

**A STUDY OF FACTORS THAT AFFECT CONSUMER BEHAVIOR
IN USING TAXI BOOKING APPLICATIONS IN BANGKOK**



**A THEMATIC PAPER SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF MANAGEMENT
COLLEGE OF MANAGEMENT
MAHIDOL UNIVERSITY
2016**

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Thematic paper
entitled
**A STUDY OF FACTORS THAT AFFECT CONSUMER BEHAVIOR
IN USING TAXI BOOKING APPLICATIONS IN BANGKOK**

was submitted to the College of Management, Mahidol University
for the degree of Master of Management
on
August 21, 2016



Miss Wanvisa Pratoommuang
Candidate

Assoc. Prof. Roy Kouwenberg,
Ph.D., CFA
Advisor

Asst. Prof. Prattana Punnakitikashem,
Ph.D.
Chairperson

Assoc. Prof. Annop Tanlamai,
Ph.D.
Dean
College of Management
Mahidol University

Simon Zaby,
Ph.D.
Committee member

ACKNOWLEDGEMENTS

To complete this research, I would like to express my deepest gratitude to Assoc. Prof. Roy Kouwenberg for his valuable guidance, insightful comments and considerable encouragement throughout the research process.

A great deal of appreciation goes to all my friends for their assistance in my data collection. I would like to extend my sincere thanks to all the respondents for completing the online survey. Without their cooperation, the research would not have been accomplished.

I would also like to express my special thanks to Douglas Ma and Peter Frost who have always supported me in my accomplishment of this thematic paper.

Last but not least, I would like to thank my family who always supports me and has provided me this great opportunity to study at College of Management Mahidol University, where I have gained a lot of experience and knowledge.

Wanvisa Pratoommuang

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WANVISA PRATOOMMUANG 5749207

M.M. (MARKETING AND MANAGEMENT)

THEMATIC PAPER ADVISORY COMMITTEE: ASSOC. PROF. ROY KOUWENBERG, Ph.D., CFA, ASST. PROF. PRATTANA PUNNAKITIKASHEM, Ph.D., SIMON ZABY, Ph.D.

ABSTRACT

The purpose of this paper is to explore the factors that influence consumer behavior in using taxi booking applications in Bangkok and to ascertain the appropriate strategies for current or future taxi application service providers to improve their services so that they suit the needs of Thai customers. This study uses the quantitative research method to quantify attitudes, opinions and other variables. The data was derived from the online survey which was randomly distributed to 227 respondents and acquired the sample size of 145 respondents who live in Bangkok and have used taxi booking applications.

The findings show that compatibility and perceived ease of use affect consumers' attitude toward using; in addition, compatibility has the highest impact on attitude toward using. In the meantime, attitude toward using, subjective norms and perceived service quality are significant factors leading to behavioral intention. As well, the study found that attitude toward using has the greatest impact on behavioral intention to use the taxi booking application.

KEY WORDS: Taxi Booking Application / Consumer Behavior / Behavioral Intention / Bangkok

44 pages

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CHAPTER I

INTRODUCTION

The purpose of this paper is to explore the factors that influence consumer behavior in using taxi booking applications in Bangkok and to ascertain the appropriate strategies for current or future taxi application service providers to improve their services so that they suit the needs of Thai customers.

For transportation in Bangkok, apart from the sky train (BTS) and underground (MRT), commuters in the city still rely on taxis, which is one of the most convenient ways to travel around due to its cheap fare starting at 35 baht, being available 24 hours a day and the large number of taxis providing service. According to the transport statistic report 2015, there were 108,616 registered taxis in Bangkok resulting from the policy of taxi liberalization in 1992. Due to a large number of taxis, the quality of service varies and is difficult to control. This can be seen from the great number of complaints received in 2015 being 43,879 calls in total (Department of Land Transport, 2015). Most of the complaints are refusing to pick up passengers to destinations (22,197). Other complaints are drivers being rude (6,161), unsafe driving (4,577) followed by dropping passengers off midway (3,985), not turning on the meter (3,208) and so on. Although the department of land transport (DLT) provides a Hotline 1584 number for passengers to report bad taxis to the authorities, it seems to be unsuccessful in coping with the problems, and the overall image of the taxi service in Bangkok is still notorious.

Meanwhile, it is clearly seen that various emerging technologies have an influence on everyday lives in many ways and are used in almost every sector, including transportation and communication. One of the most widely used advanced technologies is the smartphone which has transformed how people engage in their everyday lives. “Not only are consumers spending more time using their phones, they cannot seem to put them down, increasingly accessing their phones multiple times a day (Newswire, 2014)”.

This can imply that smartphone penetration affects societies and consumer behavior. Evidence for this is how nowadays, people do not just go online but they live online by using their own smartphones for many reasons; for example, sending emails, mapping out journeys, reading books, or even booking a taxi.

Regarding getting a taxi, several companies apply the technology to taxi booking service business by creating an application for booking a taxi through smartphones. This leads to a concept of getting a taxi on-demand that many companies used to establish a new business platform and create a new mobile application to serve customers' needs. When booking a taxi through application, the passengers only open the application on their smartphones, choose the destinations and wait for a driver. Moreover, the taxi drivers can contact the passengers directly on their phones. This type of taxi booking application and its service can cope easily with the problems mentioned above because the passengers will not be turned down by the drivers. In addition, the "no meter" problem is eliminated because the system will estimate the fare and show it to the passengers in advance.

Today, taxi booking applications in Thailand are a highly competitive industry and the customer experience of using taxis is changing rapidly. Due to the fast growing nature of this business, several applications are trying to enter the Thai market. In the past two years, there have been five taxi booking applications launched in Thailand which were Uber, Grab, Easy Taxi, All Thai Taxi and Smart Taxi. There are some differences and similarities among these five taxi applications. However, Easy Taxi has already closed down its business and Smart Taxi has not been updated since December 2014. Therefore, there are only 3 main players left in the Thailand market which are Uber, Grab and All Thai Taxi. This demonstrates that the competition in this business is very intense.

Due to a huge potential market in Thailand, there are new entrants coming into the market and this means having more options for the customers. It can be said that every application service provider is still in the introduction period; thus, they need to create awareness and encourage the potential customers to try using the application and service as much as possible. Recently, Uber has executed marketing strategies to increase market share such as providing a promotional code to attract new customers. At the same time, its main competitor, Grab has used various marketing communication

tools to communicate to the consumers while All Thai Taxi is trying to promote its service in an innovative style to the customers.

This research aims to identify what strategies the application service providers need to implement to be the customer's first choice. Consumer attitudes and behavior will also be investigated. Therefore, the key research question is "What are the key factors that influence consumer behavior in using taxi booking applications in Bangkok?"

1.1 Research Objectives

1. To observe consumer behavior in using taxi booking applications in Bangkok
2. To investigate the factors that affect consumer behavior in using taxi booking applications
3. To examine the relationship between all factors that affect consumer behavioral intention to use taxi booking applications
4. To recommend strategies for taxi booking application service providers to create long term success in Bangkok

1.2 Research Scope

This study is limited to collecting data from consumers in Bangkok. To complete the objectives, the data will be collected by an internet questionnaire involving 227 respondents during June, 2016.

CHAPTER II

LITERATURE REVIEW

2.1 The Definition of E-Hailing, Ride-Hailing

According to the New York City Taxi and Limousine Commission (TLC) (2015), E-Hail App means a software program approved by the TLC residing on a smartphone which performs one or more of the following functions:

1. Allows a passenger to identify the locations of available taxis in a given area and allows drivers to identify the location of a passenger who is currently ready to travel
2. Allows a passenger to hail a taxi through the electronic device
3. Allows a driver to receive a hail request from such a passenger if the application provides for connecting a passenger to a driver
4. E-Payment

From Victorian Taxi Association (2015), ride hailing includes electronic booking apps as used by both taxis and hired cars (including Uber).

