Differences in Perceived Attributes of an Innovation between Group of Users and Non Users

A Case Study of Bualuang ibanking (Thailand)

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Abstract

Course
IT Management

Title
Differences in Perceived Attributes of an Innovation between group of users and non users: A Case Study of Bauluang ibanking in Thailand

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Research Problem
Are there any difference perceptions toward attributes of an innovation of Bualuang ibanking between group of users and non users of Bualuang ibanking?

Aim of the Thesis
The purpose of our research is to examine the attitude toward perceived attributed of an innovation of Bualuang ibanking between group of users and non users.

Method
This research is a quantitative research. The questionnaire survey was used as a main medium to obtain essential data.

Conclusion
The respondents can be classified into 3 groups as follows, users 47%, non users 37%, non awareness customers 16%. We found that the group of users perceived more positive toward Bualuang ibanking than the group of non users in four aspects, relatively advantage, complexity, compability and observability, while, trialability was not perceived as a significant attribute facilitating the use of Bualuang ibanking. However, in some circumstances, such as, time processing, mental effort, frustrating, privacy and security, the attitude toward these circumstances is positive but not divergent between these two groups. For the non awareness customers, there are 58% of them preferred adopting this technology in the future and the most frequently selective duration that they will adopt this technology is within one month.

Key Words
E-banking, technology adoption, diffusion innovation, behavior intention and rate of adoption.
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Chapter 1: Introduction

1.1 Background

Commercial banking is one of many business sectors that have undergone Information Technology (IT) change. Generally, this change in IT effects on banking organizations with reference to front office (product or service offerings) and back office (operational function). Morris (1986) and Quintas (1991) the dimensions of IT innovation in retail banking are composed into four phases; early adoption (1846-1945), specific application (1945-1968), emergence (1968-1980) and diffusion (1980-1995). Today’s banking services involve with technology that can maximize the communication channels for the customers, such as, ATM, Phone banking, E-Banking, Mobile banking, and etc. This thesis, we examined customer’s perceived attributes of an innovation toward e-banking. According to Morris (1986) and Quintas(1991), e-banking is considered as a technology in the diffusion period.

Thailand has been implemented e-banking since 2000 and Siam Commercial Bank is the first bank which entered to this technology service. Consecutively, all leading Thai commercial banks adopted e-banking for example, Krung Thai Bank, Thai Famer Bank, Bank of Ayudhya, Bank of Asia, Bangkok Bank etc. The e-banking services that existing banks currently provides for the customers are not varied from each banks, such as the ability to check account balances, request statements, transfer money, pay loans / bills / taxes, foreign exchange and remittance, trade, international/global fund transfer, and stop cheque.

However, the level of customer adoption of Internet banking of Thai banks is moderate when comparing with other Asian Countries such as, Singapore and Hong Kong. We can classify bank’s customer into two main types which are retail and corporate customers. Few retail customers use e-banking more than (Rotchanakitumnuai et al., 2003), corporate customers who do. Therefore, we would like to know Bangkok bank that has implemented Internet banking has brought up the question whether Internet-based service delivery really
provides actual benefits to bank customers and among difference group of users an non users perceived differently toward attributes of an innovation. These actual benefits can be explained in term of perceived attributes of an innovation which included relatively advantage(perceived usefulness), compatibility, complexity, trialability and observability (perceived privacy and security).

1.2 Problems

Bangkok Bank Plc. (BBL), the largest Thai commercial bank, has launched e-banking since the end of 2002. It is called Bualuang i-banking while e-banking first launched in Thailand in 2000 by Siam commercial bank. Currently, all leading Thai commercial banks have offered e-banking channel to both retail and corporate customers as they realized that e-banking is the new generation tool of banks launched for maximum convenience and efficiency in generating bank transactions via internet. The service that is provided through e-banking is not different from retail banking’s service. According to previous research, since current banks have implemented e-banking, a minority of the customers have known about this technology services. However, an ambition to be a modern bank encourages BBL promoting new technology. Therefore, during the past two years, BBL has made a variety of marketing activities to remind the customers about Bualuang ibanking through all media, nevertheless; the feedback from the customers is not in the satisfaction level. According to theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), an individual behavioral intention depends on attitude and subject norms. In this research paper, we assumed that the customers consider relative advantage/perceived usefulness, compatible, complexity/ease of use, trialability and observability mentioned by Davis (1989) and Rogers (1983) as significant factors in determining adoption of an innovation. Therefore, we would like to find out that;

