefulness has significant effects on perceived ease of use and attitude toward mobile banking. The result similarly with Shaikh and Karjaluo, (2015), the research indicated the strong relationship of perceived usefulness and perceived ease of use for using new technology. The attitude toward will be positively enhanced while consumers perceive on new technology are easily and crucial to use. Moreover, perceived ease of use is the influential factor to increase perceived value and attitude toward mobile banking. Mobile banking is a product which combines the physical bank and virtual bank services with one application on the mobile phone, it's an integrated product to offer consumers' banking services. Thereby, mobile banking could provide extra benefits to consumers (Trimi & Sheng, 2008; Ishmatova & Obi, 2009) and advance users perceived value. Thus, the results proposed that banking marketers should work on the function of mobile banking application is friendly to use and convenient, once consumers' realize the lower level of technical difficulty of adopting the application, it will results in higher perceive value, also, do not charge the fee of the app adoption, it also can efficiently promote higher perceive value, these results are in line with Kim et al. (2007), (Izquierdo-Yusta et al., 2015; Hsiao & Chen, 2016)

Thirdly, two mediators as an attitude toward mobile banking and behavior intention have a positive influence. The results are in line with previous studies (Alalwan et al. (2016); Limayem et al., 2000). These mediating variables have served as partial mediators that mediate the influences of external influence, perceived usefulness, perceived ease of use and perceived value on behavior intention. The result proposed that the related antecedents are crucial variables which are not only directly impact on adoption, but also could indirectly influence

on adoption through the mediating variables as an attitude toward mobile banking and behavior intention. They may role as a correlation that provides awareness of customer's perception and external influence factors which leads to intention to use mobile banking. Bankers should sight the mediators as the main elements to perform on indexes for studying customers' intentions.

Finally, this study further suggested that both perceived behavior control and perceived risk toward using mobile banking are moderator variables. The result indicated that perceived behavior control is significantly moderating effects on the influences of attitude toward mobile banking on behavior intention. This result is identical to previous studies (Tavafian et al., 2011). Deventer et al., (2017) suggested that when consumers have self-confidence and requirement resources to commit mobile banking, they are probably improving an attitude towards positively on mobile banking. Besides, Notani (1998) proposed that perceived behavior control shall become a measurement to predict behavior intention. Therefore, in case consumers perceive that they have control over behavior performance, they are more likely to shape strongly on intentions for using mobile banking. Moreover, the result of perceived risk toward using mobile banking was negatively significant moderating influence on attitude toward mobile banking and behavior intention. This result indicates that the correlation between attitude toward mobile banking and behavior intention has weakened relationships negatively. Yousafzai et al. (2010); Chavali and Kumar (2018) also have the same finding. A good security mechanism on consumers' privacy and financial information is critical for mobile banking adoption.

5.2. Academic Implications

Some academic implications could explore from this study result. To understand the consumer's adoption of innovation of the banking system, bankers

should try to investigate the influence of the external influence, technology, and consumer behavior. This study tried to cover the gaps from current literature. Moreover, the TAM model as proposed by Davis et al. (1989) and the VAM model as proposed by Kim et al., (2007), they have integrated two theories into the research model to explain how consumers' adoption on using mobile banking. Specifically, for the context of external influence antecedents, this study has introduced social norm from theory of reasoned action (Fishbein & Ajzen, 1975); social influence from UTAUT theory (Venkatesh et al., 2003); Trust from trust theory (Castelfranchi & Falcone, 2010) and words of mouth model (Martensen & Grønholdt 2017) to explain the influence of various external influence antecedents on mobile banking adoption. For perceived usefulness and perceived ease of use, this study introduced the theory Technology Acceptance Model (Davis et al., 1989) to explain the effect of perceived usefulness and perceived ease of use on mobile banking adoption constructs. For technicality; perceived fee and perceived value, this study introduced the Value-based Adoption model (Kim et al., 2007) to explain the effect of technicality; perceived fee and perceived value on mobile banking adoption. For the context of attitude toward mobile banking, this study has introduced theory Reasoned of Action (Fishbein & Ajzen, 1975) to explain the mediation role of attitude toward mobile banking on behavior intention. For the consequences of behavior intention, this study has introduced the theory of Reasoned of Action (Fishbein & Ajzen, 1975) to explain the effects of behavior intention on adoption. TAM has focused only on the customer's perception of new technology, which makes it difficult to develop a comprehensive framework of mobile banking adoption. Based on these comments, this study has added VAM on customer's value and combined both theories as a comprehensive research model to develop in this study. This research model has been empirically tested through the data gathered from the questionnaire survey. Additional theoretical

extensions and empirical testing are invited to enrich the context of the model. A questionnaire survey was finally conducted to empirically test the research hypotheses. This research procedure could be very helpful for scholars to enhance a more comprehensive research framework for further validation.

5.3. Managerial Implications

Some implications of managerial could be produced from this study result. Firstly, the studies from previous on mobile banking adoption have given TAM factors of perceived usefulness and perceived ease of use as the core components that can be used to promote mobile banking adoption. This study extended by integrating the theoretical foundation of TAM and VAM and found that external influence such as social influence; trust; word of mouth and social norm could be convincing. As mentioned by Mutahar et al. (2018) bankers should provide several important factors that influence to use of mobile banking by concentrating more on risk, awareness, usefulness, and ease of use to promote mobile banking adoption. The results showed that bankers are better to focus on the external influence factors. Thus, the performances of social influence, trust, word of mouth and social norm are equally and mainly that should be highlighted and begin to be the major performance indicators of adoption. The results further emphasized the promoting importance of attitude toward mobile banking and behavior intention as the two most important mediators that can encourage adoption intention. These results further imply that bankers need to pay much more attention to how to create mobile banking features, as well as to increase trust in the process of mobile banking. Thus, marketers could take these two variables as the main index to perform management index which requires to evaluate intention. Specifically, attitude toward mobile banking and behavior intention could perform marketing advantages certainly such as realizing consumer behavior, obtaining new

customers, giving better leverage of trade, and enduring among competitor's marketing factors. Therefore, with these benefits, marketers need to make their marketing priorities list for maintaining customers' attitudes and behavior intention by varied marketing features, including word of mouth, pricing, trust, easier, useful, and technical. More precisely, bankers need to assure that mobile banking services are safer with both financial and privacy and are promoted as easier, and more useful than using traditional banking (Mutahar et al., 2018). Moreover, Deventer et al., (2017) suggested that when consumers have self-confidence and the necessary resources to commit mobile banking, they will have a positive attitude towards mobile banking. Therefore, perceived risk toward using mobile banking and perceived behavior control in the programs of marketing seems to be important for practicing to promote mobile banking adoption (Cristea & Gheorghiu, 2016; Hanafizadeh et al., 2012). Besides, this study further discovered that perceived behavior control and perceived risk toward using mobile banking are even more important factors to improve consumers' intends to use mobile banking.

5.4. Limitations and Future Research Directions

The study results are interesting and make a notice to the impact of antecedents, mediators; moderators, including the consequences of mobile banking adoption. Moreover, this study still has several limitations and should make some suggestions for future research. Firstly, the research framework developed a comprehensive model that enclose the antecedents, mediators, moderators, and consequences of mobile banking adoption, it could not ensure that some variables which exclude are not important for this study. Furthermore, validations of empirical are encouraged to identify the crucial of additional factors. Secondly, the research framework has merged two theories such as TAM and

VAM for this study which are conceptually equivalent, while part of the items that have been measured are adopted from previous literature. Thus, the variance of the common issue needs to be observed. Thirdly, the sample size of this study was 253 which is fairly small. In this regard, the sample size should be extended to overcome this limitation. Besides, data collection was carried out using cross-sectional. Thus, future studies should be developed by using the longitudinal technique to assess the evolution of loyalty after actual usage. Fourthly, due to the previous studies on moderating effects of mobile banking adoption is still rare, it would be analyzed the moderating effect with characteristics, whereas gender, age, experience with mobile banking. Fifthly, the research would conduct the study with other countries such as different countries of origin of the respondents. Sixthly, even this study indicated a lot of theories to define the effective trend of the research model, the explanation differentiation among diversify theories are yet conveyed. The study for the future could take in a challenge model to distinct the explained variances using varied theories from different concepts. Even though this study has made an inclusive survey on mobile banking adoption studies from Smart PLS, it could not ensure all coverage of every available study. Some studies could not be included due to inadequate information. Seventhly, future research could extend to search for more service types to recognize the generalizability of study results since this study is used mobile banking as an objective for the questionnaire survey. Eighthly, as WOM has been confirmed as a powerful facilitator of attitude toward mobile banking, future studies can focus on how it can be integrated into different marketing programs to enhance behavior intention and adoption intention. Lastly, even this study tried to explain the fact of mobile banking adoption from the different outlook of theoretical, there is no intention to estimate or challenge the power of explanation from varying theories with the same situation. This research issue could cause to the direction of future research.

REFERENCES

1. Aboelmaged, M., & Gebba, T. R. (2013). Mobile Banking Adoption: An Examination of Technology Acceptance Model and Theory of Planned Behavior. International Journal of Business Research and Development, Vol. 2, No. 1.
2. Abbas, S. K., Hassan, H. A., Asif, J., Junaid, H. M., & Zainab, F. (2018). What are the key determinants of mobile banking Adoption in Pakistan? International Journal of Scientific & Engineering Research, Vol. 9, No. 2, pp. 841-848.
3. Abdul-Hamid, I. K., Shaikh, A. A., Boateng, H., & Hinson, R. E. (2019). Customers' Perceived Risk and Trust in Using Mobile Money Services an Empirical Study of Ghana. International Journal of E-Business Research (IJEER), Vol. 15, No. 1, pp. 1-19.
4. Afshan, S., Sharif, A., 2016. Acceptance of mobile banking framework in Pakistan. Telematics Inform. Vol. 33, No. 2, pp. 370-387.
5. Ahmadi Danyali, A. (2018). Factors influencing customers' change of behaviors from online banking to mobile banking in Tejarat Bank, Iran. Journal of Organizational Change Management, Vol. 31, No. 6, pp. 1226-1233.
6. Aixia, D., & Wang, D. (2011). Factors influencing learner attitudes toward e-learning and development of e-learning environment based on the integrated e-learning platform. International Journal of e-Education, e-Business, e-Management and e-Learning, Vol. 1, No. 3, pp. 264-268.
7. Ajzen, I. (2001). Nature and Operation of Attitudes. Annual Review of Psychology, Vol. 52, No. 1, pp. 27-58.

8. Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice-Hall.
9. Ajzen, Icek (1991). The theory of planned behavior. Organizational behavior and human decision process. Vol. 50, pp. 179-211
10. Al-Adwan, A. & Smedley, J. K. (2012). Implementing e-learning in the jordanian higher education systems: Factors affecting impact. International Journal of Education and Development using Information and Communication Technology, Vol. 8, No. 1, pp. 121-135.
11. Alalwan, A. A., Dwivedi, Y. K., & Williams, M. D. (2016). Customers' Intention and Adoption of Telebanking in Jordan. Information Systems Management, Vol. 33, No. 2, pp. 154-178.
12. Alalwan, A. A., Dwivedi, Y. K., Rana, N. P., & Williams, M. D. (2016). Consumer adoption of mobile banking in Jordan: examining the role of usefulness, ease of use, perceived risk and self-efficacy. Journal of Enterprise Information Management, Vol. 29, No. 1, pp. 118-139.
13. Anderson, R. E., & Swaminathan, S. (2011). Customer satisfaction and loyalty in e-markets: A PLS path modeling app. roach. Journal of Marketing Theory and Practice, Vol. 19, No. 2, pp. 221 - 234.
14. Baptista, G., Ovilveira, T. (2015). Understanding mobile banking: The unified theory of acceptance and use of technology combined with cultural moderators. Computers in Human Behavior. Vol. 50, pp. 418-430.
15. Bauer, R.A. (1960). Consumer Behavior as Risk Taking. In: Hancock, R.S., Ed., Dynamic Marketing for a Changing World, Proceedings of the 43rd. Conference of the American Marketing Association, pp. 389-398.
16. Belanche, D., Casaló, L. V., & Guinaliú, M. (2012). Website usability, consumer satisfaction and the intention to use a website: The moderating

- effect of perceived risk. Journal of Retailing and Consumer Services, Vol. 19, No. 1, pp. 124-132.
17. Beyari, H., & Abareshi, A. (2018). An Empirical Study of How Social Influence Impacts Customer Satisfaction with Social Commerce Sites. Recent Trends in Data Science and Soft Computing, pp. 973-984.
 18. Blay, A. D., Gooden, E. S., Mellon, M. J., & Stevens, D. E. (2019). Can social norm activation improve audit quality? Evidence from an experimental audit market. Journal of Business Ethics, Vol. 156, No. 2, pp. 513-530.
 19. Brown, S. A., Dennis, A. R., & Venkatesh, V. (2010). Predicting collaboration technology use: Integrating technology adoption and collaboration research. Journal of Management Information Systems, Vol. 27, No. 2, pp. 9-54.
 20. Cakır, R., & Solak, E. (2015). Attitude of Turkish EFL Learners towards e-Learning through Tam Model. Procedia Social and Behavioral Sciences, Vol. 176, pp. 596-601.
 21. Cao, X., & Mokhtarian, P. L. (2005). The Intended and Actual Adoption of Online Purchasing: A Brief Review of Recent Literature. UC Davis: Institute of Transportation Studies (UCD). Retrieved from <https://escholarship.org/uc/item/095934s0>
 22. Casalo, L. V., Flavián, C., & Guinalú, M. (2007). The influence of satisfaction, perceived reputation and trust on a consumer's commitment to a website. Journal of Marketing Communications, Vol. 13, No. 1, pp. 1-17.
 23. Castelfranchi, C., & Falcone, R. (2010). Trust theory: A socio-cognitive and computational model. Chichester: John Wiley & Sons.
 24. Chang, C. C., Yan, C. F., & Tseng, J. S. (2012). Perceived convenience in an extended technology acceptance model: Mobile technology and English

- learning for college students. Australasian Journal of Educational Technology, Vol. 28, No. 5, pp. 809-826.
25. Chavali, K., & Kumar, A. (2018). Adoption of Mobile Banking and Perceived Risk in GCC. Banks and Bank Systems, Vol. 13, No. 1, pp. 72-79.
 26. Cheong, J. H., & Park, M. (2005). Mobile internet acceptance in Korea. Internet Research, Vol. 15, No. 2, pp. 125-140.
 27. Chi, T., 2018. Mobile commerce website success: antecedents of consumer satisfaction and purchase intention. Journal Internet Commercial. pp. 1-26.
 28. Chitungo, S.K., Munongo, S., 2013. Extending the technology acceptance model to mobile banking adoption in rural Zimbabwe. Journal Business Administration Education. Vol. 3, No. 1, pp. 51-79.
 29. Chong, A. Y. (2013). Mobile commerce usage activities: The roles of demographic and motivation variables. Technological Forecasting and Social Change, Vol. 80, No. 7, pp. 1350-1359.
 30. Chong, X., Zhang, J., Lai, K. K., & Nie, L. (2012). An empirical analysis of mobile internet acceptance from a value-based view. International Journal of Mobile Communications, Vol. 10, No. 5, pp. 536-557.
 31. Chu, C.-W., & Lu, H.-P. (2007). Factors influencing online music purchase intention in Taiwan: An empirical study based on the value-intention framework. Internet Research, Vol. 17, No. 2, pp. 139-155.
 32. Chuang, C. C. (2019). Adopt M-Banking as a Successful Business Strategy. International Research Journal of Applied Finance, Vol. 10, No. 4, pp. 160-169.
 33. Coursaris, C., Hassanein, K., & Head, M. (2003). M-Commerce in Canada: An Interaction Framework for Wireless Privacy. Canadian Journal of Administrative Sciences / Revue Canadienne Des Sciences DeL Administration, Vol. 20, No. 1, pp. 54-73.

34. Crabbe, M., Standing, C., Standing, S. & Karjaluoto, H. (2009). An adoption model for mobile banking in Ghana. International Journal Mobile Communications, Vol. 7, No. 5, pp. 515-543.
35. Cristea, M., & Gheorghiu, A. (2016). Attitude, perceived behavioral control, and intention to adopt risky behaviors. Transportation Research Part F: Traffic Psychology and Behaviour, Vol. 43, pp. 157-165.
36. Culbertson, H.M. 1968. What is an Attitude? Journal of Extension. Vol. 6 No. 2, pp. 79-84.
37. Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. Management Science, Vol. 35, No. 8, pp. 982-1003.
38. De Leon, M. V. (2019). Factors influencing behavioural intention to use mobile banking among retail banking clients. Journal Studi Komunikasi, Vol. 3, No. 2, pp. 118-137.
39. Delgado-Ballester, Elena, & Munuera-Alemán, José Luis. (2005). Does brand trust matter to brand equity? Journal of Product & Brand Management, Vol. 14, No. 3, pp. 187-196.
40. DeLone, W. H., & Mclean, E. R. (1992). Information Systems Success: The Quest for the Dependent Variable. Information Systems Research, Vol. 3, No. 1, pp. 60-95.
41. Deventer M.V., Klerk N. D. & Bevan-Dye A. (2017). Influence of perceived integrity and perceived system quality on Generation Y students' perceived trust in mobile banking in South Africa. Banks and Bank Systems, Vol. 12, No. 1, pp. 128-134.
42. Dirisu, J., Worlu, R., Osibanjo, A., Borisade, T., Olokundun, M., Atolagbe, T., & Obi, J. (2018). Dataset on brand culture and perceived value of offerings to customers in the hospitality industry in Nigeria. Data in Brief, 19, pp. 1-5.

43. Dwivedi, Y. K., Rana, N. P., Jeyaraj, A., Clement, M., & Williams, M. D. (2019). Re-examining the unified theory of acceptance and use of technology (UTAUT): Towards a revised theoretical model. Information Systems Frontiers, Vol. 21, No. 3, pp. 719-734.
44. Einav, L., Levin, J., Popov, I., & Sundaresan, N. (2014). Growth, Adoption, and Use of Mobile E-Commerce. American Economic Review, Vol. 104, No. 5, pp. 489-494.
45. Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention and behavior: An introduction to theory and research. Reading, MA: Addison Wesley.
46. Fornell, C., and Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. Journal of Marketing Research, Vol. 18, No. 1, pp. 39-50.
47. Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: an integrated model. MIS quarterly, Vol. 27, No. 1, pp. 51-90.
48. Guenzi, G., Johnson, M. D., & Castaldo, S. (2009). A comprehensive model of customer trust in two retail stores. Journal of Service Management, Vol. 20, No. 3, pp. 290-316.
49. Gumussoy, C. A., Kaya, A., & Ozlu, E. (2018). Determinants of mobile banking use: an extended TAM with perceived risk, mobility access, compatibility, perceived self-efficacy and subjective norms. In Industrial Engineering in the Industry 4.0 Era, pp. 225-238.
50. Guriting, P., & Ndubisi, N. O. (2006). Borneo online banking: Evaluating customer perceptions and behavioral intention. Management Research News, Vol. 29, No. 1/2, pp. 6-15.
51. Hair, G., Black, B., Babin, B., Anderson, R. and Tatham, R. (2010). Multivariate Data Analysis. 7th Edition, Pearson, Upper Saddle River, New Jersey.

52. Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. Journal of Marketing Theory and Practice, Vol. 19, No. 2, pp. 139-152
53. Hajiha, A., Shahriari, M., & Vakilian, N. (2014). The role of perceived value on customer E-shopp. ing intention using technology acceptance model, (TAM). 2014 IEEE International Conference on Industrial Engineering and Engineering Management.
54. Hallegatte, D., & Nantel, J. (2006). The intertwined effect of perceived usefulness, perceived ease of use and trust in a website on the intention to return. The E-Business Review, Vol. 6, pp. 1-5.
55. Hanafizadeh, P., Behboudi, M., Ahadi, F., & Ghaderi Varkani, F. (2012). Internet advertising adoption: a structural equation model for Iranian SMEs. Internet Research, Vol. 22, No. 4, pp. 499-526.
56. Hanafizadeh, P., Behboudi, M., Koshksaray, A. A., & Tabar, M. J. (2012). Mobile-banking adoption by Iranian bank clients. Telematics and Informatics, Vol. 31, No. 1, pp. 62-78.
57. Hanafizadeh, P., Behboudi, M., Koshksaray, A. A., & Tabar, M. J. S. (2014). Mobile-banking adoption by Iranian bank clients. Telematics and Informatics, Vol. 31, No. 1, pp. 62-78.
58. Hasan, R., Lowe, B., & Petrovici, D. (2018). An Empirical Comparison of Consumer Innovation Adoption Models: Implications for Subsistence Marketplaces. Journal of Public Policy & Marketing.
59. He, Y., Chen, Q., & Kitkuakul, S. (2018). Regulatory focus and technology acceptance: Perceived ease of use and usefulness as efficacy. Cogent Business & Management, Vol. 5, No. 1, 1459006.

60. Henseler, J., Hubona, G., & Ray, P. A. (2017). Partial Least Squares Path Modeling: Updated Guidelines. Partial Least Squares Path Modeling, pp. 19-39.
61. Hernandez, J. M., & Mazzon, J. A. (2007). Adoption of internet banking: Proposition and implementation of an integrated methodology approach. International Journal of Bank Marketing, Vol. 25, No. 2, pp. 72-88.
62. Ho, S., & Ko, Y. (2008). Effects of self-service technology on customer value and customer readiness. Internet Research, Vol. 18, No. 4, pp. 427-446.
63. Hogan, J., Lemon, K., & Libai, B. (2004). Quantifying the Ripple: Word-of-Mouth and Advertising Effectiveness. Journal of Advertising Research. Vol. 44, No. 3, pp. 271-280.
64. Hong, I. B. (2019). Understanding and Predicting Behavioral Intention to Adopt Mobile Banking: The Korean Experience. Journal of Global Information Management (JGIM), Vol. 27, No. 3, pp. 182-202.
65. Hoque, M. E., Hassan, M. K., Hashim, N. M. H. N., & Zaher, T. (2019). Factors affecting Islamic banking behavioral intention: the moderating effects of customer marketing practices and financial considerations. Journal of Financial Services Marketing, Vol. 24, No. 1-2, pp. 44-58.
66. Hsiao, K., & Chen, C. (2016). What drives in-app. purchase intention for mobile games? An examination of perceived values and loyalty. Electronic Commerce Research and Applications, Vol. 16, pp. 18-29.
67. Hsu, C., Chen, Y., Yang, T., & Lin, W. (2017). Do website features matter in an online gamification context? Focusing on the mediating roles of user experience and attitude. Telematics and Informatics, Vol. 34, No. 4, pp. 196-205.

68. Hsu, C.-L., & Lin, J. C.-C. (2016). Effect of perceived value and social influences on mobile app. stickiness and in-app. purchase intention. Technological Forecasting and Social Change, Vol. 108, pp. 42-53.
69. Hsu, M., Chang, C., Chu, K., & Lee, Y. (2014). Determinants of repurchase intention in online group-buying: The perspectives of DeLone & McLean IS success model and trust. Computers in Human Behavior, Vol. 36, pp. 234-245.
70. Hsu, M.H., & Chiu, C.M. (2004). Internet self-efficacy and electronic service acceptance. Decision Support Systems, Vol. 38, pp. 369-381.
71. Huang, Y. M. (2015). Exploring the factors that affect the intention to use collaborative technologies: The differing perspectives of sequential/global learners. Australasian Journal of Educational Technology, Vol. 31, No. 3.
72. Huda, M., Ulfatmi, Luthfi, M. J., Jasmi, K. A., Basiron, B., Mustari, M. I., Safar, A., Embong, W. H., Mohamad, A. M., & Mohamed, A. K. (2019). Adaptive Online Learning Technology: Trends in Big Data Era. In D. Williams, & N. Harkness (Eds.), *Diverse Learning Opportunities Through Technology-Based Curriculum Design* (pp. 163-195). Hershey, PA: IGI Global.
73. Ishmatova, D., & Obi, T. (2009). M-government services: User needs and value. Journal of E-Government Policy and Regulation, Vol. 32, No. 1, pp. 39-46.
74. Izquierdo-Yusta, A., Olarte-Pascual, C., & Reinares-Lara, E. (2015). Attitudes toward mobile advertising among users versus non-users of the mobile Internet. Telematics and Informatics, Vol. 32, No. 2, pp. 355-366.
75. Jaruwachirathanakul, B., & Fink, D. (2005). Internet banking adoption strategies for a developing country: The case of Thailand. Internet Research, Vol. 15, No. 3, pp. 295-311.