According to Ramirez (2015), Taxi apps or Taxi booking application means booking a taxi through an application on any electronic devices.

2.2 Taxi Booking Application

As there is little research about consumer behavior toward using taxi booking applications, the existing literature reviews about other mobile commerce applications and technology adoption will be referred to in this study. The taxi booking application on a smartphone is defined as a mobile commerce application and the most widely used theories to study these new technologies are Technology Acceptance Model, Diffusion of Innovation Theory and Theory of Planned behavior.

2.3 Theories and Empirical Studies

2.3.1 Technology Acceptance Model

The Technology Acceptance Model (TAM) introduced by Davis (1986) is one of the most frequently used models to specify how users accept and use technologies basically, based on 2 beliefs which are the perceived usefulness and the perceived ease of use.

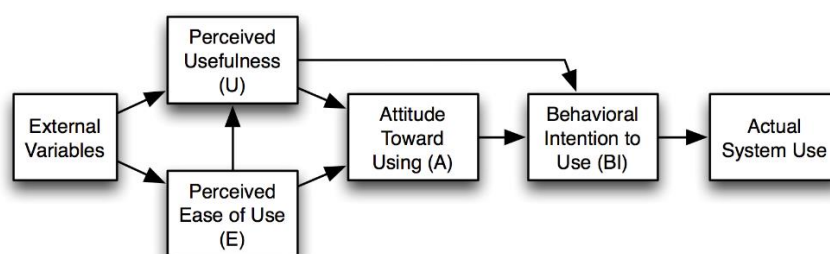


Figure 2.1 The Technology Acceptance Model

David (1989) defined “Perceived ease of use” as the degree to which the prospective user expected the particular system to be free of effort and “Perceived usefulness” as the degree to which the prospective user believes that using a specific application system will increase his or her job performance. The TAM suggests that these beliefs determine attitudes to adopt new technologies reflecting the adopter’s positive or negative behavior in the use of new technology. Yet, in several studies it has been argued that the constructs of TAM are not sufficient to predict users’ intentions (Kulviwat et al., 2007; Stern et al., 2008). Other external variables, for example, subjective norm, social influence and perceived enjoyment should be considered in individual technology acceptance as well.

It is found that most of previous research was based on TAM and provided the following results. According to the study of adoption of 3G mobile multimedia services in Italy, Pagani (2004) stated that perceived usefulness, ease of use, price, and speed of use are the most important factors, in that order. Furthermore, the study of Mobile internet acceptance in Korea, Cheong and Park (2005) employed perceived playfulness, content

quality, system quality, internet experience and perceived price level apart from perceived usefulness and ease of use to reflect the internet context. They found that the most important factor in predicting the behavioral intention to use mobile internet was the attitude toward mobile internet; likewise, perceived usefulness, perceived playfulness, and perceived price level have a significant impact on attitude toward use and behavioral intention. Furthermore, the study of M-Banking adoption in Kenya, Lule, Omwansa and Waema (2012) revealed that perceived ease of use, perceived usefulness, perceived self-efficacy and perceived credibility have an impact on customers' attitude towards usage of M-Banking. In my opinion, although attitudes toward perceived usefulness and ease of use are the most important factors that affect behavioral intention, there are also some other related factors that affect behavioral intention. In the context of taxi booking applications, there are various factors driving the success of taxi booking applications including perceived service quality and perceived price level.

2.3.2 Diffusion of Innovation Theory

The Diffusion of Innovation Theory (DIT) was introduced by Rogers (1962) to examine how ideas and technology spread throughout society and was considered as one of the most useful theories to explore the factors that influence a person to adopt new technology. Rogers defined diffusion as the process by which an innovation is communicated through certain channels over time among the members of a social system. According to Rogers (1962), the attributes of innovation which determine adoption behavior are relative advantage, compatibility, complexity, trialability and observability.

The first attribute is **Relative Advantage** referring to the degree to which an innovation is perceived as better than the idea it supersedes by a particular group of user (Moore and Benbasat, 1991). It can be measured by economic terms such as increased efficiency, economic benefits and enhanced status (Rogers, 1995). According to Lin (2011), benefits such as immediacy, convenience and affordability to customers are used in the context of mobile banking adoption. The second attribute is **Compatibility** which is the degree to which an innovation is perceived as being consistent with the values, past experience and needs of the potential adopter (Rogers, 2003). The Ndubisi and Sinti (2006) study proved that compatibility is a significant factor in determining consumers' attitude towards internet banking adoption in Malaysia. Additionally, there was a

significant correlation with computer adoption and use in Saudi Arabia (Al-Gahtani, 2003). Next, **Complexity** means the degree to which an innovation is perceived as difficult to understand and use (Rogers, 2003). A number of researchers suggest that there is a strong impact of perceived ease of use on its adoption (Luarn and Lin, 2005; Wang et al., 2006). According to Lin (2011), mobile banking services have user friendly interfaces and consumers found that they are easy to use resulting in positive attitudes toward the application. The fourth attribute, **Trialability** means the degree to which an innovation may be experimented with on a limited basis. Potential adopters who are allowed to experiment with an innovation will feel more comfortable with it and tend to adopt it later (Agarwal and Prasad, 1998; Rogers, 2003). Lastly, **Observability** means the degree to which the results of an innovation are visible to others. The easier it is for individuals to see the results of an innovation, the more likely they are to adopt it.

In my opinion, in the context of taxi booking applications, the background of the growth of the taxi application business can be applied with the diffusion of innovation model. In respect to relative advantage, the customers perceive benefits of convenience and immediacy which imply that the consumers do not need to walk to the street and wait for an available taxi to drive pass by their locations. Regarding complexity, the applications were simple enough to download and use straight away. Normally, there are only a few steps needed when using the taxi booking applications. The customers just request a taxi through their smartphones, wait for the nearest taxi drivers to accept the request and get the ride in an instant. Regarding individuals compatibility, taxi booking applications are compatible with the market due to many reasons; for example, they can solve the existing problems about drivers not turning on the meter or refusing passengers. In aspects of trialability, the taxi booking applications such as Uber and Grab also make themselves trialable by offering free rides to allow new customers to experience the service once and adjust their future use based on the experience. Lastly, observability can be defined as taxi booking applications in Bangkok provide a solution to a real problem that impacts a large number of people. People can see the effect of the taxi booking application in terms of convenience and safety. For these reasons, the customers acquire knowledge about its benefits; therefore, they tend to adopt the innovation and communicate the advantages of using the application to others.

2.3.3 Theory of Planned Behavior

The theory of planned behavior (TPB) was introduced by Icek Ajzen (1991) and is used mostly in marketing to explain the relationship between beliefs, attitudes and behaviors. The theory stated that attitude toward behavior, subjective norms and perceived behavioral control together determine an individual's behavioral intentions and behaviors. To apply this theory, it could be said that if people have a positive attitude toward behavior, are surrounded by favorable subjective norms and perceive that it is easy to control that behavior, they will have behavioral intention leading to displaying that behavior.