- Are there any difference attitudes toward attributes of an innovation of Bualuang ibanking between group of users and non users of Bualuang ibanking?
1.3 Purpose

The purpose of the research is to describe relevance perceived attributes of an innovation, relatively advantage, compatibility, complexity, trialability and observability of Bualuang ibanking and to examine differences attitude toward perceived attributes of an innovation between the group of users and non users of Bualuang ibanking. In addition, we have discussed Bangkok Bank customer’s behavior but it is not our main analysis. To describe these attributes of an innovation between these two groups of the users, we applied the theory of Technology Acceptant Model (TAM) (Davis, 1989; Davis et al., 1989) and Diffusion of innovation (Rogers, 1983). TAM is an accepted theory generally used in information system research, while, Diffusion Innovation theory discussed about perceived attributes of an innovation which explain the rate of adoption of an innovation. Most of the variance in the rate of the rate of adoption of an innovation, from 49 to 87 percent, is explained by five attributes (Rogers, 1983).

1.4 Target Audience

Our direct audience is management team and staff of Bangkok Bank especially in IT and Marketing division. Besides that, our indirect audience is students in IT management program.
Chapter 2: Literature Review & Conceptual Framework

2.1 E-banking

There are various definitions of e-banking by different researchers, as electronic banking provides diversity of on request services to bank customers through several electronic devices like computer, television or mobile phone (Daniel, 1999; Mols, 1998; Sathye, 1999). Burr (1996) defines e-banking as “the electronic connection between bank and customer in order to prepare, manage and control financial transactions”. It can be defined in multiple following platforms (Lustsik, 2003)

   a) Internet banking (Online banking)
   b) Telephone banking
   c) TV-based banking
   d) Mobile phone banking, and
   e) PC banking (offline banking).

We will focus on Internet banking in our paper as it is one of the most rapidly developing areas (Lustsik, 2003).

Internet contains all connected web-enabling technologies and open telecommunication networks collected from public World Wide Web, direct dial-up, virtual private networks and cable (BIS-EBG, 2003).

In this paper we elaborated e-banking as a web-enabled\(^1\) technology which offers channel for customers to execute bank’s transactions. But we did not include Telephone banking, TV-based banking, Mobile phone banking and PC banking.

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\(^1\) Able to connect to or be run on the Web. This is a rather broad term that may refer to an application that outputs HTML for display on the Web or that launches a Web browser to retrieve specific Web pages. It can also refer to an application that must run on a Web server, the output of which could be displayed by a browser or a Java application (Techencyclopedia).
2.2 Attitude toward Behavioral Intention

According to Ajzen & Fishbein (1980), Fishbein & Ajzen (1975) in Theory of Reasoned Action, attitude is one factor that influences behavioral intention of an individual. This can be explained in simple logic as a personal’s performance of specified behavior which is determined by his or her behavioral intention to perform behavior, and behavioral intention is a result of person’s attitude and subject norm. Meanwhile, Fishbein & Ajzen (1975), Triandis (1977) and, Acock & DeFleur (1972) defined attitude as a positive or negative evaluation of an object, and they organized variables in term of casual process (see Appendix 10). In conclusion, individual behavioral intention of technology could be results of person’s attitude (negative or positive) and subject norm.

2.3 Technology Adoption

Agarwal and Prasad (1997), innovation has been described as “an idea, material, or artifact perceived to be new by the relevant unit of adoption (Zaltman, Duncan, & Holbek, 1973).” Innovation is not new issue in today’s talk, it has been discuss by scholar in different schools for the past 10-20 years, for example, in the marketing literature (Mahajan, Muller, & Bass, 1990), in organizational theory (Zaltman et al., 1973) and in social psychology (Ajzen & Fishbein, 1980). In the field of information technology, innovation adoption has been discussed in the information systems (IS) implementation research (Kwon & Zmud, 1987) and more recently, technology acceptance (Davis, 1989) and innovation diffusion research (Brancheau & Wetherbe, 1990). As a variety of perspectives toward innovation, the following table, we tried to summarize innovation adoption explained by different perspectives.
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Table 1: Past study about Innovation Characteristics