76. Kamtarin, M., (2012). The Effect of Electronic Word of Mouth, Trust and Perceived Value on Behavioral Intention from the Perspective of Consumers. International Journal of Academic Research in Economics and Management Sciences, Vol. 1, No. 4, pp. 56-66.
77. Karjaluoto, H., Shaikh, A. A., Saarijärvi, H., & Saraniemi, S. (2019). How perceived value drives the use of mobile financial services app. s. International Journal of Information Management, Vol. 47, pp. 252-261.
78. Kerviler, G. D., Demoulin, N. T., & Zidda, P. (2016). Adoption of in-store mobile payment: Are perceived risk and convenience the only drivers? Journal of Retailing and Consumer Services, Vol. 31, pp. 334-344.
79. Khaled, M, S, F. (2016). Which is more important in e-learning adoption, perceived value or perceived usefulness: examining the moderating influence of perceived compatibility. E-Proceeding of the 4th Global Summit on Education, pp. 967-978.
80. Khan S.N., Akter M., Zeya F. (2019) Bangladeshi Banking Innovations: A Case Study on Mobile Banking. In: Sikdar A., Pereira V. (eds) Business and Management Practices in South Asia. Palgrave Macmillan, Singapore
81. Kim, D., Chun, H., & Lee, H. (2014). Determining the factors that influence college students' adoption of smartphones. Journal of the Association for information Science and Technology, Vol. 65, No. 3, pp. 578-588.
82. Kim, G., Shin, B., Lee H.G., 2009. Understanding dynamics between initial trust and usage intentions of mobile banking. Information System Journal, Vol. 19, No. 3, pp. 283-311.
83. Kim, H. W., Chan, H. C., & Gupta, S. (2007). Value-based adoption of mobile internet: an empirical investigation. Decision Supp. ort Systems, Vol. 43, No. 1, pp. 111-126

84. Kim, S. H., Bae, J. H., & Jeon, H. M. (2019). Continuous Intention on Accommodation App. s: Integrated Value-Based Adoption and Expectation-Confirmation Model Analysis. Sustainability, Vol. 11, No. 6, pp. 1578.
85. Kim, Y., Park, Y., & Choi, J. (2017). A study on the adoption of IoT smart home service: Using Value-based Adoption Model. Total Quality Management & Business Excellence, Vol. 28, No. 9-10, pp. 1149-1165.
86. Komlan, G., Koffi, D., & Kingsford, K. M. (2016). MCDM Technique to Evaluating Mobile Banking Adoption in the Togolese Banking Industry Based on the Perceived Value: Perceived Benefit and Perceived Sacrifice Factors. International Journal of Data Mining & Knowledge Management Process, Vol. 6, No. 3, pp. 37-56.
87. Komulainen, H., & Saraniemi, S. (2019). Customer centricity in mobile banking: a customer experience perspective. International Journal of Bank Marketing.
88. Kotler, P., & Armstrong, G. (2010). Principles of marketing. Pearson education.
89. Lafraxo, Y., Hadri, F., Amhal, H., & Rossafi, A. (2018). The Effect of Trust, Perceived Risk and Security on the Adoption of Mobile Banking in Morocco. Proceedings of the 20th International Conference on Enterprise Information Systems.
90. Lau, C. K. H., Chui, C. F. R., & Au, N. (2019). Examination of the adoption of augmented reality: a VAM app. roach. Asia Pacific Journal of Tourism Research, Vol. 24, No. 10, pp. 1005-1020.
91. Le D.T., Nguyen H.P., Ho V.N., Ho T.P.Y., Nguyen Q.T., Le N.N.A. (2018) Technology Acceptance and Future of Internet Banking in Vietnam. Foresight and STI Governance, Vol. 12, No. 2, pp. 36-48.

92. Lee, H., & Chang, E. (2011). Consumer Attitudes Toward Online Mass Customization: An Application of Extended Technology Acceptance Model. Journal of Computer-Mediated Communication, Vol. 16, No. 2, pp. 171-200.
93. Lee, M.R., Yen, D., Hsiao, C.Y., 2014. Understanding the perceived community value of Facebook users. Computers in Human Behavior. Vol. 35, pp. 350-358.
94. Lee, T. (2005). The impact of perceptions of interactivity on customer trust and transaction intentions in mobile commerce. Journal of Electronic Commerce Research, Vol. 6, No. 3, pp. 165-80.
95. Levitt, J. A., Zhang, P., DiPietro, R. B., & Meng, F. (2019). Food tourist segmentation: Attitude, behavioral intentions and travel planning behavior based on food involvement and motivation. International Journal of Hospitality & Tourism Administration, Vol. 20, No. 2, pp. 129-155.
96. Lichtenstein, D. R., Ridgway, N. M., & Netemeyer, R. G. (1993). Price Perceptions and Consumer Shopping Behavior: A Field Study. Journal of Marketing Research, Vol. 30, No. 2, pp. 234.
97. Lim, W. M. (2015). The influence of internet advertising and electronic word of mouth on consumer perceptions and intention: Some evidence from online group buying. Journal of Computer Information Systems, Vol. 55, No. 4, pp. 81-89.
98. Limayem, M., Khalifa, M., & Frini, A. (2000). What makes consumers buy from Internet? A longitudinal study of online shopping. IEEE Transactions on Systems, Man, and Cybernetics - Part A. Systems and Humans, Vol. 30, No. 4, pp. 421-432.

99. Lin, F. T., Wu, H. Y., & Tran T.N.N. (2014). Internet banking adoption in a developing country: an empirical study in Vietnam. Information Systems and e-Business Management, Vol. 13, No. 2, pp. 267-287.
100. Lin, H. (2011). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. International Journal of Information Management, Vol. 31, No. 3, pp. 252-260.
101. Liu, P., Yang, R., & Xu, Z. (2019). Public acceptance of fully automated driving: effects of social trust and risk/benefit perceptions. Risk Analysis, Vol. 39, No. 2, pp. 326-341.
102. Lovelock, C.H., Patterson, P.G., Walker, R. (2001). *Services Marketing: Asia and Pacific Perspective*. Upper Saddle River, NJ: Prentice-Hall.
103. Luo, X., Li, H., Zhang, J., & Shim, J. (2010). Examining multi-dimensional trust and multi-faceted risk in initial acceptance of emerging technologies: An empirical study of mobile banking services. Decision Support Systems, Vol. 49, No. 2, pp. 222-234.
104. Malaquias, R. F., & Hwang, Y. (2019). Mobile banking use: A comparative study with Brazilian and U.S. participants. International Journal of Information Management, Vol. 44, pp. 132-140.
105. Manser Payne, E., Peltier, J. W., & Barger, V. A. (2018). Mobile banking and AI-enabled mobile banking: The differential effects of technological and non-technological factors on digital natives' perceptions and behavior. Journal of Research in Interactive Marketing, Vol. 12, No. 3, pp. 328-346.
106. Maqbool, A. (2018). Review of The Technology Acceptance Model (TAM) in Internet banking and Mobile banking. International Journal of Information Communication Technology and Digital Convergence. Vol. 3, No. 1, pp. 23-41.

107. Martensen, A., & Grønholdt, L. (2017). The effect of word-of-mouth on consumer emotions and choice: Findings from a service industry. International Journal of Quality and Service Sciences, Vol. 8, No. 3, pp. 298-314.
108. Martins, C., Oliveira, T., & Popovič, A. (2014). Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk app. location. International Journal of Information Management, Vol. 34, No. 1, pp. 1-13.
109. Maulana, C. Z., Suryana, Y., Kartini, D., & Febrian, E. (2019). Influencing Factors on the Actual Usage of Mobile Phone Banking in the Shari'ah Banks: A Survey in Palembang City, Indonesia. Global Review of Islamic Economics and Business, Vol. 7, No. 1, pp. 001-019.
110. Mazhar, F., Rizwan, M., Fiaz, U., Ishrat, S., Razzaq, M.S., Khan, T.N., 2014. An investigation of factors affecting usage and adoption of internet & mobile banking in Pakistan. International Journal Accountant Finance Report. Vol. 4, No. 2, pp. 478.
111. Mehrad, D., & Mohammadi, S. (2016). Word of Mouth impact on the adoption of mobile banking in Iran. Telematics and Informatics, Vol. 34, No. 7, pp. 1351-1363.
112. Menon, J., & Fink, A. (2019). The Fourth Industrial ReVolution and Its Implications for Regional Economic Integration in ASEAN. Journal of Asian Economic Integration, Vol. 1, No. 1, pp. 32-47.
113. Mishra, D., Akman, I., & Mishra, A. (2014). Theory of Reasoned Action application for Green Information Technology acceptance. Computers in Human Behavior, Vol. 36, pp. 29-40.
114. Mohamed, R. N., Mohamad, B., Borhan, H., Osman, I., & Kamaralzaman, S. (2019). The Determinant Factors of Supply Chain Management on Purchase

- Intention of an International Branded App. arels Status Quo. International Journal Supply Chain. Management, Vol., 8, No. 3, pp. 677.
115. Mohamed Asmy Bin Mohd Thas Thaker, Pitchay, A. B. A., Thaker, H. B. M. T., & Amin, M. F. B. (2019). Factors influencing consumers' adoption of Islamic mobile banking services in Malaysia. Journal of Islamic Marketing, Vol. 10, No. 4, pp. 1037-1056.
116. Mukerjee, K., & Shaikh, A. (2019). Impact of customer orientation on word-of-mouth and cross-buying. Marketing Intelligence & Planning, Vol. 37, No. 1, pp. 97-110.
117. Muñoz-Leiva, F., Climent-Climent, S., & Liébana-Cabanillas, F. (2017). Determinants of intention to use the mobile banking app. s: An extension of the classic TAM model. Spanish Journal of Marketing (ESIC), Vol. 21, No. 1, pp. 25-38.
118. Mutahar, A. M., Daud, N. M., Ramayah, T., Isaac, O., & Aldholay, A. H. (2018). The effect of awareness and perceived risk on the technology acceptance model (TAM): mobile banking in Yemen. International Journal of Services and Standards, Vol. 12, No. 2, pp. 180-204.
119. Mutahar, A. M., Daud, N. M., Thurasamy, R., Isaac, O., & Abdulsalam, R. (2018). The Mediating of Perceived Usefulness and Perceived Ease of Use. International Journal of Technology Diffusion, Vol. 9, No. 2, pp. 21-40.
120. Mwiya, B., Chikumbi, F., Shikaputo, C., Kabala, E., Kaulung'ombe, B., & Siachinji, B. (2017). Examining Factors influencing e-banking adoption: evidence from bank customers in Zambia. Available at SSRN 2987982.
121. Namahoot, K. S., & Laohavichien, T. (2018). Assessing the intentions to use internet banking. International Journal of Bank Marketing, Vol. 36, No. 2, pp. 256-276.