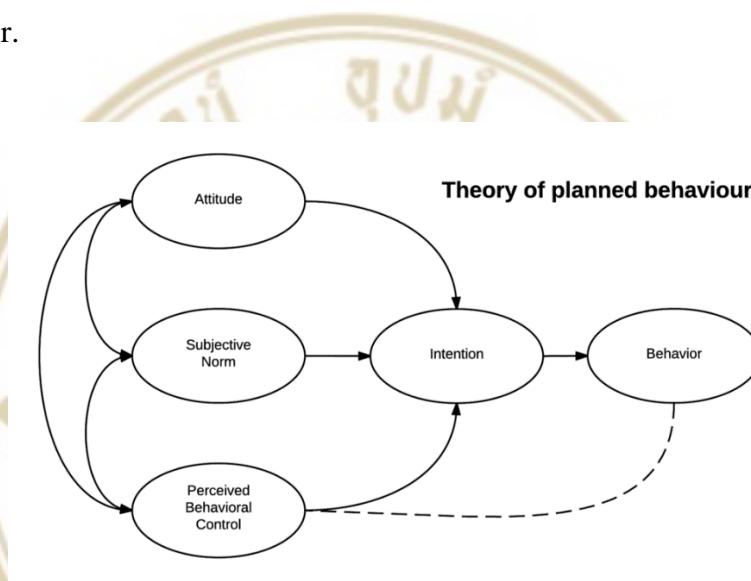


Figure 2.2 The Theory of Planned Behavior Model

Many studies used this theory as their research framework. For instance, the study of college students' perception toward mobile learning, Cheon et. al., (2012) confirmed that attitude, subjective norm and perceived behavioral control positively influence the college students' intention to adopt mobile learning. On the contrary, some research found that the perceived behavioral control does not have an influence on behavior. From the study of intention to use technology among student teachers, Teo and Lee (2010) mentioned that only the attitude toward usage and subjective norms were significant predictors of behavioral intention to use technology. Further evidence was presented by Aboelmaged and Gebba (2013), who found that there was no correlation between behavioral control and mobile banking adoption in UAE.

There are many examples of research where these 3 theories were merged to optimize the interpretation level of their research models. For example, Luarn and Lin (2005) applied TAM and TPB to understand the behavioral intention to use mobile banking in Taiwan. Lin (2008) used TAM and TPB to predict consumer intentions to shop online. Apart from TAM and TPD, Lee (2009) also added perceived risk and perceived benefit theories to propose a theoretical model to explain customers' intention to use internet banking. As can be seen from the review, the researchers not only integrate the most used existing models, they also add some variables apart from the existing models to reflect specific situations. In this study, I will apply perceived price level and perceived service quality as other factors that can affect behavioral intention.

2.3.4 Perceived Price Level

Price is one of the key factors that have an effect on consumer behavior. When people perceive that the product or service is unaffordable, there will be a decrease in demand. Cheong and Park (2005) insisted that perceived price level had a negative relationship with the attitude toward mobile internet which is found to be the most important factor in predicting the behavioral intention to use mobile internet. In aspects of using a taxi booking application, some passengers perceive that the surcharge of about 20-25 baht that has to be added to the meter fare at the end of the trip is expensive. On the other hand, some people are willing to pay an additional charge because they think it is worth it.

2.3.5 Perceived Service Quality

From my perspectives, the perceived quality of the riding service also affects consumer behavior. Perceived service quality is defined as consumers' judgment about a business's overall distinction (Parasuraman, Zeithaml, and Berry, 1988). Jiang and Wang (2006) also mentioned that it is consumers' evaluation of the service performance received comparing with their expectation. Cronin and Taylor (1992) stated that there is a positive relationship between service quality and purchase intentions. Similarly, Lee and Lin (2005) mentioned that customer satisfaction is an outcome of perceived service quality and it contributes to behavioral intention. Gaining high levels of customer satisfaction is important to a business because satisfied customers are most likely to be loyal and to make repeated orders and to use a wide range of services offered by a business.

According to Ghotbabadi, Baharan and Feiz, (2015), SERVQUAL is the most common model used to analyze information about customers' requirements including perceptions about service by many researchers. However, the RATER Model was a simplified version of the SERVQUAL model developed by Parasuraman, Zeithaml, and Berry (1990) which is used to highlight the areas that the service providers need to focus on to provide great customer service. The RATER model consisted of 5 dimensions which are reliability, assurance, tangibles, empathy and responsiveness.

In this taxi service context, the service quality is opinion of the service provided by the drivers. For example, some drivers prepare drinking water for their passengers in a car while other drivers have very good driving skill giving the passengers a feeling of safety, including the drivers never refuse the customers' requests.

2.4 Conceptual Framework and Hypothesis Development

The above theories and empirical studies contribute to hypotheses as follows:

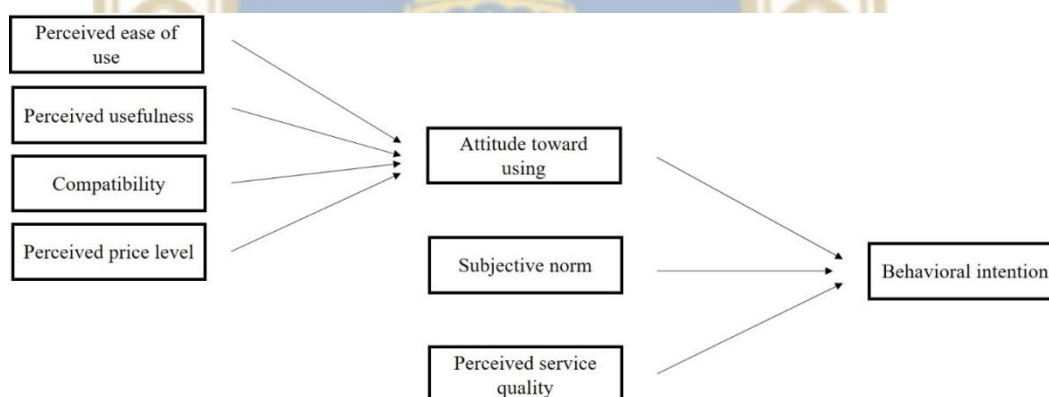


Figure 2.3 The Conceptual Framework

Hypotheses

H1: Perceived usefulness has a positive effect on attitude toward using

H2: Perceived ease of use has a positive effect on attitude toward using

H3: Compatibility has a positive effect on attitude toward using

H4: Perceived price level has a negative effect on attitude toward using

H5: Attitude has a positive effect on behavioral intention to use a taxi booking application

H6: Subjective norm has a positive effect on behavioral intention to use a taxi booking application

H7: Perceived service quality has a positive effect on behavioral intention to use a taxi booking application



CHAPTER III

METHODOLOGY

This research aims to ascertain the factors that affect consumer behavioral intention to get a taxi through a taxi mobile application in Bangkok and to provide the strategies for the application service provider to create long term success in Bangkok. This study uses the quantitative research method to quantify attitudes, opinions and other defined variables.

3.1 Research Design

In accordance with the previous research model used in the literature review part, this research will be conducted by a survey. Developed by the empirical studies from the literature review, the factors in this study are used to determine independent and dependent variables. Due to time constraints, the best method to administer the questionnaire is an online survey which enables the respondents to complete the survey at any time. This method will allow data to be automatically entered into a database and exported to other programs immediately. In addition, this approach allows the researcher to program skip patterns into the online survey to explore specific issues in detail. This online survey will be created by Google Forms and distributed randomly to the respondents in the Bangkok area. After that, the collected data will be analyzed by the Statistical Package for the Social Sciences (SPSS) program.

3.2 Population and Sample Size

The population of this research focuses on random passengers who live in Bangkok. As this study wants to explore consumer behavior in using a taxi booking application, the respondents can be both users and non-users of a taxi booking application. In order to find out which factors drive them to use the taxi booking application, the

target population is passengers who have used a taxi booking application. Therefore, the probability random sample is the most suitable method because respondents are selected through a random process and everybody has equal probability to be selected. For this reason, it can produce statistical results which are representative of the overall population in Bangkok. Due to the limited time, the online questionnaires will be randomly distributed with the intended sample size being 227 respondents. However, due to time constraints and budget constraints, it is unlikely that the sample will be a true random sample of the underlying population. Hence, the researcher uses a convenience sample.

3.3 Questionnaire Design

The questionnaire is designed to determine the factors that affect attitudes and behavioral intention to use a taxi booking application. The survey questions consist of 4 sections focusing on different aspects: Demographic information, Screening questions, General questions and Specific questions.