The theory of reasoned action (Fishbein & Ajzen, 1975), the theory of planned behavior (Ajzen & Madden, 1986) and the technology acceptance model (Davis et al., 1989), these three theories are explained the relationship between user perceptions, attitudes, and eventual system use. However, Agarwal & Prasad (1997), adoption and diffusion of innovations literature is widely used theory among researchers who study on individual adoption of information technologies. Moor & Benbasat (1991); Rogers (1983), the attributes of innovations are significant influences on user acceptance when comparing with other factors.

### 2.4 Technology Acceptant Model & Diffusion of Innovation

According to Yi-Shun, W, Yu-Min, W, Hsin-Hui, L & Tzung-I, T (2003), the technology acceptance model (TAM) has been applied in different contexts to investigate a wide range of information technologies (IT). This is because of its large number of empirical data (Agarwal & Prasad (1997). The technology acceptance model (TAM) (Davis, 1989; Davis et al., 1989) was adapted from the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). According to the TAM, intention to use a particular system is determined by the perceived usefulness and perceived ease of use of the system which will lead to the adoption behavior.
Davis (1989) defined perceived usefulness as “the degree to which a person believes that using a particular system would enhance his or her job performance,” and defined perceived ease of use as, “the degree to which a person believes that using a particular system would be free of effort.”

According to Wang (2002, p.334), although TAM has been used by various information system researchers, and it is valid to anticipate the individual’s acceptance in various context of corporate IT (Adams et al., 1992; Chin & Todd, 1995; Doll et al., 1998; Segars & Grover, 1993), the TAM’s fundamental constructs, perceived usefulness and perceived ease of use, do not fully reflect the specific influences of technological and usage-context factors that may facilitate the users’ acceptance. Moon & Kim (2001) supported that factors influencing the acceptance of a new IT is going to vary with the technology, target users, and context. In addition, Davis (1989) also noted for future technology acceptance, researcher needs to remark how other variables affect usefulness, ease of use, and user acceptance.
Moor and Benbasat (1991) noted that some elements between TAM/TRA and diffusion theory are similar (See Figure 1). According to TAM (Davis et., al 1989) defined usefulness as ability to increase individual performance, while; Roger (2003) defined relatively advantage as superior perception toward things. Adams, Nelson, & Todd, 1992; Davis et al.; Davis, 1993; Moore & Benbasat supported the importance of relatively advantage or usefulness in predicting adoption behavior. Rogers (2003), through a combination of several previous studies examining adoption behaviors, identified several attributes of an innovation that are key influences on acceptance behavior. However, the most frequently perceived attributes of an innovation discussed by Rogers (2003) are relatively advantage, compatability, complexity, triability and observability. Davis et al., (1989), ease of use is similar to Rogers’ (1983) notion of complexity which explains the degree to which a potential adopter views usage of the target system to be relatively free of effort. Adams et al.,
(1992); Davis et al., (1989) explained ease of use as a significant predictor of adoption behavior; whereas; Rogers (2003) noted that relatively advantage is the most frequency variable that explained the rate of adoption. However, the definition of each perceived attributes of an innovation will be different from each scholar. According to Rogers (2003), perceived attributes of an innovation are defined as follow;

a) “Relative advantage is the degree to which an innovation is perceived as better than the idea it supersedes.”
b) “Compatibility is the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters.”
c) “Complexity is the degree to which an innovation is perceived as difficult to understand and use.”
d) “Trialability is the degree to which an innovation may be experimented with on a limited basis” and;
e) “Observability is the degree to which the results of an innovation are visible to others.”