122. Nassuora, A. B. (2013). Understanding Factors Affecting the Adoption of M-commerce by Consumers. Journal of Applied Sciences, Vol. 13, No. 6, pp. 913-918.
123. Notani, A. S. (1998). Moderators of perceived behavioral control's predictiveness in the theory of planned behavior: A meta-analysis. Journal of Consumer Psychology, Vol. 7, pp. 247-271.
124. Nouri, A. (2019). The effect of word of mouth advertising on mobile banking acceptance for the customers of Maskan Bank branches in Tehran. Dilemas Contemporáneos: Educación, Política y Valores, 6(Special).
125. Nunnally, J. C., & Bernstein, I. H. (2010). Psychometric theory. New York: McGraw-Hill.
126. Oliveira, T., Faria, M., Thomas, M. A., & Popovic, A. (2014). Extending the understanding of mobile banking adoption: When UTAUT meets TTF and ITM. International Journal of Information Management. Vol. 34, No. 5, pp. 689-703.
127. Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. Journal of Retailing and Consumer Services, Vol. 29, pp. 123-134.
128. Pavlou P. (2001). Integrating Trust in Electronic Commerce with the Technology Acceptance Model: Model Development and Validation. AMCIS 2001 Proceedings, pp. 159.
129. Pelaez, A., Chen, C. W., & Chen, Y. X. (2019). Effects of perceived risk on intention to purchase: A meta-analysis. Journal of Computer Information Systems, Vol. 59, No. 1, pp. 73-84.
130. Pelaez, A., Chen, C.-W., & Chen, Y. X. (2017). Effects of Perceived Risk on Intention to Purchase: A Meta-Analysis. Journal of Computer Information Systems, pp. 1-12.

131. Perdigoto M. and Picoto W. (2012). Analysing Intention and Action in Mobile Banking Services. Studies Portuguese Journal of Management, Vol. 17, No. 2, pp. 133-152.
132. Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnla, S. (2004). Consumer acceptance of online banking: an extension of the technology acceptance model. Internet research, Vol. 14, No. 3, pp. 224-235.
133. Puschel, J., Mazzon, J.A. & Hernandez, J.M.C. (2010). Mobile Banking: Proposition of an Integrated Adoption Intention Framework. International Journal of Bank Marketing, Vol. 28, No. 5, pp. 389-409.
134. Raza, S. A., Abidi, M., Arsalan, G. M., Shairf, A., & Qureshi, M. A. (2018). The impact of student attitude, trust, subjective norms, motivation and rewards on knowledge sharing attitudes among university students. International Journal of Knowledge and Learning, Vol. 12, No. 4, pp. 287-304.
135. Raza, S. A., Shah, N., & Ali, M. (2019). Acceptance of mobile banking in Islamic banks: evidence from modified UTAUT model. Journal of Islamic Marketing, Vol. 10, No. 1, pp. 357-376.
136. Revyathi, A., & Tselios, N. (2019). Extension of Technology Acceptance Model by using System Usability Scale to assess behavioral intention to use e-learning. Education and Information Technologies, Vol. 24, No. 4, pp. 2341-2355.
137. Ribbink, D. Riel, A. C. R. V., Liljander, V. & Streukens, S. (2004). Comfort your online customer: quality, trust and loyalty on the internet. Managing Service Quality, Vol. 14, No. 6, pp. 446-644.
138. Saibaba, S., & Murthy, N.T. (2013). Factors influencing the behavioural intention to adopt internet banking: An empirical study in India. Journal of Arts, Science and Commerce, Vol. 4, No. 4, pp. 77-92.

139. Sakala, L. and Phiri, J. (2019). Factors Affecting Adoption and Use of Mobile Banking Services in Zambia Based on TAM Model. Open Journal of Business and Management, Vol. 7, pp. 1380-1394
140. Schroer, J., & Hertel, G. (2009). Voluntary engagement in an open web-based encyclopedia: Wikipedians, and why they do it. Media Psychology, Vol. 12, pp. 96-120.
141. Selvanathan, M., Krisnan, U. D., & Jun, G. K. (2017). Acceptance of Internet Banking among Consumers in Kota Damansara, Selangor, Malaysia. International Journal of Business and Management, Vol. 12, No. 2, pp. 103-110.
142. Setterstrom, A. J., Pearson, J. M., & Orwig, R. A. (2013). Web-enabled wireless technology: An exploratory study of adoption and continued use intentions. Behaviour & Information Technology, Vol. 32, No.11, pp. 1139-1154.
143. Shaikh, A. A., & Karjaluo, H. (2015). Mobile banking adoption: A literature review. Telematics and Informatics, Vol. 32, No. 1, pp. 129-142.
144. Shaikh, A. A., Glavee-Geo, R., & Karjaluo, H. (2018). How relevant are risk perceptions, effort, and performance expectancy in mobile banking adoption? International Journal of E-Business Research (IJEBR), Vol. 14, No. 2, pp. 39-60.
145. Shareef, M. A., Baabdullah, A., Dutta, S., Kumar, V., & Dwivedi, Y. K. (2018). Consumer adoption of mobile banking services: An empirical examination of factors according to adoption stages. Journal of Retailing and Consumer Services, Vol. 43, pp. 54-67.
146. Sharma, S. K. (2017). Integrating cognitive antecedents into TAM to explain mobile banking behavioral intention: A SEM-neural network modeling. Information Systems Frontiers.

147. Sharma, S. K. (2019). Integrating cognitive antecedents into TAM to explain mobile banking behavioral intention: A SEM-neural network modeling. Information Systems Frontiers, Vol. 21, No. 4, pp. 815-827.
148. Sharma, S. K., & Al-Muharrami, S. (2018). Mobile Banking Adoption: Key Challenges and Opportunities and Implications for a Developing Country. Advances in Theory and Practice of Emerging Markets Emerging Markets from a Multidisciplinary Perspective, pp. 75-86.
149. Shen, D., Laffey, J., Lin, Y., & Huang, X. (2006). Social influence for perceived usefulness and ease-of-use of course delivery systems. Journal of Interactive Online Learning, Vol. 5, No. 3, pp. 270-282.
150. Shirazi, T., & Puts, D. (2018). Risk of Conception. Encyclopedia of Evolutionary Psychological Science, pp. 1-3.
151. Shroff, R., Deneen, C., & Ng, D. (2011). Analysis of the technology acceptance model in examining students' behavioural intention to use an e-portfolio system. Australasian Journal of Educational Technology, Vol. 27, No. 4, pp. 600-618
152. Summers, R., & Abd-El-Khalick, F. (2017). Development and validation of an instrument to assess student attitudes toward science across grades 5 through 10. Journal of Research in Science Teaching, Vol. 55, No. 2, pp. 172-205.
153. Sun, J., & Chi, T. (2018). Key factors influencing the adoption of app. arel mobile commerce: An empirical study of Chinese consumers. The Journal of The Textile Institute, Vol. 109, No. 6, pp. 785-797.
154. Suoranta, M., M. Mattila and J. Munnukka (2005). Technology-Based Services: A Study on the Drivers and Inhibitors of Mobile Banking. International Journal of Management and Decision Making, Vol. 6, No. 1, pp. 33-46.

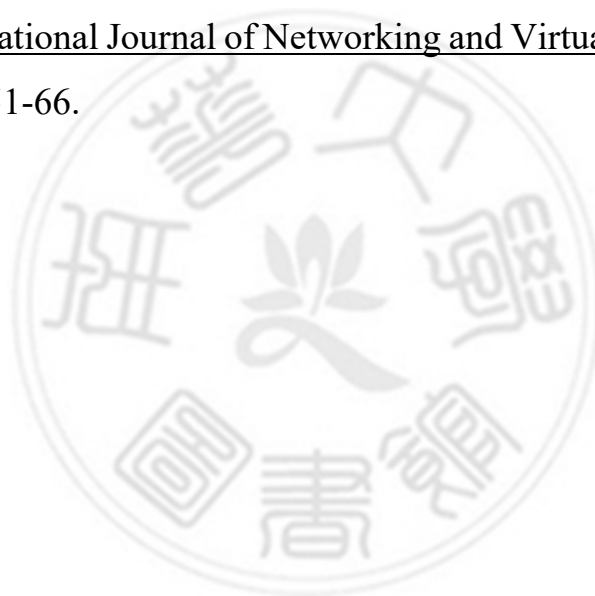
155. Tavafian, S.S., Aghamolaei, T., & Madani, A. (2011). Predictors of speeding behavior among a sample of iranian commercial automobile drivers: An application of the theory of planned behavior. Traffic Injury Prevention, Vol. 12, No. 3, pp. 274-278.
156. Teo, T. (2009). Evaluating the intention to use technology among student teachers: A structural equation modeling approach. International Journal of Technology in Teaching and Learning, Vol. 5, No. 2, pp. 106-118.
157. Trimi, S., & Sheng, H. (2008). Emerging trends in m-government. Communications ACM, Vol. 51, No. 5, pp. 53-58.
158. Tuu, H. H., Olsen, S. O., & Linh, P. T. (2011). The moderator effects of perceived risk, objective knowledge and certainty in the satisfaction-loyalty relationship. Journal of Consumer Marketing, Vol. 28, No. 5, pp. 363-375.
159. Venkatesh, Morris, Davis, & Davis. (2003). User Acceptance of Information Technology: Toward a Unified View. MIS Quarterly, Vol. 27, No. 3, pp. 425.
160. Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. MIS Quarterly. Vol. 36, No. 1, pp. 157-178.
161. Vinzi, V.E., Trinchera, L & Amato, S. (2010). PLS path modeling: From foundations to recent developments and open issues for model assessment and improvement, Handbook of Partial Least Squares: Concepts, Methods and Application, pp. 47-82.
162. Wang, C. (2014). Antecedents and consequences of perceived value in Mobile Government continuance use: An empirical research in China. Computers in Human Behavior, Vol. 34, pp. 140-147.

163. Wang, H., & Wang, S. (2010). Predicting mobile hotel reservation adoption: Insight from a perceived value standpoint. International Journal of Hospitality Management, Vol. 29, No. 4, pp. 598-608.
164. Wang, Y., Yeh, C., & Liao, Y. (2013). What drives purchase intention in the context of online content services? The moderating role of ethical self-efficacy for online piracy. International Journal of Information Management, Vol. 33, No. 1, pp. 199-208.
165. Wang, Y.-Y., Lin, H.-H., Wang, Y.-S., Shih, Y.-W., & Wang, S.-T. (2018). What drives users' intentions to purchase a GPS Navigation app. Internet Research, Vol. 28, No. 1, pp. 251-274.
166. Wessels, L., Drennan, J., 2010. An investigation of consumer acceptance of M-banking. International Journal of Bank Marketing, Vol. 28, No. 7, pp. 547-568.
167. Woodruff, R. B. (1997). Customer value: The next source for competitive advantage. Journal of the Academy of Marketing Science, Vol. 25, No. 2, pp. 139-153.
168. Wu, I. L. & Chen, J. L. (2005). An extension of trust and TAM model with TPB in the initial adoption of on-line tax: an empirical study. International Journal of Human-Computer Studies, Vol. 62, No. 6, pp. 784-808.
169. Wu, Y.-L., & Li, E. Y. (2018). Marketing mix, customer value, and customer loyalty in social commerce. Internet Research, Vol. 28, No. 1, pp. 74-104.
170. Yang, H., Yu, J., Zo, H., & Choi, M. (2016). User acceptance of wearable devices: An extended perspective of perceived value. Telematics and Informatics, Vol. 33, No. 2, pp. 256-269.
171. Yeo, V. C., Goh, S., & Rezaei, S. (2017). Consumer experiences, attitude and behavioral intention toward online food delivery (OFD) services. Journal of Retailing and Consumer Services, Vol. 35, pp. 150-162.

172. Yoo, B., and Donthu, N. (1997), Developing and Validating a Consumer-based Overall Brand Equity Scale for Americans and Koreans: An Extension of Aaker's and Keller's Conceptualizations," Paper presented at 1997 AMA Summer Educators Conference, Chicago.
173. Yoon, C. (2018). Extending the TAM for Green IT: A normative perspective. Computers in Human Behavior, Vol. 83, pp. 129-139.
174. Yousafzai, S. Y., Foxall, G. R., & Pallister, J. G. (2010). Explaining Internet Banking Behavior: Theory of Reasoned Action, Theory of Planned Behavior, or Technology Acceptance Model? Journal of Applied Social Psychology, Vol. 40, No. 5, pp. 1172-1202.
175. Yu, H., Seo, I., & Choi, J. (2019). A study of critical factors affecting adoption of self-customisation service - focused on value-based adoption model. Total Quality Management & Business Excellence, pp. 1-16.
176. Zeithaml, V. A., Bitner, M. J., & Gremler, D. D. (2018). Services marketing: Integrating customer focus across the firm. New York: McGraw -Hill Education.
177. Zeithaml, V.A. (1988). Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence. Journal of Marketing, Vol. 52, No. 7, pp. 2-22.
178. Zeithaml, V.A. and Bitner, M.J. (2000) Services Marketing: Integrating Customer Focus across the Firm. 2nd Edition, McGraw-Hill, Boston.
179. Zhao, L. A., Lewis, K. N., Lloyd, H. S. and Ward, P. (2010). Adoption of internet banking service in China: is it all about trust? International Journal of Information Management, Vol. 28, pp. 726.
180. Zhao, Q., Tsai, P.-H., & Wang, J.-L. (2019). Improving Financial Service Innovation Strategies for Enhancing China's Banking Industry Competitive

Advantage during the Fintech ReVol.ution: A Hybrid MCDM Model. *Sustainability*, Vol. 11, No. 5, pp. 1419.