Section 1 Demographic information: This section is used to gather the information by using 4 questions about gender, age, education and income which later will be used to establish the relationship between the socio-demographic characteristics of respondents, usage and variables that affect behavioral intention.

Section 2 Screening Questions: This section is used to verify taxi booking application users who live in Bangkok by using 2 questions.

Section 3 General questions: This section is used to explore consumer behavior by asking 3 questions in terms of brand preference, frequency of use and driving force.

Section 4 Specific Questions: This section is used to investigate the detail of all variables mentioned in the framework. To ensure content validity, the questionnaire is developed based on reviewing the literature extensively and applying from the measurement that was used in the previous research. However, the wording was adjusted to fit the context of taxi booking mobile applications. The respondents were asked to check the answer which best described their level of agreement with the contents. Each question will be measured on a 5-point Likert scale ranging from one extreme to the other because it is the most common scale (Losby and Wetmore, 2012).

3.4 Definition of Each Variable

1. Perceived ease of use: The level of ease in using a taxi mobile application
2. Perceived usefulness: The level of usefulness in using a taxi mobile application
3. Compatibility: The degree to which a taxi booking application is perceived as being consistent with their values, past experience and needs
4. Perceived price level: The value user consumers perceive when using a taxi booking application
5. Attitude toward using: The attitude that consumers want to use a taxi booking application
6. Subjective norm: The influence from social groups about whether to use a taxi booking application
7. Perceived service quality: The consumers' evaluation of the service performance received from their ride experience
8. Behavioral intention: People's judgment of subjective probability in using a taxi booking mobile application

3.5 Data Analysis

The collected data will be analyzed by the Statistical Package for the Social Sciences (SPSS) program. This study uses descriptive statistics by frequency table to summarize the characteristics of respondents including gender, age, education, income and general information. Moreover, correlation, ANOVA, and regression analysis are used to test the hypotheses of the study mentioned in Chapter 2 and to identify the relationship between variables.

CHAPTER IV

RESEARCH FINDINGS AND DATA ANALYSIS

The findings and data analysis of this research will be summarized in this chapter. After 227 questionnaires were distributed in order to collect the information from respondents, there are only 145 respondents who passed the screening questions. To describe the findings from the research, the findings in this chapter are divided into 6 sections. The first section is the describing the demographic profiles of the respondents. Secondly, the result finding is general information about consumer behavior. The third section is the result of the specific questions. Another section is the result of correlation analysis and hypothesis tests by linear regression analysis in which the statistical tests were performed at a 95% confidence level. Finally, the final model will be presented in the last section.

4.1 Demographic Information

For the total of 145 respondents who live in Bangkok and have used taxi booking applications, Table 4.1 shows the demographic information of the respondents consisting of gender, age, education and income. The results of demographic information can be described as follows:

Table 4.1 Demographic Information

Demographic Information	Frequency (N=145)	Percentage (%)
Gender		
Male	50	34.5
Female	95	65.5
Total	145	100.0

Table 4.1 Demographic Information (cont.)

Age		
20-25 years old	10	6.9
26-30 years old	104	71.7
31-35 years old	28	19.3
36 years old and above	3	2.1
Total	145	100.0
Education		
Below bachelor Degree	4	2.8
Bachelor Degree	41	28.3
Master Degree	100	69.0
Total	145	100.0
Income (Baht per month)		
10,000 or lower	4	2.8
10,001 - 20,000	6	4.1
20,001 - 30,000	31	21.4
30,001 - 40,000	31	21.4
40,001 - 50,000	18	12.4
50,001 or higher	55	37.9
Total	145	100.0

Gender: The majority of respondents are female, accounting for 95 respondents (65.5%) while males accounted for 50 respondents (34.5%).

Age: Majority of respondents have age range of 26-30 years old, accounting for 104 respondents (71.7%) followed by 31-35 years old accounting for 28 respondents (19.3%), 20-25 years old accounting for 10 respondents (6.9%) and 36 years old and above accounting for 3 respondents (2.1%), respectively.

Education: There are 100 respondents who graduated with master degree (69.0%) and next is respondents who graduated with bachelor degree accounting for 41 respondents (28.3%), while there are only 4 respondents (2.8%) who graduated below bachelor degree.

Income: Most respondents have monthly income of 50,001 Baht or higher accounting for 55 respondents (37.9%) followed by monthly income of 20,001 - 30,000 Baht and 30,001 - 40,000 Baht accounting for 31 respondents (21.4%), monthly income of 40,001 - 50,000 Baht accounting for 18 respondents (12.4%), monthly income of 10,001 - 20,000 Baht accounting for 6 respondents (4.1%) and monthly income of 10,000 Baht or lower Baht accounting for 4 respondents (2.8%), respectively.

Overall, out of 227 respondents, there are 145 respondents who live in Bangkok and have used the taxi booking application. The majority of the participants were female, aged between 26-30 years, graduated with master degree and had monthly income over 50,000 Baht.

4.2 General Information

Respondents living in Bangkok and who have used the taxi booking application were asked general questions about brands of applications that they most used, frequency in using taxi booking applications and the factors driving them to use these. The results are as follows.

Table 4.2 Most Used Taxi Booking Application Brand

Most Used Taxi Booking Application Brand	Frequency	Percentage
Grab	77	53.1
Uber	57	39.3
All Thai Taxi	11	7.6
Total	145	100.0

Table 4.2 presents that most respondents use Grab amounting to 77 respondents (53.1%) followed by Uber and All Thai Taxi accounting for 57 respondents (39.3%) and 11 respondents (7.6%), respectively.

Table 4.3 Frequency in Using the Taxi Booking Applications

Frequency in Using Taxi Booking Applications	Frequency	Percentage
Less than once a month	58	40.0
Once a month	24	16.6
2-3 times a month	24	16.6
Once a week	18	12.4
2-3 times a week	9	6.2
4-6 times a week	6	4.1
Every day	6	4.1
Total	145	100.0

Table 4.3 proves that the majority of respondents use taxi booking application less than once a month with the number amounting to 58 respondents (40.0%) and the next most common responses were once a month and 2-3 times a month each accounting for 24 respondents (16.6%), once a week accounted for 18 respondents (12.4%), 2-3 times a week accounted for 9 respondents (6.2%) including 4-6 times a week and every day accounted for 6 respondents (4.1%), respectively.

Table 4.4 Reasons for Using Taxi Booking Applications

Reasons for Using Taxi Booking Applications	Frequency	Percentage
Convenience	121	83.4
Avoid refusal by drivers	92	63.4
Safety	61	42.1
Service Quality	54	37.2
Reasonable price	39	26.9
Recommendation	10	6.9
Others	7	4.8

Table 4.4 confirms that from the descriptive analysis, the most common reasons that respondents chose when using taxi booking applications are convenience,

avoid refusal by drivers, safety and service quality which amounted to 83.4%, 63.4%, 42.1% and 37.2% respectively.