2.5 Perceived privacy

Perceived privacy is not a new concept in today’s technology based environment and it defines as “an individual’s ability to control the terms by which his personal information is acquired and used” (Westin, 1967; Galanxhi-Janaqi and Fui-Hoon Nah, 2004). Prior research on privacy Chellappa (2001) found that consumers might be willing to disclose personal information in exchange for some apparent benefits (Culnan and Armstrong, 1999). In the context of e-banking, users have to disclose their private information to banks in order to do banking activities. However, the users’ privacy will be inbound of the contract between the users and banks. There are many studies for example, Hernandez and Mazzon (2007), Westin and Maurici (1998), Cranor et al. (1999) agreed that privacy is an important barriers to the use of online services.
2.6 Perceived security

Security is defined as "a threat which creates circumstances, condition, or event with the potential to cause economic hardship to data or network resources in the form of destruction, disclosure, modification of data, denial of service or fraud, waste and abuse" (Kalakota & Whinston 1997). Generally, Security threat is involved in many processes, such as, the network level (the server, the communication channel or the user’s personal computer (the client). In the context of e - banking, security threats can be either through network or data transaction and transmission attacks or through unauthorized access to the account by means of false authentication (Yousafzai, Pallister & Foxall 2003). This security threat affects an individual behavioral adoption of new technology (Dutta & Roy, 2003).

In conclusion, the below figure we would like to find out the perception toward attributes of an innovation of Bualuang ibanking by comparing between group of users and non group of users. According to Rogers (2003), there are five attributes of an innovation. In this research paper, we would like to examine the attitude toward perceived attributes of an innovation, relative advantage, complexity, compatible, trialability and observability, of Bualuang ibanking among group of users and non users. In addition, Rogers (2003) defined the degree in expressing relatively advantage into 3 contexts economic, social and overadoption), meanwhile; Davis (1989) described the degree of usefulness as the ability to enhance an individual job performance. We decided to replace Davis’s definition in stead of Rogers as his definition is more explicit and its degree of measurement is easy to understand by the subjects. Besides that, in this research, the observability was defined in two categories, perceived privacy and security so that the subjects can simply notice.
2.7 Defined Hypotheses

Rogers (1983) stated that “the greater the perceived relatively advantage of an innovation, the more rapid its rate of adoption will be”.

H1: the users and non users of Bualuang ibanking perceive differences toward the following statement “internet banking gives me greater control over my finances”.

H2: the users and non users of Bualuang ibanking perceive differences toward the following statement “internet banking allows me to manage my finances more efficiently”.

H3: the users and non users of Bualuang ibanking perceive differences toward the following statement “I find internet banking useful for managing my financial resources”.

H4: the users and non users of Bualuang ibanking perceive differences toward the following statement “I can process the transactions with little time”.

Figure 2: Conceptual Framework
Users perceive compatibility with the innovation when it relates to the existing values, past experiences, and needs of potential adopter. However, incompatible with the values and norms of a social system will not be adopted as rapidly as an innovation that is compatible. Therefore, the adoption of an incompatible innovation often requires the prior adoption of new value system, which is a relatively slow process (Rogers, 2003).

H5: the users and non users of Bualuang ibanking perceive differences toward the following statement “internet banking is a convenient way to manage my finance”.

H6: the users and non users of Bualuang ibanking perceive differences toward the following statement “internet banking is compatible with my lifestyle”.

H7: the users and non users of Bualuang ibanking perceive differences toward the following statement “internet banking is fits well with the way I like to manage my finance”.

H8: the users and non users of Bualuang ibanking perceive differences toward the following statement “using the internet to conduct banking transactions fits into my working style”.

Ease of use was noted as a significant predictor of adoption behavior (Adams et al., 1992; Davis et al., 1989). Ease of use is similar to Rogers’ (1983) notion of complexity. Ease of use is explained the degree to which a potential adopter views usage of the target system to be relatively free of effort (Davis et al.).

H9: the users and non users of Bualuang ibanking perceive differences toward the following statement “internet banking makes it easier for me to conduct my banking transactions”.

H10: the users and non users of Bualuang ibanking perceive differences toward the following statement “using internet banking requires a lot of mental effort”.
H11: the users and non users of Bualuang ibanking perceive differences toward the following statement “using internet banking can be frustrating”.

H12: the users and non users of Bualuang ibanking perceive differences toward the following statement “internet banking is an easy way to conduct banking transactions”.

Trialability measures the level to which potential adopters perceive that they have opportunity to experiment with the innovation prior to committing to its usage (Moore & Benbasat, 1991).