181. Zhou, M., Zhao, L., Kong, N., Campy, K. S., Qu, S., & Wang, S. (2019). Factors influencing behavior intentions to telehealth by Chinese elderly: An extended TAM model. *International journal of medical informatics*, Vol. 126, pp. 118-127.
182. Zhou, T. (2011). An empirical examination of initial trust in mobile banking. *Internet Research*, Vol. 21, No. 5, pp. 527-540.
183. Zhou, T. (2018). Examining users' switch from online banking to mobile banking. *International Journal of Networking and Virtual Organizations*, Vol. 18, No. 1, pp. 51-66.



APPENDIX Questionnaire

Dear Respondents:

This academic questionnaire is to investigate the factors affecting consumers' adoption of mobile banking. This study develops a theoretical framework integrating mobile banking adoption and intentions of consumers mainly based on Technology Acceptance Model (TAM) and Value-based Adoption Model (VAM). This study also analyzes the influential factors of consumers' mobile banking adoption behaviors including words of mouth, trust, social influence and social norm. To further evaluate the visibility of the theoretical framework, this study further selects the attitude toward mobile banking as the important mediator and perceived risk and perceived behavioral control as the important moderators for mobile banking adoption.

You are reported to be an interesting respondent for this research. We took your freedom of participation to express your views on these issues. Your facial expression and assistance will be greatly appreciated. We sincerely invite you to spend a maximum of 15 minutes to complete the questionnaire regarding the issues of mobile banking adoption. No personal information will be made public. Please be assured that your answers will be kept in strict confidentiality. Please take the time to fill out this questionnaire as accurately as possible. Your help is crucial for this research and also for our understanding about these issues. We deeply appreciate your kind cooperation.

Thank you.

Faithfully Yours,

Researcher Investigator

Dr. Wann Yih Wu

Distinguished Professor

Department of Business

Administration

Nanhua University

TEL:

Email:

Research Student

Ms. Or Nita

Master Student

Department of Business

Administration

Nanhua University

TEL:

Email:



សំណួរ

គោរពជូនអ្នកចូលរួម

កម្រងសំណួរសិក្សានេះគឺធ្វើឡើងដើម្បីអង្កេតពីកត្តាផ្សេងៗដែលមានឥទ្ធិពលលើការទទួលយកកម្មវត្ថុសេវាកម្មធនាគារតាមប្រព័ន្ធទូរស័ព្ទចល័តរបស់អ្នកប្រើប្រាស់ ។ ការសិក្សានេះអភិវឌ្ឍន៍ដោយយោងទៅតាមក្របខ័ណ្ឌទ្រឹស្តីគោលមួយ ដោយដាក់បញ្ចូលគ្នានូវកត្តា២គឺការទទួលយកសេវាកម្មធនាគារតាមប្រព័ន្ធទូរស័ព្ទចល័ត និងធន្នះរបស់អ្នកប្រើប្រាស់ផ្អែកទៅលើទ្រឹស្តី Technology Acceptance Model និងទ្រឹស្តី Value-based Adoption Model។ ការសិក្សានេះ ក៏វិភាគពីកត្តាដែលមានឥទ្ធិពលទៅលើឥរិយាបថរបស់អ្នកប្រើប្រាស់ចំពោះការទទួលយក និងការអនុវត្តសេវាធនាគារតាមប្រព័ន្ធទូរស័ព្ទចល័ត ដែលកត្តាទាំងនោះអាចស្តែងចេញតាមរយៈពាក្យសំដី សេចក្តីទុកចិត្ត ឥទ្ធិពលសង្គម និងបទដ្ឋានសង្គម។ ដើម្បីវាយតម្លៃឱ្យបានស៊ីជម្រៅ និងកាន់តែច្បាស់លាស់ទៅលើក្របខណ្ឌនៃការវិភាគទ្រឹស្តីគោល ការសិក្សានេះជ្រើសយកអាកប្បកិរិយាទៅប្រើប្រាស់សេវាកម្មធនាគារតាមប្រព័ន្ធទូរស័ព្ទចល័តជាធាតុសម្របសម្រួលសំខាន់ និងការយល់ឃើញពីហានិភ័យនៃការប្រើប្រាស់ និងការគ្រប់គ្រងឥរិយាបថនៃការយល់ឃើញជាធាតុសម្រុះសម្រួល ទៅលើការទទួលអនុវត្តសេវាកម្មធនាគារតាមប្រព័ន្ធទូរស័ព្ទចល័ត ។

លោកអ្នកត្រូវបានជ្រើសរើសជាអ្នកចូលរួមឆ្លើយសំណួរម្នាក់សម្រាប់ការស្រាវជ្រាវនេះ។ យើងខ្ញុំទទួលយកការចូលរួមដោយសេរីរបស់អ្នកដើម្បីបង្ហាញពីទស្សនៈរបស់អ្នកទៅលើបញ្ហាទាំងនេះ។ យើងខ្ញុំមានភាពរីករាយក្នុងការទទួលយក អារម្មណ៍ និងការគិតជាក់ស្តែងរបស់អ្នក។ យើងខ្ញុំសូមស្នើលោកអ្នកចំណាយពេល ១៥ នាទីដើម្បីបំពេញកម្រងសំណួរទាក់ទងនឹងបញ្ហានានានៃការទទួលយកធនាគារទូរស័ព្ទចល័ត។ ចំពោះព័ត៌មានផ្ទាល់ខ្លួននឹងមិនត្រូវបានផ្សព្វផ្សាយជាសាធារណៈឡើយ។ យើងខ្ញុំសូមបញ្ជាក់ថាចម្លើយរបស់លោកអ្នកនឹងរក្សាជាការសម្ងាត់។ សូមលោកអ្នកចំណាយពេលរបស់លោកអ្នកដើម្បីបំពេញកម្រងសំណួរនេះឱ្យបានត្រឹមត្រូវតាមដែលអាចធ្វើទៅបាន។ ការជួយរបស់លោកអ្នកគឺមានសារៈសំខាន់សម្រាប់ការស្រាវជ្រាវនេះ និងផ្តល់ជាការយល់ដឹងពីបញ្ហាទាំងនេះផងដែរ។ យើងខ្ញុំសូមអរគុណយ៉ាងជ្រាលជ្រៅចំពោះកិច្ចសហការដ៏សប្បុរសរបស់លោកអ្នក។

សូមអរគុណ

Researcher Investigator

បណ្ឌិត. Wann Yih Wu

សាស្ត្រាចារ្យ

នាយកដ្ឋានរដ្ឋបាលជំនួញ

សាកលវិទ្យាល័យ Nanhua

ទូរស័ព្ទ:

អ៊ីម៉ែល:

Research Student

កញ្ញា ឱ និតា

និស្សិតថ្នាក់អនុបណ្ឌិត

នាយកដ្ឋានរដ្ឋបាលជំនួញ

សាកលវិទ្យាល័យ Nanhua

ទូរស័ព្ទ:

អ៊ីម៉ែល:



Section 1. External Influence ផ្នែកទី១. ឥទ្ធិពលខាងក្រៅ							
<p>The following questions are asking your opinions about the external influence of using mobile banking. សំណួរខាងក្រោមនេះគឺសួរអំពីគំនិតរបស់អ្នកលើឥទ្ធិពលខាងក្រៅលើការប្រើប្រាស់សេវាធានាការកុងប្រេងទូរស័ព្ទចល័ត។</p> <p>Please take a short look on the questions below related with your experience about the external factors influencing mobile banking adoptions, and then CIRCLE the level of agreement on each of the items below based on your opinion. សូមពិនិត្យមើលលើសំណួរខាងក្រោមដែលទាក់ទងនឹងបទពិសោធន៍របស់អ្នកអំពីកត្តាខាងក្រៅជះឥទ្ធិពលលើសេវាធានាការកុងប្រេងទូរស័ព្ទចល័ត ហើយបន្ទាប់មកចុចលើកម្រិតនៃការយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោមដោយផ្អែកលើមតិយោបល់របស់អ្នក។</p>	Levels of Agreement កម្រិតនៃការយល់ស្រប						
	Strongly Disagree មិនយល់ស្របទាំងស្រុង	Disagree មិនយល់ស្រប	Somewhat Disagree មិនយល់ស្របបន្តិចបន្តួច	Neutral អព្យាក្រឹត	Somewhat Agree យល់ស្របបន្តិចបន្តួច	Agree យល់ស្រប	Strongly Agree យល់ស្របទាំងស្រុង
Social Influence (SI) ឥទ្ធិពលសង្គម							
1. [SI1]: People who influence my behavior think that I should use mobile banking. អ្នកដែលមានឥទ្ធិពលមកលើឥរិយាបថរបស់ខ្ញុំគិតថាខ្ញុំគួរប្រើសេវាធានាការកុងប្រេងទូរស័ព្ទចល័ត	1	2	3	4	5	6	7
2. [SI2]: People who are important to me think that I should use the mobile banking មនុស្សដែលមានសារៈសំខាន់ចំពោះខ្ញុំគិតថាខ្ញុំគួរប្រើសេវាធានាការកុងប្រេងទូរស័ព្ទចល័ត	1	2	3	4	5	6	7
3. [SI3]: My classmates who have good performance have benefited from using mobile banking មិត្តរួមថ្នាក់របស់ខ្ញុំដែលរៀនពូកែបានទទួលអត្ថប្រយោជន៍ពីការប្រើធានាការកុងប្រេងទូរស័ព្ទ	1	2	3	4	5	6	7
4. [SI4]: In general, the bank has supported the use of mobile banking ជាទូទៅធានាការបានគាំទ្រការប្រើប្រាស់សេវាធានាការកុងប្រេងទូរស័ព្ទចល័ត	1	2	3	4	5	6	7
Words of Mouth (WOM) ពាក្យសម្តី							
1. [WOM1]: I have been recommended by many people to use mobile banking. ខ្ញុំត្រូវបានមនុស្សជាច្រើនណែនាំឱ្យប្រើប្រាស់សេវាធានាការកុងប្រេងទូរស័ព្ទចល័ត	1	2	3	4	5	6	7