4.3 Specific Questions

The specific questions in this research are the factors that affect consumer behavior in using taxi booking applications, consisting of 7 factors which are perceived ease of use, perceived usefulness, compatibility, perceived price level, subjective norm, attitude toward using, and perceived service quality. Moreover, the behavioral intention information also shows in this part. Descriptive statistics (i.e., Mean and Standard deviation) was used to explain the information as shown in table 4.5

Table 4.5 Mean Responses of Specific Questions

Specific Questions	\bar{X}	S.D.	Interpretation
Perceived Ease of Use	4.12	0.66	Agree
I find TBA easy to use	4.20	0.78	Agree
I do not need to put too much effort to learn using TBA	4.13	0.81	Agree
The process to use TBA is simple	4.03	0.84	Agree
Perceived Usefulness	4.04	0.65	Agree
I think a TBA is a useful tool	4.53	0.61	Strongly Agree
Using TBA makes getting a taxi easier	4.20	0.86	Agree
Using TBA makes me get a taxi faster	3.77	1.03	Agree
I think a TBA is necessary for my life	3.66	0.99	Agree
Compatibility	3.92	0.73	Agree
I regularly use TBA	3.35	1.22	Neutral
The service of TBA is consistent with my lifestyle	4.02	0.93	Agree
TBA responds to my needs for getting a taxi	4.14	0.85	Agree
TBA can solve my existing problems when hailing a traditional taxi	4.18	0.80	Agree
Subjective Norm	3.53	0.60	Agree
Many of my friends are using TBA	3.86	0.90	Agree
People around me think that I should use TBA	3.69	1.07	Agree
Other people think that I am a smart person when using TBA	3.05	0.94	Neutral
The environment makes me feel that using TBA is a future trend	4.02	0.86	Agree
I read online reviews before I decide to use TBA	3.03	1.18	Neutral
Perceived Price Level	3.03	0.52	Neutral
Using TBA makes me pay more telephone fees	2.19	1.03	Disagree
I think it is reasonable to charge extra for using TBA	3.60	1.01	Agree
Travelling by using TBA is cheaper compared with traditional taxis	2.88	1.13	Neutral
The fare is more expensive when using a TBA	3.46	0.98	Agree

Table 4.5 Mean Responses of Specific Questions (cont.)

Specific Questions	\bar{X}	S.D.	Interpretation
Attitude toward Using	4.05	0.55	Agree
Using TBA is attractive	3.81	0.90	Agree
I think it is worth using a TBA	4.08	0.81	Agree
I think it is a smart option to use TBA	4.12	0.73	Agree
I feel good when using TBA	4.15	0.69	Agree
I make a right decision to use TBA	4.10	0.68	Agree
Perceived Service Quality	3.89	0.54	Agree
I want to use TBA because I do not have to chase down a taxi,	4.28	0.80	Strongly Agree
I want to use TBA because I do not have to wait in long lines	4.21	0.93	Strongly Agree
I want to use TBA because I know the fare cost before booking	3.73	0.97	Agree
I want to use TBA because I do not have to pay by cash	3.23	1.20	Neutral
I want to use TBA because I always have a car ready in a few minutes	3.59	0.98	Agree
I want to use TBA because I can get a taxi whenever I want	4.12	0.89	Agree
I want to use TBA because I feel safe and can see the details of the drivers	4.25	0.77	Strongly Agree
I want to use TBA because the taxi drivers are courteous and friendly	3.72	0.89	Agree
I want to use TBA because the payment method is reliable	3.87	0.83	Agree
Behavioral Intention	4.14	0.72	Agree
I intend to continue using TBA service in the near future	4.29	0.81	Strongly Agree
I think that I will use TBA on a regular basis in the future	3.94	1.00	Agree
I will recommend others to use TBA	4.20	0.75	Agree

Among the factors which affect consumer behavior in using taxi booking applications, the highest ranked factor is perceived ease of use (Mean = 4.12, S.D. = 0.66) followed by attitude toward using (Mean = 4.05, S.D. = 0.55), perceived usefulness (Mean = 4.04, S.D. = 0.65), compatibility (Mean = 3.92, S.D. = 0.73), perceived service quality (Mean = 3.89, S.D. = 0.54), subjective norm (Mean = 3.53, S.D. = 0.60) and perceived price level (Mean = 3.03, S.D. = 0.52), respectively.

From the results, almost all of the factors are at “Agree” level meaning that respondents agree that those factors affect their behavior in using taxi booking applications. However, only perceived price level factor is at “Neutral” level with a mean score of 3.03 and S.D. of 0.52. Furthermore, the behavioral intention factor has mean score of 4.14 and S.D. of 0.72 which falls in “Agree” level.

4.4 Correlation Analysis

Table 4.6 Correlations

		Perceived ease of use	Perceived service quality	Perceived usefulness	Compatibility	Perceived price level	Subjective norm	Behavioral intention	Attitude toward using
Perceived ease of use	Pearson Correlation	1							
	Sig. (2-tailed)		.574**	.581**	.640**	.197*	.270**	.644**	.624**
	N	145	145	145	145	145	145	145	145
Perceived service quality	Pearson Correlation	.574**	1						
	Sig. (2-tailed)			0	0	0	0	0	0
	N	145	145	145	145	145	145	145	145
Perceived usefulness	Pearson Correlation	.581**	.652**	1					
	Sig. (2-tailed)				.753**	.301**	.427**	.691**	.623**
	N	145	145	145	145	145	145	145	145
Compatibility	Pearson Correlation	.640**	.665**	.753**	1				
	Sig. (2-tailed)					.297**	.480**	.846**	.692**
	N	145	145	145	145	145	145	145	145
Perceived price level	Pearson Correlation	.197*	.340**	.301**	.297**	1			
	Sig. (2-tailed)						.395**	.267**	.249**
	N	145	145	145	145	145	145	145	145
Subjective norm	Pearson Correlation	.270**	.499**	.427**	.480**	.395**	1		
	Sig. (2-tailed)							.459**	.406**
	N	145	145	145	145	145	145	145	145
Behavioral intention	Pearson Correlation	.644**	.631**	.691**	.846**	.267**	.459**	1	
	Sig. (2-tailed)								.690**
	N	145	145	145	145	145	145	145	145
Attitude toward using	Pearson Correlation	.624**	.633**	.623**	.692**	.249**	.406**	.690**	1
	Sig. (2-tailed)								
	N	145	145	145	145	145	145	145	145
**. Correlation is significant at the 0.01 level (2-tailed).									
*. Correlation is significant at the 0.05 level (2-tailed).									

Table 4.6 shows the correlation between variables which are perceived ease of use, perceived usefulness, compatibility, perceived price level, subjective norm, attitude toward using, perceived service quality and behavioral intention. The results show that there are statistically significant positive relationships between all of the variables at the 1% significance level as p-values were lower than 0.01, apart from the correlation between perceived price level and perceived ease of use which is statistically significant positive at the 5% significance level as p-value was lower than 0.05.

The top 5 value of correlation coefficients are from the relationship between compatibility and behavioral intention ($R = 0.846$), followed by compatibility and perceived usefulness ($R = 0.753$), compatibility and attitude toward using ($R = 0.692$), behavioral intention and perceived usefulness ($R = 0.691$), behavioral intention and attitude toward using ($R = 0.690$), respectively. This indicates that there are strong positive correlations among these variables. However, the lowest value of correlation coefficient is from the relationship between perceived price level and perceived ease of use which is positively significant at the 5% significance level ($R = 0.197$).

According to the conceptual framework in chapter2, focusing on the variables that affect attitudes toward using, it shows that perceived ease of use ($R = 0.624$), perceived usefulness ($R = 0.623$), and compatibility ($R = 0.692$) were highly and positively correlated with attitude toward using score. However, perceived price level ($R = 0.249$) seems to have a weak positive correlation with attitude toward using.

Regarding the variables that affect behavioral intention, the result shows that attitude toward using ($R = 0.690$) and perceived service quality ($R = 0.631$) have a strong positive correlation with behavioral intention. In addition, subjective norm ($R = 0.459$) was moderately correlated with behavioral intention.

4.5 Multiple Regression Analysis

Multiple Regression Analysis was conducted in order to test the hypothesis of independent variables that affect the dependent variable.