H13: the users and non users of Bualuang ibanking perceive differences toward the following statement “I want to be able to try internet banking”.

H14: the users and non users of Bualuang ibanking perceive differences toward the following statement “I want to be able to use internet banking on a trial basis to see what it can do”.

Rogers (2003), ideas of innovations could be both easily or difficulty to translate to other peoples. According to Rogers (2003), we tried to relate the observabiltiy to the privacy and security constructions. In a study about the adoption of Internet banking, Sathye (1999) reported that privacy and security were found to be significant obstacles to the adoption of online banking in Australia.

H15: the users and non users of Bualuang ibanking perceive differences toward the following statement “information concerning my internet banking transactions will be known to others”.

H16: the users and non users of Bualuang ibanking perceive differences toward the following statement “information concerning my internet banking transactions can be tampered with others”.

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Chapter 3: Research Design and Process

Stage 1: Research Problem/Idea

Stage 2: Theoretical Framework
- Explore the literature to deduce a clear framework
- Theory development

Stage 3: Formulate Hypotheses
- Research question

Stage 4: Identify properties of concepts
- Information Technology
- E-banking

Stage 5: Develop instrument to measure
- Technology Acceptance Model
- Perceived attributed of innovations
- Scale measurement

Stage 6: Apply instrument-collect data
- Interview
- Questionnaire distribute

Stage 7: Statistically analyze data

Stage 8: Test reliability and validity

Stage 9: Interpret statistical results

Figure 3: Research Design
3.1 Research Design

The research structure follows the above process. In an initial stage, we tried to formulate research problem/ idea that is considered as a critical stage in doing a Master’s dissertation. According to Fisher (2004), the proper manner in doing the research you should think about a topic in a systematic manner then you will not be frustrated by your decision and you will not risk running out of time to complete the dissertation on schedule. Therefore, we decided to choose a topic based on the problems and limitations that we had found from the previous research papers as well as all from course materials.

Fisher (2004) Survey research is presented as an accurate and generalized representation of the field of study. In surveying research, what is to be researched has to be pre-planned in some detail and the measuring instruments to be used have to be well calibrated (Fisher, 2007; p 156). In this research, we have utilized a questionnaire-based survey to measure the attitude toward perceived attributes of Bualuang ibanking.

3.2 Instruments

To collect data, we searched an electronic resource through a virtual library which is the Mälardalen University Library’s online databases like ProQuest (ABI/INFORM), Elin@Mälardalen, SSCI, and Emerald. Besides that, we also search information from books, articles, scholarly journals, magazines, and trade publications, newspapers, and reports dissertations. We have gone through the search engine like Google using the key word related to our topic such as technology adoption, diffusion of innovation, Thai commercial bank and e-banking.

In addition, we conducted an interview with Ms.Warintra Sritipakorn, business analyst level 11 in IT division of Bangkok Bank Plc. The questions were sent through the electronic mail (See Appendix 2).
We invited 100 subjects doing the online questionnaire. The questionnaire was designed to measure the perceived attributes of an innovation according to TAM and Rogers’ theory.

The questionnaire is based on NUS Interview Banking Survey (Faculty of Business Administration, National University of Singapore), divided into three parts. The questionnaire consists of 3 parts, the questions in the first part are related to Bangkok Bank customers’ behavior. The second part is an important part which is designed to measures the attitude toward perceived attribute characteristics toward innovation. The question format that we used in explaining the perception of the subjects is Likert Scale. According to this method, subjects expressed their perception by rating the scale 1-5. The least the number represents the negative attitude toward the items while the highest number represents the positive attitude.

Two main statistical models that we used in this research paper, one is one sample t-test which is used to describe the mean significant of the attributes of an innovation among the group of users and non users of Bualuang ibanking and another is independent sample t-test. The independent sample t-test is a model used in comparing means between two groups to see mean difference of attitude among the group of users and non users.