2. [WOM2]: I often got suggestion to use mobile banking from my friends. ខ្ញុំបានទទួលការផ្តល់យោបល់ដើម្បីប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័តពីមិត្តភក្តិរបស់ខ្ញុំជាញឹកញាប់	1	2	3	4	5	6	7
3. [WOM3]: My friends always try to convince me to use mobile banking. មិត្តរបស់ខ្ញុំតែងតែព្យាយាមបញ្ជូនខ្ញុំឱ្យប្រើសេវាធនាគារតាមទូរស័ព្ទ	1	2	3	4	5	6	7
4. [WOM4]: Many people try to show the benefits of mobile banking to me មនុស្សជាច្រើនព្យាយាមបង្ហាញពីអត្ថប្រយោជន៍នៃសេវាធនាគារតាមទូរស័ព្ទមកខ្ញុំ	1	2	3	4	5	6	7
5. [WOM5]: I try to spread the good-word about mobile banking ខ្ញុំព្យាយាមផ្សព្វផ្សាយពាក្យសម្តីល្អៗអំពីសេវាធនាគារទូរស័ព្ទចល័ត	1	2	3	4	5	6	7
Trust (TR) ទំនុកចិត្ត							
1. [TR1]: Mobile banking has enough protection to make me feel comfortable using it សេវាធនាគារទូរស័ព្ទចល័តមានការការពារគ្រប់គ្រាន់ដើម្បីធ្វើអោយខ្ញុំមានធានាសុខភាពក្នុងការប្រើប្រាស់	1	2	3	4	5	6	7
2. [TR2]: I feel assured that legal structures adequately protect me from problems associated with using mobile banking services ខ្ញុំប្រាកដថាបែបបទផ្នែកច្បាប់អាចការពារខ្ញុំបានគ្រប់គ្រាន់ពីបញ្ហានានាពាក់ព័ន្ធនឹងការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័ត	1	2	3	4	5	6	7
3. [TR3]: I feel confident that technological advances (such as encryption) on mobile make it safe for me to use mobile banking ខ្ញុំមានទំនុកចិត្តថាការរៀនសូត្រផ្នែកបច្ចេកវិទ្យា (ដូចជា encryption) នៅលើទូរស័ព្ទមានសុវត្ថិភាពសម្រាប់ខ្ញុំក្នុងការប្រើសេវាធនាគារទូរស័ព្ទចល័ត	1	2	3	4	5	6	7
4. [TR4]: In general, the mobile device is a safe environment in which to transact banking activities through mobile devices	1	2	3	4	5	6	7

ជាទូទៅឧបករណ៍ទូរស័ព្ទចល័តគឺពោរពេញទៅដោយសុវត្ថិភាព ដែលអាចធ្វើប្រតិបត្តិការធនាគារ តាមរយៈទូរស័ព្ទចល័ត							
Social Norms (SN) បទដ្ឋានសង្គម							
1. [SN1]: People who are important to me would recommend using mobile banking services មនុស្សដែលមានសារៈសំខាន់ចំពោះខ្ញុំបានណែនាំឱ្យប្រើសេវាធនាគារទូរស័ព្ទចល័ត	1	2	3	4	5	6	7
2. [SN2]: People who are important to me would find using mobile banking services beneficial មនុស្សដែលមានសារៈសំខាន់ចំពោះខ្ញុំបានរកឃើញការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័តផ្តល់នូវគុណប្រយោជន៍	1	2	3	4	5	6	7
3. [SN3]: People who are important to me would find using mobile banking services a good idea មនុស្សដែលមានសារៈសំខាន់ចំពោះខ្ញុំបានរកឃើញការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័តជាជម្រើសដ៏ល្អ	1	2	3	4	5	6	7
4. [SN4]: More and more people around me use mobile banking service មនុស្សកាន់តែច្រើននៅជុំវិញខ្ញុំប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័ត	1	2	3	4	5	6	7

Section 2. Perceived Usefulness

ផ្នែកទី ២. ការយល់ដឹងពីអត្ថប្រយោជន៍

<p>The following questions are asking your opinions about the perceived usefulness of using mobile banking. សំណួរខាងក្រោមនេះគឺសួរអំពីគំនិតរបស់អ្នកលើការយល់ដឹងពីអត្ថប្រយោជន៍នៃការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័ត។</p> <p>Please take a short look on the questions below related with your experience in mobile banking, and then CIRCLE the level of agreement on each of the items below based on your opinion. សូមពិនិត្យមើលលើសំណួរខាងក្រោមដែលទាក់ទងនឹងបទពិសោធន៍របស់អ្នកលើសេវាធនាគារទូរស័ព្ទចល័ត ហើយបន្ទាប់មកគូសរង្វង់លើកម្រិតនៃការយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោមដោយផ្អែកលើមតិយោបល់របស់អ្នក។</p>	<p>Levels of Agreement កម្រិតនៃការយល់ស្រប</p>						
	Strongly Disagree មិនយល់ស្របទាំងស្រុង	Disagree មិនយល់ស្រប	Somewhat Disagree មិនយល់ស្របបន្តិច	Neutral អព្យាក្រឹត	Somewhat Agree យល់ស្របបន្តិចបន្តួច	Agree យល់ស្រប	Strongly Agree យល់ស្របទាំងស្រុង
<p>Perceived Usefulness (PU) ការយល់ដឹងពីអត្ថប្រយោជន៍</p>							
<p>1. [PU1]: Using mobile banking will allow me to accomplish tasks more quickly ការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័តអាចនឹងឱ្យខ្ញុំសម្រេចកិច្ចការបានយ៉ាងលឿន</p>	1	2	3	4	5	6	7
<p>2. [PU2]: Using mobile banking add to my task effectiveness ការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័តបន្ថែមប្រសិទ្ធភាពការងាររបស់ខ្ញុំ</p>	1	2	3	4	5	6	7
<p>3. [PU3]: Using mobile banking makes it easier to do my task ការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័តកាន់តែធ្វើអោយមានភាពងាយស្រួលក្នុងការបំពេញកិច្ចការរបស់ខ្ញុំ</p>	1	2	3	4	5	6	7
<p>4. [PU4]: Using mobile banking improves my task performance ការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័តបង្កើនផលិតភាពកិច្ចការរបស់ខ្ញុំ</p>	1	2	3	4	5	6	7
<p>5. [PU5]: Using mobile banking saves me time and effort in performing tasks</p>	1	2	3	4	5	6	7

ការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទលើកិច្ចការសន្សំពេលវេលានិងកិច្ចប្រឹងប្រែងក្នុងការបំពេញ ការងារ							
6. [PU6]: Mobile banking is useful in performing my task សេវាធនាគារទូរស័ព្ទលើកិច្ចការសន្សំពេលវេលានិងកិច្ចប្រឹងប្រែងក្នុងការបំពេញកិច្ចការរបស់ខ្ញុំ	1	2	3	4	5	6	7



Section 3: Perceived Ease of Use

ផ្នែកទី ៣. ការយល់ដឹងពីភាពងាយស្រួលប្រើប្រាស់

<p>The following questions are asking your opinions about the perceived ease of use on mobile banking. សំណួរខាងក្រោមនេះគឺសួរអំពីគំនិតរបស់អ្នកលើភាពងាយស្រួលក្នុងការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័ត។</p> <p>Please take a short look on the questions below related with your perceptions about using mobile banking, and then CIRCLE the level of agreement on each of the items below based on your opinion. សូមពិនិត្យមើលលើសំណួរខាងក្រោមដែលទាក់ទងនឹងបទពិសោធន៍របស់អ្នកលើសេវាធនាគារទូរស័ព្ទចល័ត ហើយបន្ទាប់មកគូសរង្វង់លើកម្រិតនៃការយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោមដោយផ្អែកលើមតិយោបល់របស់អ្នក។</p>	<p>Levels of Agreement កម្រិតនៃការយល់ស្រប</p>						
	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
Perceived ease of use (PEOU)							
<p>1. [PEOU1]: It is easy to use mobile banking វាមានភាពងាយស្រួលក្នុងការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័ត</p>	1	2	3	4	5	6	7
<p>2. [PEOU2]: It is easy to get mobile banking to do what I want it to do វាមានភាពងាយស្រួលក្នុងការទទួលបានសេវាធនាគារទូរស័ព្ទចល័តដើម្បីធ្វើអ្វីដែលខ្ញុំចង់ធ្វើ</p>	1	2	3	4	5	6	7
<p>3. [PEOU3]: My interaction with mobile banking is clear and Understandable ការប្រើប្រាស់របស់ខ្ញុំលើសេវាធនាគារតាមទូរស័ព្ទគឺច្បាស់លាស់ហើយអាចយល់បាន</p>	1	2	3	4	5	6	7
<p>4. [PEOU4]: It is convenient to access mobile banking វាមានភាពងាយស្រួលក្នុងការចូលទៅប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័ត</p>	1	2	3	4	5	6	7

Section 4. Perceived Sacrifice

ផ្នែកទី ៤. ការយល់ដឹងពីការលះបង់

<p>The following questions are asking your opinions about the perceived sacrifice of using mobile banking. សំណួរខាងក្រោមនេះគឺសួរអំពីគំនិតរបស់អ្នកលើការយល់ដឹងពីការលះបង់ក្នុងការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័ត។</p> <p>Please take a short look on the questions below related with your experience regarding perceived sacrifice in mobile banking, and then CIRCLE the level of agreement on each of the items below based on your opinion.</p> <p>សូមពិនិត្យមើលលើសំណួរខាងក្រោមដែលទាក់ទងនឹងបទពិសោធន៍របស់អ្នកលើសេវាធនាគារទូរស័ព្ទចល័ត ហើយបន្ទាប់មកគូសរង្វង់លើកម្រិតនៃការយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោមដោយផ្អែកលើមតិយោបល់របស់អ្នក។</p>	<p>Levels of Agreement កម្រិតនៃការយល់ស្រប</p>						
	Strongly Disagree មិនយល់ស្របទាំងស្រុង	Disagree មិនយល់ស្រប	Somewhat Disagree មិនយល់ស្របនិច្ច	Neutral អព្យាក្រឹត	Somewhat Agree យល់ស្របនិច្ច	Agree យល់ស្រប	Strongly Agree យល់ស្របទាំងស្រុង
<p>Technicality (TCH) បច្ចេកទេស</p>							
<p>1. [TCH1]: I think mobile banking provides a convenient features ខ្ញុំគិតថាធនាគារទូរស័ព្ទចល័តផ្តល់នូវលក្ខណៈងាយស្រួល</p>	1	2	3	4	5	6	7
<p>2. [TCH2]: Mobile banking can be connected instantly ធនាគារទូរស័ព្ទចល័តអាចភ្ជាប់បានភ្លាមៗ</p>	1	2	3	4	5	6	7
<p>3. [TCH3]: Mobile banking takes a short time to respond ធនាគារទូរស័ព្ទចល័តចំណាយពេលខ្លីដើម្បីឆ្លើយតប</p>	1	2	3	4	5	6	7
<p>4. [TCH4]: The system of mobile banking is reliable ប្រព័ន្ធជនាគារទូរស័ព្ទចល័តអាចទុកចិត្តបាន</p>	1	2	3	4	5	6	7
<p>Perceived Fee (PF) ការយល់ដឹងពីថ្លៃសេវា</p>							
<p>1. [PF1]: The fee that I have to pay for the use of mobile banking is low ថ្លៃសេវាដែលខ្ញុំត្រូវបង់សម្រាប់ការប្រើប្រាស់សេវាធនាគារចល័តគឺមានតំលៃទាប</p>	1	2	3	4	5	6	7

<p>2. [PF2]: The fee that I have to pay for access mobile banking is reasonable</p> <p>ថ្លៃសេវាដែលខ្ញុំត្រូវបង់សម្រាប់ដំណើរការប្រើប្រាស់សេវាធនាគារតាមទូរស័ព្ទគឺអាចទទួលយកបាន</p>	1	2	3	4	5	6	7
<p>3. [PF3]: I am pleased with the price I have to pay for the use of mobile Banking</p> <p>ខ្ញុំរីករាយនឹងតម្លៃដែលខ្ញុំត្រូវចំណាយសម្រាប់ការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទល្អ</p>	1	2	3	4	5	6	7
<p>4. [PF4]: I think the transaction fee of using mobile banking is cheap</p> <p>ខ្ញុំគិតថាថ្លៃសេវាប្រតិបត្តិការនៃការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទល្អគឺមានតម្លៃថោក</p>	1	2	3	4	5	6	7