Hypothesis 1: Perceived ease of use has a positive effect on attitude toward using

Hypothesis 2: Perceived usefulness has a positive effect on attitude toward using

Hypothesis 3: Compatibility has a positive effect on attitude toward using

Hypothesis 4: Perceived price level has a negative effect on attitude toward using

Table 4.7 Model Summary (1)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.740 ^a	.548	.535	.37627

a. Predictors: (Constant), Perceived ease of use, Perceived usefulness, Perceived price level, Compatibility

From Table 4.7 R Square was .548 which is reasonably high. Therefore, it shows that independent variables which are perceived ease of use, perceived usefulness, perceived price level and compatibility jointly explain 54.8% variance of the dependent variable which is attitude toward using.

Table 4.8 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	24.001	4	6.000	42.381	.000 ^b
Residual	19.821	140	.142		
Total	43.822	144			

a. Dependent Variable: Attitude toward using

b. Predictors: (Constant), Perceived ease of use, Perceived usefulness, Perceived price level, Compatibility

For the quality of the model, Table 4.8 shows that the model is statistically significant ($F = 42.381$, $p\text{-value} = 0.000$) at a 0.05 significance level. Hence, the model is valid to test the relationship between variables at a 0.05 significance level in the regression model.

Table 4.9 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.308	.257		5.099	.000
	Perceived ease of use	.232	.063	.278	3.686	.000
	Perceived usefulness	.139	.075	.165	1.857	.065
	Compatibility	.286	.071	.381	4.059	.000
	Perceived price level	.033	.064	.031	.521	.603

a. Dependent Variable: Attitude toward using

For the relationship between independent variables and dependent variable, the coefficient tests in Table 4.9 are used to determine which of the predictor variables is significant and the contribution to the dependent variable. The result shows that two of the independent variables which are perceived ease of use ($t = 3.686$, $p\text{-value} = 0.000$) and compatibility ($t = 4.059$, $p = 0.000$) have significantly positive relationships with attitude toward using at a 0.05 significance level. Conversely, perceived usefulness ($t = 1.875$, $p\text{-value} = 0.065$) and perceived price level ($t = 0.521$, $p\text{-value} = 0.603$) are not statistically significant.

The equation can be summarized in unstandardized form as:

$$Y_{\text{Attitude toward using}} = 1.308 + 0.232(X_{\text{Perceived ease of use}}) + 0.286(X_{\text{Compatibility}})$$

And in standardized form as:

$$Z_{\text{Attitude toward using}} = 0.278(X_{\text{Perceived ease of use}}) + 0.381(X_{\text{Compatibility}})$$

The equations indicate that the factor which has the greatest impact on attitude toward using at a 0.05 significance level is compatibility ($B = 0.286$, $Beta = 0.381$) and the next greatest impact is perceived ease of use ($B = 0.232$, $Beta = 0.278$). This indicates that both of them positively affect attitude toward using.

Hypothesis 5: Subjective norm has a positive effect on behavioral intention

Hypothesis 6: Attitude toward using has a positive effect on behavioral intention

Hypothesis 7: Perceived service quality has a positive effect on behavioral Intention

Table 4.10 Model Summary (2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.743 ^a	.553	.543	.48432

a. Predictors: (Constant), Subjective norm, Attitude toward using, Perceived service quality

From Table 4.10, R square was .553 which is reasonably high. Thus, it shows that independent variables which are subjective norm, attitude toward using and perceived service quality jointly explain 55.3% variance of the dependent variable which is behavioral intention.

Table 4.11 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.870	3	13.623	58.080	.000 ^b
	Residual	33.073	141	.235		
	Total	73.943	144			

a. Dependent Variable: Behavioral intention

b. Predictors: (Constant), Subjective norm, Attitude toward using, Perceived service quality

Table 4.11 shows that the model is statistically significant ($F = 58.080$, $p\text{-value} = 0.000$) at a 0.05 significance level. Therefore, the model is valid to test the relationship between variables at a 0.05 significance level.

Table 4.12 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.266	.339		-.784	.435
	Attitude toward using	.603	.095	.465	6.330	.000
	Subjective norm	.161	.078	.136	2.071	.040
	Perceived service quality	.359	.103	.269	3.481	.001

a. Dependent Variable: Behavioral intention

Table 4.12 shows the coefficients of multiple regression analysis between independent variables and dependent variable, the results show that all of the independent variables which are attitude toward using ($t = 6.330$, p -value = 0.000), subjective norm ($t = 2.071$, p -value = 0.040) and perceived service quality ($t = 3.481$, $p = 0.001$) have significantly positive relationship with behavioral intention at a 0.05 significance level.

The equation can be summarized in unstandardized form as:

$$Y_{\text{Behavioral intention}} = -0.266 + 0.603(X_{\text{Attitude towards using}}) + 0.161(X_{\text{Subjective norm}}) + 0.359(X_{\text{Perceived service quality}})$$

And in standardized form as:

$$Z_{\text{Behavioral intention}} = 0.465(X_{\text{Attitude toward using}}) + 0.136(X_{\text{Subjective norm}}) + 0.269(X_{\text{Perceived service quality}})$$

The equations indicate that the factor which has the highest impact on behavioral intention at a 0.05 significance level is attitude toward using ($B = 0.603$, $Beta = 0.465$) followed by perceived service quality ($B = 0.359$, $Beta = 0.269$) and subjective norms ($B = 0.161$, $Beta = 0.136$). This indicates that all of these variables positively affect behavioral intention.

4.6 Final Model

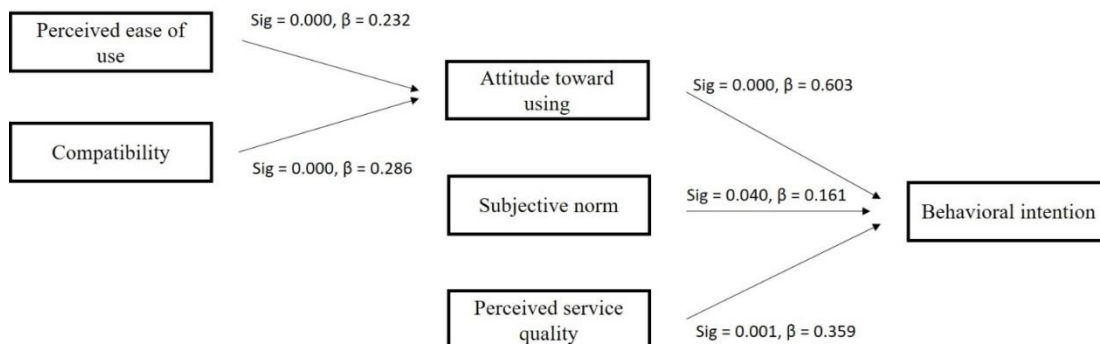


Figure 4.1 The Final Model

Figure 4.1 presents the final model of this study. It shows that perceived ease of use and compatibility have positive effects on attitude toward using. At the same time, attitude toward using, subjective norms and perceived service quality have positive effects on behavioral intention. These results support the hypothesis 1, 3, 5, 6, and 7, while rejecting the hypothesis 2 and 4.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Due to the fact that there is a highly competitive market of taxi booking applications in Thailand which contributes to more options for the customers, the application service providers should consider the factors that influence consumer behavior in order to create long term success in Bangkok. This chapter will conclude all findings after gathering data and utilizing various research methodologies. The results from the analysis will be beneficial for taxi booking application service providers to implement the appropriate strategies to be the customers' first choice. In this way, this chapter will summarize the socio-demographic profile of respondents, general information about consumer behavior, hypothesis testing summary including recommendations, limitations and future research.

5.1 Conclusions

According to the literature review in Chapter 2, there are four factors affecting attitude toward using which are perceived ease of use, perceived usefulness, and perceived price level while attitude toward using, subjective norms and perceived service quality have an effect on behavioral intention.

In terms of data collecting, the online survey was randomly distributed to 227 respondents; however, there are only 145 respondents who live in Bangkok and have ever used taxi booking applications which are 50 male and 95 female respondents. Based on the received data, most of the respondents who use taxi booking applications are between 26 – 30 years old, graduated with master degree and have monthly income over 50,000 Baht per month.