### 3.3 Population

Our subjects are the customers of Bangkok Bank who have experience or not have experience in using the Bualuang ibanking. According to (Fisher, 2004; p 189), the critical matter in determining sample size is how many people would be enough. Practically, the purpose of taking a sample is to obtain a result that is representative of the whole population being sampled without going to the trouble or asking everyone. Theoretically, there are a lot of sampling methods in conducting the survey research; however, the technique that we utilized in this research is a simple random sampling. This technique
is the basic sampling where we select a group of subjects (a sample) for study from a larger group (a population). Each individual is chosen entirely by chance and each member of the population has an equal chance of being included in the sample. Every possible sample of a given size has the same chance of selection. (Definition taken from Valerie J. Easton and John H. McColl's Statistics Glossary v1.1). Therefore, in order to calculate the sample size, we based on the number of population in Thailand which is approximately 60 million, meanwhile, there are 10 million people live in Bangkok City. Hence, the number of people in Bangkok City is about 16 percent of total population. Referring to the corporate profile, Bangkok Bank has more than 16 million bank accounts in total. Therefore, we can estimate a number of Bangkok Bank customers in central city at sixteen percent, proportion between Bangkok population to Thai population, of total account. Hence, number of customers in Bangkok is approximately 2.5 million. However, the size of population is relatively large when comparing with the mandatory time; we decided to randomly select only 100 Bangkok Bank customers who live in Bangkok City as our subjects.

The online questionnaire was posted on the following link; http://survey.wisetarget.net./engine/index.php?surveycode=497cdssf&losin=1 and the electronic mails were sent to invite 100 customers. We started collecting questionnaire on 24th Feb, 2008 and ended on 24th April, 2008. As a result, we could get 76 completed questionnaires after closing the online system.
Chapter 4: Findings and Analysis

4.1 Bangkok Bank
Source: www.bangkokbank.com

Bangkok Bank was established in 1944. It is the largest commercial bank in Thailand, the fifth largest regional bank in South-East Asia. Bangkok bank can gain market share in the first range of both corporate and SME banking. Overall, there are 16 million accounts. Besides Headquarter in Bangkok, there are approximately 750 branches both inside the country and oversea. Bangkok bank also facilitates the customers by operating the business center and business desks.

Bangkok Bank also operates in oversea country, for example, China, Hong Kong, the USA, the UK, Japan, Taiwan, Singapore, Malasia, Vietnam, the Philippines, Indonesia, Loans and Myanmar.

Bangkok Bank’s key competitive strengths continue to be its customer base - the largest in Thailand, its enduring customer relationships and unrivaled regional branch network.

In the year to come, Bangkok Bank will be building further on the strengths, while at the same time working to further improve the efficiency of operations and the quality of customer service.
4.2 Bualuang iBanking

Bualuang iBanking was launched since the end of 2002. The retail customers are solely its main customers. There are two reasons behinds setting up Bualuang iBanking, one is customers’ side and another is bank’s side. For the customers’ side is aimed to increase service efficiency and raise bank’s image. While the bank’s side is to reduce job loading and save operational costs.

Presently, there are six main activities via Bualuang iBanking as follows;

a) Account Activities Review,

b) Fund Transfer,

c) International Fund Transfer,

d) Bill Payments,

e) Investment in Mutual Funds and,

f) Cheque Services.

According to the interview with Bangkok Bank Business Analyst, the majority of the Bualung iBanking users is around 20-45 years old. However, in order to gain market share, Bank has to consider customer’s needs, the possibility to invest in technology and competitors. The strategies that bank uses to overcome all the risk factors are improving online register, offering promotion, participating in events for instance Money Expo, and making awareness with right target.
4.3 Results

Among many countries in Asia, such as, China, South Korea and Taiwan have highest internet user density, respectively (Shih and Fang, 2004, quoting ACNielsen, 2001). According to Aimsri, Investment Manager (VNET Venture Capital Management Securities Co., Ltd), the number of internet users in Thailand gradually increase, however; this number is predicted to going down. In 2003, the proportion of the internet users is 12 percent of total population, approximately 7.6 million people. This amount is quite low when comparing with America and England which have 55 percent of total population using internet, while in Asia, Korea and Malaysia have 60 and 34.41 percent of total population using internet respectively. The majority of internet users in Thailand age around 15 to 24 years old, whereas, Bangkok Bank has the target group using Bualuang ibanking around 24 to 45 years old. Therefore, in order to raise a number of users, bank should concentrate and promote technology with the right target. In this case, an appropriate age should be around 20 to 30 years old. The below bar chart indicates that the majority of the customers age between 25 to 29 years old. This range of ages intersects with the Thailand users’ statistic (15 to 24 years old) and the interview results (20 to 30) years old.
Figure 4: Comparison between age and sex (999 is missing data)

When looking at the behavior of the customers we found that most of the customers will make transactions at bank a few times a month which is 36 percent and the other 23.7 percent makes transactions at bank a few times a week (see Appendix 8).