Section 5: Perceived Value

ផ្នែកទី ៥. ការយល់ដឹងពីតម្លៃ

<p>The following questions are asking your opinions about the perceived value of using mobile banking. សំណួរខាងក្រោមនេះគឺសួរអំពីគំនិតរបស់អ្នកលើការយល់ឃើញពីតម្លៃនៃការប្រើប្រាស់សេវាធានាការទូរស័ព្ទចម្ងាយ។</p> <p>Please take a short look on the questions below related with your experience in using mobile banking, and then CIRCLE the level of agreement on each of the items below based on your opinion.</p> <p>សូមពិនិត្យមើលលើសំណួរខាងក្រោមដែលទាក់ទងនឹងបទពិសោធន៍របស់អ្នកលើសេវាធានាការទូរស័ព្ទចម្ងាយតាមប្រព័ន្ធបណ្តាញទូរស័ព្ទចម្ងាយរបស់សំណួរនីមួយៗខាងក្រោមដោយផ្អែកលើមតិយោបល់ របស់អ្នក។</p>	<p>Levels of Agreement កម្រិតនៃការយល់ស្រប</p>						
	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
<p>Perceived value (PV)</p>							
<p>1. [PV1]: Compared to the cost I need to pay, the use of mobile banking provides more benefit បើប្រៀបធៀបទៅនឹងតម្លៃដែលខ្ញុំត្រូវចំណាយនោះ ការប្រើប្រាស់សេវាធានាការទូរស័ព្ទចម្ងាយផ្តល់នូវអត្ថប្រយោជន៍ជាច្រើន</p>	1	2	3	4	5	6	7
<p>2. [PV2]: Compared to the effect I need to set up, the use of mobile banking is favorable to me បើប្រៀបធៀបទៅនឹងលទ្ធផលដាក់ចេញដែលខ្ញុំត្រូវការ ការប្រើប្រាស់សេវាធានាការទូរស័ព្ទចម្ងាយគឺល្អសំរាប់ខ្ញុំ</p>	1	2	3	4	5	6	7
<p>3. [PV3]: Compared to the time I need to spend, the use of mobile banking is useful to me. បើប្រៀបធៀបទៅនឹងពេលវេលាដែលខ្ញុំត្រូវចំណាយ ការប្រើប្រាស់សេវាធានាការទូរស័ព្ទចម្ងាយគឺមានអត្ថប្រយោជន៍ចំពោះខ្ញុំ</p>	1	2	3	4	5	6	7
<p>4. [PV4]: Overall, using mobile banking delivers me good value. សរុបមក ការប្រើប្រាស់សេវាធានាការតាមទូរស័ព្ទផ្តល់ឱ្យខ្ញុំនូវគុណតម្លៃ</p>	1	2	3	4	5	6	7
<p>5. [PV5]: The experience that I've been using mobile banking has satisfied my needs and wants បទពិសោធន៍ដែលខ្ញុំបានប្រើប្រាស់សេវាធានាការតាមទូរស័ព្ទបានបំពេញសេចក្តីចង់បាននិងសេចក្តីត្រូវការរបស់ខ្ញុំ</p>	1	2	3	4	5	6	7

Section 6. Attitude toward mobile banking

ផ្នែកទី ៦. អាកប្បកិរិយាទៅរកការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័ត

<p>The following questions are asking your opinions about the attitude toward mobile banking. សំណួរខាងក្រោមនេះគឺសួរអំពីគំនិតរបស់អ្នកលើអាកប្បកិរិយាទៅរកការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័ត។</p> <p>Please take a short look on the questions below related with your attitude toward mobile banking, and then CIRCLE the level of agreement on each of the items below based on your opinion. សូមពិនិត្យមើលលើសំណួរខាងក្រោមដែលទាក់ទងនឹងបទពិសោធន៍របស់អ្នកលើសេវាធនាគារទូរស័ព្ទចល័ត ហើយបន្ទាប់មកគូសរង្វង់លើកម្រិតនៃការយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោមដោយផ្អែកលើមតិយោបល់របស់អ្នក។</p>	Levels of Agreement កម្រិតនៃការយល់ស្រប						
	Strongly Disagree មិនយល់ស្របទាំងស្រុង	Disagree មិនយល់ស្រប	Somewhat Disagree មិនយល់ស្របនិច្ចបន្ត	Neutral អព្យាក្រឹត	Somewhat Agree យល់ស្របនិច្ចបន្ត	Agree យល់ស្រប	Strongly Agree យល់ស្របទាំងស្រុង

Attitude toward mobile banking (ATMB) អាកប្បកិរិយាទៅរកការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័ត

1. [ATMB1]: I believe it is (would be) a good idea to use this mobile banking for my task performance. ខ្ញុំជឿជាក់ថាវាជាជំនើសដ៏ល្អក្នុងការប្រើសេវាធនាគារទូរស័ព្ទចល័តនេះសម្រាប់បំពេញការងាររបស់ខ្ញុំ	1	2	3	4	5	6	7
2. [ATMB2]: Operating through mobile banking is a wise idea ការធ្វើប្រតិបត្តិការតាមរយៈធនាគារទូរស័ព្ទចល័តគឺជាគំនិតដ៏ល្អសម្រាប់	1	2	3	4	5	6	7
3. [ATMB3]: I am positive toward mobile banking ខ្ញុំមានភាពវិជ្ជមានចំពោះធនាគារទូរស័ព្ទចល័ត	1	2	3	4	5	6	7
4. [ATMB4]: I would be interested in doing the process through mobile banking ខ្ញុំចាប់អារម្មណ៍ក្នុងការធ្វើប្រតិបត្តិការតាមរយៈធនាគារទូរស័ព្ទចល័ត	1	2	3	4	5	6	7
5. [ATMB5]: Using mobile banking will save my money ការប្រើប្រាស់ធនាគារទូរស័ព្ទចល័តនឹងជួយសន្សំប្រាក់របស់ខ្ញុំ	1	2	3	4	5	6	7
6. [ATMB6]: I think that using mobile banking is pleasant ខ្ញុំគិតថាការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័តគឺជាការពេញចិត្ត	1	2	3	4	5	6	7

Section 7. Behavior Intention

ផ្នែកទី ៧. បំណងឥរិយាបថ

<p>The following questions are asking your opinions about the behavior intention of using mobile banking. សំណួរខាងក្រោមនេះគឺសួរអំពីគំនិតរបស់អ្នកលើបំណងឥរិយាបថក្នុងការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័ត។</p> <p>Please take a short look on the questions below related with your intention toward using mobile banking, and then CIRCLE the level of agreement on each of the items below based on your opinion. សូមពិនិត្យមើលលើសំណួរខាងក្រោមដែលទាក់ទងនឹងបទពិសោធន៍របស់អ្នកលើសេវាធនាគារទូរស័ព្ទចល័ត ហើយបន្ទាប់មកគូសរង្វង់លើកម្រិតនៃការយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោមដោយផ្អែកលើមតិយោបល់របស់អ្នក។</p>	Levels of Agreement កម្រិតនៃការយល់ស្រប						
	Strongly Disagree មិនយល់ស្របទាំងស្រុង	Disagree មិនយល់ស្រប	Somewhat Disagree មិនយល់ស្របបន្តិច	Neutral អព្យាក្រឹត	Somewhat Agree យល់ស្របបន្តិចបន្តួច	Agree យល់ស្រប	Strongly Agree យល់ស្របទាំងស្រុង
Behavior Intention (BI) បំណងឥរិយាបថ							
1. [BI1]: I'm going to use mobile banking services ខ្ញុំនឹងប្រើសេវាធនាគារទូរស័ព្ទចល័ត	1	2	3	4	5	6	7
2. [BI2]: I want to gain more information on mobile banking ខ្ញុំចង់ទទួលបានព័ត៌មានបន្ថែមអំពីធនាគារទូរស័ព្ទចល័ត	1	2	3	4	5	6	7
3. [BI3]: I'm going to do transaction through mobile banking service ខ្ញុំនឹងធ្វើប្រតិបត្តិការតាមរយៈសេវាធនាគារតាមទូរស័ព្ទ	1	2	3	4	5	6	7
4. [BI4]: I want to manage my bank accounts using mobile banking ខ្ញុំចង់គ្រប់គ្រងគណនីធនាគាររបស់ខ្ញុំដោយប្រើប្រាស់សេវាកម្មធនាគារតាមទូរស័ព្ទ	1	2	3	4	5	6	7
5. [BI5]: I intend to perform transactions via mobile banking, such as checking account balance. ខ្ញុំមានបំណងធ្វើប្រតិបត្តិការតាមរយៈធនាគារទូរស័ព្ទចល័តដូចជាពិនិត្យមើលសមតុល្យគណនីជាដើម	1	2	3	4	5	6	7
6. [BI6]: Whenever possible, I will use mobile banking services, rather than traditional banking services. ពេលណាដែលអាចធ្វើទៅបានខ្ញុំនឹងប្រើសេវាកម្មធនាគារចល័តជាងទៅដោយធនាគារដោយផ្ទាល់	1	2	3	4	5	6	7

Section 8. Adoption Intention

ផ្នែកទី ៨. បំណងទទួលយក

<p>The following questions are asking your opinions about the adoption Intention of using mobile banking. សំណួរខាងក្រោមនេះគឺសួរអំពីគំនិតរបស់អ្នកលើបំណងទទួលយកការប្រើប្រាស់សេវាទូរស័ព្ទចល័ត។</p> <p>Please take a short look on the questions below related to your experience regarding the intention in mobile banking, and then CIRCLE the level of agreement on each of the items below based on your opinion. សូមពិនិត្យមើលលើសំណួរខាងក្រោមដែលទាក់ទងនឹងបទពិសោធន៍របស់អ្នកលើសេវាធានាការទូរស័ព្ទចល័ត ហើយបន្ទាប់មកគូសរង្វង់លើកម្រិតនៃការយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោមដោយផ្អែកលើមតិយោបល់របស់អ្នក។</p>	<p>Levels of Agreement កម្រិតនៃការយល់ស្រប</p>						
	Strongly Disagree មិនយល់ស្របទាំងស្រុង	Disagree មិនយល់ស្រប	Somewhat Disagree មិនយល់ស្របបន្តិចបន្តួច	Neutral អពាក្រឹត	Somewhat Agree យល់ស្របបន្តិចបន្តួច	Agree យល់ស្រប	Strongly Agree យល់ស្របទាំងស្រុង
<p>Adoption Intention (AI) បំណងទទួលយក</p>							
<p>1. [AI1]: I plan to use mobile banking in the future ខ្ញុំមានគម្រោងនឹងប្រើសេវាធានាការតាមទូរស័ព្ទនាពេលអនាគត</p>	1	2	3	4	5	6	7
<p>2. [AI2]: I will regularly use mobile banking in the future ខ្ញុំនឹងប្រើប្រាស់សេវាធានាការតាមទូរស័ព្ទចល័តជាទៀងទាត់នាពេលអនាគត</p>	1	2	3	4	5	6	7
<p>3. [AI3]: I will adopt mobile banking as soon as possible ខ្ញុំនឹងទទួលយកសេវាធានាការតាមទូរស័ព្ទចល័តឱ្យបានឆាប់តាមដែលអាចធ្វើទៅបាន</p>	1	2	3	4	5	6	7
<p>4. [AI4]: I am highly interested in trying out the mobile banking system ខ្ញុំចាប់អារម្មណ៍ខ្ពស់ក្នុងការសាកល្បងប្រព័ន្ធធានាការតាមទូរស័ព្ទចល័ត</p>	1	2	3	4	5	6	7
<p>5. [AI5]: I will recommend the use of mobile banking to my friends ខ្ញុំនឹងណែនាំការប្រើប្រាស់សេវាធានាការតាមទូរស័ព្ទទៅមិត្តរបស់ខ្ញុំ</p>	1	2	3	4	5	6	7