Likewise, the research shows that Grab is the most used taxi booking application brand in Bangkok; however, it is found that the frequency of usage is still

low which is less than once a month. Furthermore, convenience and avoiding refusal by drivers are the main reasons why respondents use taxi booking application.

Among the 7 factors that affect consumer behavior consisting of perceived ease of use, perceived usefulness, compatibility, perceived price level, subjective norm, attitude toward using and perceived service quality, respondents agree that these factors affect their behavior in using taxi booking application apart from perceived price level which does not affect them that much. Besides, the result shows that perceived ease of use is the highest ranked factor followed by attitude toward using.

Regarding the correlation analysis, it proves that there are strong positive correlations among all variables. The strongest correlation is from the relationship between compatibility and behavioral intention while the weakest correlation is from the relationship between perceived price level and perceived ease of use. According to the conceptual framework in Chapter 2, focusing on the variables that affect attitude toward using, it shows that compatibility has the strongest correlation with attitude toward using. At the same time, focusing on the variables that influence behavioral intention, the result shows that attitude toward using has the strongest correlation with behavioral intention.

In addition, multiple regression analysis was conducted to test the hypotheses of this study mentioned in Chapter 2. According to hypothesis 1-4 which proposed that perceived ease of use, perceived usefulness, compatibility and perceived price level have positive effects on attitude toward using, the outcome shows that only perceived ease of use and compatibility have positive effects on attitude toward using. As well, compatibility has the highest impact on attitude toward using. This suggests that using taxi booking application is consistent with consumers' desired lifestyle and responsive to their needs. Habitual routine usage on a regular basis adds to consumers' sense of solving existing problems and thereby contributes to their positive overall attitude. However, perceived ease of use should be also considered because if the consumers find that the taxi booking application is easy to use and they do not need to put too much effort into learning how to use it, they tend to have an intention to use the taxi booking applications.

Regarding hypothesis 5-7 which proposed that attitude toward using, subjective norm and perceived service quality have positive effects on behavioral intention, the

result shows that all those factors positively affect behavioral intention. Moreover, it found that attitude toward using has the greatest impact on behavioral intention. This means if consumers have positive attitudes about the taxi booking application, they tend to have behavioral intention leading to finally using the application. At the same time, subjective norm and perceived service quality are also important factors leading to behavioral intention. If the consumers are surrounded by the people who use the taxi booking applications and see that using the applications is beneficial, these favorable subjective norms can have an influence on consumer behavior. Another key factor that cannot be ignored is perceived service quality, if the customers receive good services that meet their expectation; for example, the customers do not have to chase down a taxi, wait in long lines or record the details of drivers, these conveniences and reliability can impact their behavioral intentions.

In conclusion, based on the data analysis, the results support the theories in Chapter 2 which show that compatibility and perceived ease of use affect consumers' attitude toward using. In the meantime, attitude toward using, subjective norms and perceived service quality are significant factors leading to behavioral intention. It will be useful for the taxi booking application service providers if they can leverage this information to gain more competitive advantage in the future.

5.2 Recommendations

To recommend strategies for taxi booking application service providers to create long term success in Bangkok is one of the objectives of this research. It cannot be denied that most companies definitely have to effectively allocate their limited budgets; thus, it would be better to focus on the biggest impact on consumer behavior. According to the outcome of this research, the management of this business had better emphasize creating a positive attitude toward using the application because it is the most important factor affecting customers' behavioral intention. Therefore, the company should make customers feel worthwhile and smart to use the taxi booking applications. For example, the company should keep communicating and pointing out the benefits that the customers will receive. However, communication alone might not be enough, customers' experience by getting a free ride is also needed. Many respondents mentioned

that they use the application due to its convenience; therefore, the potential customers may have some expectations about what convenience they will receive when using the taxi booking application. This is the reason why a great experience is very crucial.

Based on the results, it shows that perceived ease of use and compatibility can create positive attitudes toward using for the customers. Thus, the company should also pay attention to these factors. The company should make the service consistent with people's lifestyle or solve the existing problems when hailing a traditional taxi such as being refused by the taxi drivers. The company should ensure that the customers will not face this problem again by having support systems that can deal with this issue. Besides, the result shows that the frequency of usage is still very low; therefore, the company should apply some marketing strategies such as providing a referral program or a promotional campaign to encourage the customers to use the taxi booking applications more often.

All in all, there are various strategies that can create positive attitudes but they should be based on perceived ease of use and compatibility factors. Apart from positive attitudes, any company with excessive budget might consider creating subjective norms and improving quality of service to achieve long term success in this business industry.

5.3 Limitations

This research was limited to the respondents who have used taxi booking applications, which means the non-users were not examined. Hence, the researcher did not have information about these people who could be prospective target customers in the future.

Due to time and budget constraints, a convenience sample was used in this research. Consequently, it is difficult to confirm that the sample will be a true random sample representative of the overall population in Bangkok.

Furthermore, the sample size might be too low compared to the actual population in Bangkok which can lead to inaccuracy. Although the respondents were randomly selected, about 70% of the respondents are aged between 26 and 30 years

old which can make the result not diversified. For more effective data, this research should use a larger sample size and weight the data to avoid bias.

In terms of research methods, due to the small scope of the research paper, the quantitative method was only used. To better understand consumer behavior, the qualitative methods such as an in-depth interview or a focus group should be conducted as well.

5.4 Future Research

According to the literature review and previous studies, it is found that there are other potential factors that have an influence on consumer behavior apart from the factors that were studied in this research; for example, awareness, customer satisfaction, customer loyalty, perceived creditability, brand perception or even brand image. These factors should not be overlooked.

As mentioned above, other qualitative methods should be used in the future research to gain in-depth and comprehensive information from the experienced users. In addition, the future research should examine the characteristics and beliefs of non-users and find the reason why they do not use the taxi booking applications. This information can be used to create strategies to attract new customers.

Last but not least, there are currently three main players, which are Grab, Uber and All Thai Taxi, in this competitive market in Bangkok. Thus, the future research should study these brands further to ascertain the strengths and strategies of each brand to determine the most suitable and effective framework for the taxi booking application business in Bangkok.

REFERENCES

- 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 (IJBRD)*, 2(1).
- Agarwal, R., & Prasad, J. (1998). The antecedents and consequents of user perceptions in information technology adoption. *Decision support systems*, 22(1), 15-29.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- Al-Gahtani, S. S. (2003). Computer technology adoption in Saudi Arabia: Correlates of perceived innovation attributes. *Information Technology for Development*, 10(1), 57-69.
- Cheon, J., Lee, S., Crooks, S. M., & Song, J. (2012). An investigation of mobile learning readiness in higher education based on the theory of planned behavior. *Computers & Education*, 59(3), 1054-1064.
- Cronin Jr, J. J., & Taylor, S. A. (1992). Measuring service quality: a reexamination and extension. *The journal of marketing*, 55-68.
- Davis Jr, F. D. (1986). *A technology acceptance model for empirically testing new end-user information systems: Theory and results* (Doctoral dissertation, Massachusetts Institute of Technology).
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.
- Department of Land Transport. (2015). *Transport Statistics Report in 2015*. Retrieved from http://apps.dlt.go.th/statistics_web/brochure/statreport115.pdf
- Ghotbabadi, A. R., Feiz, S., & Baharun, R. (2015). Service Quality Measurements: A Review. *International Journal of Academic Research in Business and Social Sciences*, 5(2), 267.
- Ho Cheong, J., & Park, M. C. (2005). Mobile internet acceptance in Korea. *Internet research*, 15(2), 125-140.