![Bank Image](image)

Figure 5: The First Four Bank Images

As shown in the above figure, it shows that when the customers think of Bangkok Bank, ATM will be the first image that comes to their mind (42 percent). However, Bualuang ibanking (15 percent) is in the fourth rank among 15 examples that we asked. The perception toward Bualuang ibanking is better than we expected as the number of the customers who use credit card is second large but there is only 3 percent of the customers will recognize its image at a glance.

Generally, the customers can use ATM to make cash withdrawal and to check balance account. Bangkok Bank also provides ATM by which the customers make those basic features and others, such as, transferring money inside the country and oversea, and bill payment. Besides ATM, there are Cash Deposit Machine (CDM), Express Drop Box (EDB) and Automated Updated Bank Book. From the result, we found that 53.95 percent of the respondents use
ATM a few times a week and 31.58 percent of them use ATM a few times a month. So, we can conclude that the customers usually do some simple transactions by using ATM more than going to do the transactions at the bank.

Banking products which bank provides for both retail and corporate customers are more than 10 types. The first there popular products are saving account (71 users), credit card (42 users), and current account (19 users) respectively. In order to facilitate the customers to user our products, Bangkok bank provides additional channels to make their transaction instead of going to the bank’s counter and waiting in a long queue. E-banking is one medium that can facilitate the customers to manage their transactions by themselves. According to the research result, we found that the customers can choose to manage those three product thought Bualuang ibanking. Furthermore, the characteristics of these three products/services are not sophisticated, it means the transaction is simple and the risk to bank is not high, which the customers can manage and control by themselves.
There are approximately 2.5 million customers of Bangkok Bank in Bangkok City, meanwhile, in this research paper we selected 100 respondents to do our survey questionnaire. At the end result, we could get 76 completed questionnaires and the result according to the above figure shows that there are 64 customers who notice about Bualuang ibanking by getting the message from different channels such as friend, colleague/peers, poster and bank trailers (See Appendix 9).

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<tr>
<th>Gender</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0</td>
</tr>
<tr>
<td>Male</td>
<td>1</td>
</tr>
<tr>
<td>999</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 2: crosstab between 4 perceptions and sex
On the other hand, there are 12 people who are Bangkok Bank customer but have not known about this service, 5.33 percent of total respondents. As you can see from the above table, it shows that if they have a chance to use Bualuang ibanking in the future, 4 females tend to be neutral while 3 males are interested. Overall, this amount can not be inferred that female have less willing to use this technology than male as the number of the respondents is not large enough.

However, the above bar chart shows that, they are likely to adopt this technology within one month (9 of 12 respondents). According to Rogers (1983) defined rate of adoption as the relative speed with which an innovation is adopted by members of a social system. When the number of individuals adopting a new idea is plotted on a cumulative frequency basis over time, the resulting distribution is an S-shaped curve. Even, the number of respondents is not large enough, we can see at the fist, there are 2 customers who will use Bualuang ibanking within one week, later on 2 more at a half month and it gets the highest 5 customers in one month before the number of customers declines.
According to the above figure, it shows the number of awareness customers who are Bangkok Bank users and non-users of Bualuang ibanking categorized by sex. From 76 completed return questionnaires, it shows that 36 customers using Bualuang ibanking (13 Males and 23 Females) which is 56.26 percent of total awareness customers, at the same time, there are 28 customers who are not using (19 Males and 9 Females) which is 43.75 percent of total awareness customers. Normally, customers who use Bualuang ibanking access through the internet from their home and office.
As the aims of the Bualuang ibanking are to improve the way customers manage and control their account and to raise bank image. Therefore, the services that the bank provides should be compatible with the customer needs. We found the respondents prefer doing some basic transactions via Bualulang ibanking as you can see from the above figure, 26 customers have experience reviewing their balance account, another 21 customers transfer fund and 15 customers make bill payments. We can assume that the following factors may be affected to the behavioral intention; perceive usefulness, compatible, complexity, trialability, perceive privacy and perceive security. However, we will discuss in more detail later in this part.