Section 9. Perceived Behavioral Control

ផ្នែកទី ៩. ការគ្រប់គ្រងឥរិយាបថនៃការយល់ឃើញ

<p>The following questions are asking your opinions about the perceived behavioral control of using mobile banking. សំណួរខាងក្រោមនេះគឺសួរអំពីគំនិតរបស់អ្នកលើការគ្រប់គ្រងឥរិយាបថនៃការយល់ឃើញការប្រើប្រាស់សេវាទូរស័ព្ទចល័ត។</p> <p>Please take a short look on the questions below related with your experience in using mobile banking, and then CIRCLE the level of agreement on each of the items below based on your opinion. សូមពិនិត្យមើលសំណួរខាងក្រោមដែលទាក់ទងនឹងបទពិសោធន៍របស់អ្នកលើសេវាធានាការទូរស័ព្ទចល័តហើយបន្ទាប់មកគូសរង្វង់លើកម្រិតនៃការយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោមដោយផ្អែកលើមតិយោបល់របស់អ្នក។</p>	Levels of Agreement កម្រិតនៃការយល់ស្រប						
	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
Perceived behavioral control (PBC) ការគ្រប់គ្រងឥរិយាបថនៃការយល់ឃើញ							
<p>1. [PBC1]: I think I can use the mobile banking services effectively.</p> <p>ខ្ញុំគិតថាខ្ញុំអាចប្រើសេវាធានាការតាមទូរស័ព្ទប្រកបដោយប្រសិទ្ធភាព</p>	1	2	3	4	5	6	7
<p>2. [PBC2]: Using mobile banking service is entirely within my control.</p> <p>ការប្រើប្រាស់សេវាធានាការទូរស័ព្ទចល័តគឺស្ថិតនៅក្នុងការគ្រប់គ្រងរបស់ខ្ញុំ</p>	1	2	3	4	5	6	7
<p>3. [PBC3]: I would be able to use mobile banking well for financial transactions.</p> <p>ខ្ញុំអាចប្រើប្រាស់សេវាធានាការទូរស័ព្ទចល័តបានល្អសម្រាប់ប្រតិបត្តិការហិរញ្ញវត្ថុ</p>	1	2	3	4	5	6	7
<p>4. [PBC4]: I think that I have the resources, knowledge, and ability to use mobile banking.</p> <p>ខ្ញុំគិតថាខ្ញុំមានធនធាន ចំណេះដឹង និងសមត្ថភាពប្រើប្រាស់ធានាការទូរស័ព្ទចល័ត</p>	1	2	3	4	5	6	7
<p>5. [PBC5]: I am able to use mobile banking without help.</p> <p>ខ្ញុំអាចប្រើប្រាស់សេវាធានាការទូរស័ព្ទចល័តដោយពុំចាំបាច់ជំនួយ</p>	1	2	3	4	5	6	7

<p>6. [PBC6]: I have the power to decide whether I want to use mobile banking as check account, payment, and any other possible features.</p> <p>ខ្ញុំអាចសម្រេចចិត្តថាតើខ្ញុំចង់ប្រើប្រាស់សេវាធនាគារទូរស័ព្ទដូចជាត្រួតពិនិត្យគណនី ទូទាត់សាច់ប្រាក់ និងលក្ខណៈពិសេសផ្សេងទៀតដែលអាចមាន</p>	1	2	3	4	5	6	7
--	---	---	---	---	---	---	---



Section 10: Perceived Risk toward Using Mobile banking

ផ្នែកទី ១០. ការយល់ឃើញពីហានិភ័យ

<p>The following questions are asking your opinions about the perceived risk toward using mobile banking. សំណួរខាងក្រោមនេះគឺសួរអំពីគំនិតរបស់អ្នកលើការយល់ឃើញពីហានិភ័យនៃការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទចល័ត។</p> <p>Please take a short look on the questions below related with your experience in using mobile banking, and then CIRCLE the level of agreement on each of the items below based on your opinion. សូមពិនិត្យមើលលើសំណួរខាងក្រោមដែលទាក់ទងនឹងបទពិសោធន៍របស់អ្នកលើសេវាធនាគារទូរស័ព្ទចល័ត ហើយបន្ទាប់មកគូសរង្វង់លើកម្រិតនៃការយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោមដោយផ្អែកលើមតិយោបល់របស់អ្នក។</p>	<p align="center">Levels of Agreement កម្រិតនៃការយល់ស្រប</p>						
	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
<p align="center">Perceived Risk Toward Using Mobile banking (PRT) ការយល់ឃើញពីហានិភ័យទៅលើការប្រើប្រាស់សេវាធនាគារទូរស័ព្ទ</p>							
<p>1. [PRT1]: I feel not very safe when using mobile banking ខ្ញុំមានអារម្មណ៍ថាមិនសូវមានសុវត្ថិភាពនៅពេលប្រើធនាគារទូរស័ព្ទចល័ត</p>	1	2	3	4	5	6	7
<p>2. [PRT2]: I am worried that private information would be leaked when using mobile banking ខ្ញុំព្រួយបារម្ភថាព័ត៌មានឯកជននឹងលេចធ្លាយនៅពេលប្រើសេវាធនាគារតាមទូរស័ព្ទ</p>	1	2	3	4	5	6	7
<p>3. [PRT3]: I do not believe that the design of the mobile banking system can provide security and privacy. ខ្ញុំមិនជឿថាការរចនានៃប្រព័ន្ធធនាគារទូរស័ព្ទចល័តអាចផ្តល់នូវសុវត្ថិភាពនិងភាពឯកជនបានទេ</p>	1	2	3	4	5	6	7
<p>4. [PRT4]: I am concerned about the security of banking via mobile phones. ខ្ញុំព្រួយបារម្ភអំពីសុវត្ថិភាពធនាគារតាមរយៈទូរស័ព្ទដៃ</p>	1	2	3	4	5	6	7
<p>5. [PRT5]: I think the security risk is higher using mobile banking service than using traditional bank transactions. ខ្ញុំគិតថាការប្រើប្រាស់សេវាធនាគារតាមទូរស័ព្ទមានហានិភ័យខ្ពស់ផ្នែកសុវត្ថិភាពជាង ការប្រតិបត្តិការដោយផ្ទាល់នៅធនាគារ</p>	1	2	3	4	5	6	7

Section 11: Personal Information

ផ្នែកទី ១១ ព័ត៌មានផ្ទាល់ខ្លួន

Thank you very much for answer our questions, we would like to sincerely appreciate your time and efforts to answer the above questions. Your answer will be treated in strictly confidential. For our information, would you please indicate the following questions:

សូមថ្លែងអំណរគុណចំពោះការឆ្លើយនូវសំណួរទាំងអស់ យើងខ្ញុំសូមអរគុណយ៉ាងជ្រាលជ្រៅចំពោះពេលវេលានិងកិច្ចខិតខំប្រឹងប្រែងរបស់អ្នកដើម្បីឆ្លើយតបទៅនឹងសំណួរខាងលើ។ ចម្លើយរបស់អ្នកនឹងត្រូវបានរក្សាជាសម្ងាត់។ សម្រាប់ព័ត៌មានរបស់យើងបន្ថែមលើការសិក្សា សូមធ្វើការបង្ហាញពីសំណួរដូចខាងក្រោម:

Personal Information ព័ត៌មានផ្ទាល់ខ្លួន

1. Gender/ ភេទ	<input type="checkbox"/> Male/ប្រុស	<input type="checkbox"/> Female/ស្រី		
2. Marriage/ ស្ថានភាពគ្រួសារ	<input type="checkbox"/> Single/នៅលីវ	<input type="checkbox"/> Married/រៀបការ		
3. Age/អាយុ	<input type="checkbox"/> 16-25 years old	<input type="checkbox"/> 26-35 years old	<input type="checkbox"/> 36-45 years old	<input type="checkbox"/> 46-55 years old
	<input type="checkbox"/> 56-65 years old	<input type="checkbox"/> > 66 years old		
4. Education/ កម្រិតសិក្សា	<input type="checkbox"/> High School មធ្យមសិក្សាទុតិយភូមិ	<input type="checkbox"/> Bachelor បរិញ្ញាប័ត្រ	<input type="checkbox"/> Master អនុបណ្ឌិត	<input type="checkbox"/> Doctoral បណ្ឌិត
5. Occupation មុខរបរ	<input type="checkbox"/> Student/និស្សិត	<input type="checkbox"/> Industrial sector/វិស័យឧស្សាហកម្ម	<input type="checkbox"/> Service sector employee/បុគ្គលិកបម្រើសេវាកម្ម	
	<input type="checkbox"/> Officials/មន្ត្រីរាជការ	<input type="checkbox"/> Other/ផ្សេងៗ		
6. Income (monthly) ប្រាក់បំណុលប្រចាំខែ	<input type="checkbox"/> US\$100 or less	<input type="checkbox"/> US\$101 to US\$350	<input type="checkbox"/> US\$351 to US\$500	
	<input type="checkbox"/> US\$501 to US\$1,000	<input type="checkbox"/> US\$1,001 to US\$2,000		<input type="checkbox"/> US\$2,001 to US\$3,000
	<input type="checkbox"/> Over US\$3,000			

<p>7. Experience in mobile banking បទពិសោធន៍លើសេវាធនាគារទូរស័ព្ទចល័ត</p>	<p><input type="checkbox"/> 1-12months/ខែ <input type="checkbox"/> 1-2 years/ឆ្នាំ <input type="checkbox"/> 3-5 years/ឆ្នាំ <input type="checkbox"/> 6-10 years/ឆ្នាំ <input type="checkbox"/> > 10 year/ឆ្នាំ</p>
<p>8. Preferred mobile banking features លក្ខណៈពិសេសរបស់ធនាគារទូរស័ព្ទចល័តដែលពេញចិត្ត</p>	<p><input type="checkbox"/> Check account /ពិនិត្យគណនី <input type="checkbox"/> Transfer money /ផ្ទេរប្រាក់ <input type="checkbox"/> Payments ការទូទាត់សាច់ប្រាក់ <input type="checkbox"/> Other /ផ្សេងៗ.....</p>
<p>9. Category of mobile banking in experience: ប្រភេទនៃសេវាធនាគារទូរស័ព្ទចល័តដែលអ្នកមានបទពិសោធន៍</p>	
<p>a. Check account ពិនិត្យគណនី</p>	<p><input type="checkbox"/> Never use/មិនធ្លាប់ប្រើ <input type="checkbox"/> Seldom use/មិនសូវប្រើ <input type="checkbox"/> Common use/ប្រើធម្មតា <input type="checkbox"/> Frequent use/ប្រើញឹកញាប់ <input type="checkbox"/> Very frequent use/ប្រើញឹកញាប់ណាស់</p>
<p>b. Transfer money ផ្ទេរប្រាក់</p>	<p><input type="checkbox"/> Never use/មិនធ្លាប់ប្រើ <input type="checkbox"/> Seldom use/មិនសូវប្រើ <input type="checkbox"/> Common use/ប្រើធម្មតា <input type="checkbox"/> Frequent use/ប្រើញឹកញាប់ <input type="checkbox"/> Very frequent use/ប្រើញឹកញាប់ណាស់</p>
<p>c. Payment ការទូទាត់សាច់ប្រាក់</p>	<p><input type="checkbox"/> Never use/មិនធ្លាប់ប្រើ <input type="checkbox"/> Seldom use/មិនសូវប្រើ <input type="checkbox"/> Common use/ប្រើធម្មតា <input type="checkbox"/> Frequent use/ប្រើញឹកញាប់ <input type="checkbox"/> Very frequent use/ប្រើញឹកញាប់ណាស់</p>
<p>d. Send cash to ATM ផ្ញើប្រាក់ទៅម៉ាស៊ីនដកប្រាក់</p>	<p><input type="checkbox"/> Never use/មិនធ្លាប់ប្រើ <input type="checkbox"/> Seldom use/មិនសូវប្រើ <input type="checkbox"/> Common use/ប្រើធម្មតា <input type="checkbox"/> Frequent use/ប្រើញឹកញាប់ <input type="checkbox"/> Very frequent use/ប្រើញឹកញាប់ណាស់</p>

<p>e. Phone top up បញ្ជូនទឹកប្រាក់ក្នុងទូរស័ព្ទ</p>	<p><input type="checkbox"/> Never use/មិនធ្លាប់ប្រើ <input type="checkbox"/> Seldom use/មិនសូវប្រើ</p> <p><input type="checkbox"/> Common use/ប្រើធម្មតា <input type="checkbox"/> Frequent use/ប្រើញឹកញាប់</p> <p><input type="checkbox"/> Very frequent use/ប្រើញឹកញាប់ណាស់</p>
<p>f. Others ផ្សេងៗ</p>	<p><input type="checkbox"/> Never use/មិនធ្លាប់ប្រើ <input type="checkbox"/> Seldom use/មិនសូវប្រើ</p> <p><input type="checkbox"/> Common use/ប្រើធម្មតា <input type="checkbox"/> Frequent use/ប្រើញឹកញាប់</p> <p><input type="checkbox"/> Very frequent use/ប្រើញឹកញាប់ណាស់</p>