- Jiang, Y., & Lu Wang, C. (2006). The impact of affect on service quality and satisfaction: the moderation of service contexts. *Journal of Services Marketing*, 20(4), 211-218.
- Kulviwat, S., Bruner, I. I., Gordon, C., Kumar, A., Nasco, S. A., & Clark, T. (2007). Toward a unified theory of consumer acceptance technology. *Psychology & Marketing*, 24(12), 1059-1084.
- Lee, G. G., & Lin, H. F. (2005). Customer perceptions of e-service quality in online shopping. *International Journal of Retail & Distribution Management*, 33(2), 161-176.
- Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*, 8(3), 130-141.
- Lin, H. F. (2008). Predicting consumer intentions to shop online: An empirical test of competing theories. *Electronic Commerce Research and Applications*, 6(4), 433-442.
- Lin, H. F. (2011). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. *International journal of information management*, 31(3), 252-260.
- Losby, J., & Wetmore, A. (2012). CDC coffee break: Using Likert Scales in evaluation survey work. *Centers for Disease Control and Prevention*.
- Luarn, P., & Lin, H. H. (2005). Toward an understanding of the behavioral intention to use mobile banking. *Computers in human behavior*, 21(6), 873-891.
- Lule, I., Omwansa, T. K., & Waema, T. M. (2012). Application of technology acceptance model (TAM) in m-banking adoption in Kenya. *International Journal of Computing and ICT Research*, 6(1), 31-43.
- Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information systems research*, 2(3), 192-222.
- New York City Taxi and Limousine Commission. (2015). *E-Hail Rules*. Retrieved from http://www.nyc.gov/html/tlc/downloads/pdf/newly_passed_rules_ehail.pdf.

- Newswire. (2014). *How Smartphones are Changing Consumers' Daily Routines around the Globe*. Retrieved from <http://www.nielsen.com/us/en/insights/news/2014/how-smartphones-are-changing-consumers-daily-routines-around-the-globe.html>.
- Oly Ndubisi, N., & Sinti, Q. (2006). Consumer attitudes, system's characteristics and internet banking adoption in Malaysia. *Management Research News*, 29 (1/2), 16-27.
- Pagani, M. (2004). Determinants of adoption of third generation mobile multimedia services. *Journal of interactive marketing*, 18(3), 46-59.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). Servqual. *Journal of retailing*, 64(1), 12-40.
- Ramirez, I. (2015). 5 apps to get a taxi in Bangkok. Retrieved from <http://bangkokhasyou.com/grabtaxi-uber-easytaxi-bangkok/>
- Rogers, E. (1971). M. (1962). Diffusion of innovations. *New York, USA: Free Press of Glencoe*, 1, 79-134.
- Rogers, E. M. (1995). Diffusion of Innovations: modifications of a model for telecommunications. *Die Diffusion von Innovationen in der Telekommunikation*, 17, 25-38.
- Rogers, E.M. (2003). Diffusion of innovations (5th ed.). *New York, USA: Free Press*.
- Stern, B. B., Royne, M. B., Stafford, T. F., & Bienstock, C. C. (2008). Consumer acceptance of online auctions: An extension and revision of the TAM. *Psychology & Marketing*, 25(7), 619-636.
- Teo, T., & Beng Lee, C. (2010). Explaining the intention to use technology among student teachers: An application of the Theory of Planned Behavior (TPB). *Campus-Wide Information Systems*, 27(2), 60-67.
- Victorian Taxi Association. (2015). *A legal perspective on disruptive technology and the e-hail*. Retrieved from <http://www.victaxi.com.au/news-and-events/news/2015/11/02/a-legal-perspective-on-disruptive-technology-and-the-e-hail/>
- Wang, Y. S., Lin, H. H., & Luarn, P. (2006). Predicting consumer intention to use mobile service. *Information systems journal*, 16(2), 157-179.
- Zeithaml, V. A., Parasuraman, A., & Berry, L. L. (1990). *Delivering quality service: Balancing customer perceptions and expectations*. Simon and Schuster.



Appendix A: Questionnaire

“A study of factors that affect consumer behavior in using taxi booking applications in Bangkok”

This survey aims to ascertain the factors that affect consumer behavioral intention to get a taxi through a taxi mobile application in Bangkok.

This survey will take around 10 minutes.

This survey is a part of a research project for the completion of a Master degree at the College of management, Mahidol University. All information will be kept confidential, and is used for research purposes only.

Section 1:

1.1 Gender

- Male
- Female

1.2 Age

- 20-25 years old
- 26-30 years old
- 31-35 years old
- 36 years old and above

1.3 Education

- Below Bachelor Degree
- Bachelor Degree
- Master Degree or Higher

1.4 Income (Baht per Month)

- 10,000 or lower
- 30,001 - 40,000
- 10,001 - 20,000
- 40,001 - 50,000
- 20,001 - 30,000
- 50,001 or higher

Section 2:**2.1 Do you live in Bangkok?**

- Yes
- No (End of survey)

2.2 Have you ever used a taxi booking application?

- Yes
- No, please give a reason..... (End of survey)

Section 3:**3.1 Which taxi booking application do you use most often? (Check only one)**

- Grab
- Uber
- All Thai Taxi
- Others, please specify.....

3.2 How often do you use a taxi booking application in a month?

- Every day
- 2-3 times a week
- 4-6 times a week
- Once a week
- 2-3 times a month
- Once a month
- Less than once a month

3.3 What drives you to use a taxi booking application? (Check all that apply)

- Convenience
- Avoid refusal by drivers
- Recommendation
- Safety
- Reasonable price
- Service quality
- Others, please specify.....

Section 4:

Please rate your opinion if you agree or disagree with each of the following statements:

TBA: Taxi booking applications

Perceived Ease of Use

	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4.1	I find TBA easy to use					
4.2	I do not need to put too much effort to learn using TBA					
4.3	The process to use TBA is simple					

Perceived Usefulness

	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4.4	I think a TBA is a useful tool					
4.5	Using TBA makes getting a taxi easier					
4.6	Using TBA makes me get a taxi faster					
4.7	I think a TBA is necessary for my life					

Compatibility

	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4.8	I regularly use TBA					
4.9	The service of TBA is consistent with my lifestyle					
4.10	TBA responds to my needs for getting a taxi					
4.11	TBA can solve my existing problems when hailing a traditional taxi					

Subjective Norm

	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4.12	Many of my friends are using TBA					
4.13	People around me think that I should use TBA					
4.14	Other people think that I am a smart person when using TBA					
4.15	The environment makes me feel that using TBA is a future trend					
4.16	I read online reviews before I decide to use TBA					

Perceived Price Level

	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4.17	Using TBA makes me pay more telephone fees					
4.18	I think it is reasonable to charge extra for using TBA					
4.19	Travelling by using TBA is cheaper compared with traditional taxis					
4.20	The fare is more expensive when using a TBA					

Attitude toward Using

	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4.21	Using TBA is attractive					
4.22	I think it is worth using a TBA					
4.23	I think it is a smart option to use TBA					
4.24	I feel good when using TBA					
4.25	I make a right decision to use TBA					

Perceived Service Quality

	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4.26	I want to use TBA because I do not have to chase down a taxi,					
4.27	I want to use TBA because I do not have to wait in long lines					
4.28	I want to use TBA because I know the fare cost before booking					
4.29	I want to use TBA because I do not have to pay by cash					
4.30	I want to use TBA because I always have a car ready in a few minutes					
4.31	I want to use TBA because I can get a taxi whenever I want					
4.32	I want to use TBA because I feel safe and can see the details of the drivers					
4.33	I want to use TBA because the taxi drivers are courteous and friendly					
4.34	I want to use TBA because the payment method is reliable					

Behavioral Intention

	Statement	Disagree	Strongly Disagree	Neutral	Agree	Strongly Agree
4.35	I intend to continue using TBA service in the near future					
4.36	I think that I will use TBA on a regular basis in the future					
4.37	I will recommend others to use TBA					