<table>
<thead>
<tr>
<th>Group Statistics</th>
<th>Using Bualung ibanking</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Ability</td>
<td>Yes</td>
<td>36</td>
<td>1.6667</td>
<td>.95618</td>
<td>.15936</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>28</td>
<td>2.4286</td>
<td>1.31736</td>
<td>.24896</td>
</tr>
</tbody>
</table>

Table 3: Statistic data
Table 4: Independent Sample Test

From the above independent sample test, our hypothesis is
\[ \mu_1 = \text{average attitude toward internet ability of customers use Bualuang ibanking} \]
\[ \mu_2 = \text{average attitude toward internet ability of customer not use Bualunag ibanking} \]
\[ \therefore \quad H_0: \mu_1 = \mu_2 \]
\[ H_1: \mu_1 \neq \mu_2, \]

According to t-test for equality of mean \( t = -2.681, \text{df} = 62 \) and sig. (2-tailed) = 0.009 which is less than significant level (0.05). Hence, we have to reject \( H_0 \) and accept \( H_1 \) which means the average attitude toward internet ability among them is different. As well as, the result from statistic table explains that the majority customers who use Bualuang ibanking perceive themselves as very skillful using internet and some are knowledgeable about good search techniques on the Internet. On the other hand, most of the customers who do not use Bualuang ibanking find themselves as knowledgeable about good search techniques on the internet and a few of them feel less ability than other users.
## One-Sample Test

<table>
<thead>
<tr>
<th>Activity</th>
<th>T</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>95% Confidence Interval of the Difference</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>View your balances (savings, current, fixed-deposit, loan, and credit card).</td>
<td>5.301</td>
<td>35</td>
<td>.000</td>
<td>.63889</td>
<td>.3942, .8836</td>
<td></td>
<td></td>
</tr>
<tr>
<td>View recent transactions. Track the movements of your current, savings, and fixed-deposit accounts.</td>
<td>3.607</td>
<td>35</td>
<td>.001</td>
<td>.52778</td>
<td>.2308, .8248</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Print your bank statements.</td>
<td>.407</td>
<td>35</td>
<td>.686</td>
<td>.08333</td>
<td>-.3320, .4987</td>
<td>-.915, .250</td>
<td></td>
</tr>
<tr>
<td>View your credit-card statements and transactions over the last three months.</td>
<td>.000</td>
<td>35</td>
<td>1.000</td>
<td>.00000</td>
<td>-.4124, .4124</td>
<td>-.8248, .250</td>
<td></td>
</tr>
<tr>
<td>View the repayment history of your loan account to see how much principal you have left to repay and how much you have repaid in the last twelve months.</td>
<td>-.941</td>
<td>35</td>
<td>.353</td>
<td>-.22222</td>
<td>-.7015, .2570</td>
<td>-.6685, .3352</td>
<td></td>
</tr>
<tr>
<td>Transfer funds between your Bangkok Bank accounts.</td>
<td>2.667</td>
<td>35</td>
<td>.012</td>
<td>.41667</td>
<td>.0995, .7338</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer funds from your account to someone else’s Bangkok Bank account.</td>
<td>1.435</td>
<td>35</td>
<td>.160</td>
<td>.27778</td>
<td>-.1152, .6708</td>
<td>-.6685, .3352</td>
<td></td>
</tr>
<tr>
<td>Transfer funds to accounts at other banks.</td>
<td>-.674</td>
<td>35</td>
<td>.505</td>
<td>-.16667</td>
<td>-.6685, .3352</td>
<td>-.6685, .3352</td>
<td></td>
</tr>
<tr>
<td>Transfer of expenses for education overseas</td>
<td>2.667</td>
<td>35</td>
<td>.012</td>
<td>.41667</td>
<td>.0995, .7338</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer of expats’ savings working in Thailand</td>
<td>1.435</td>
<td>35</td>
<td>.160</td>
<td>.27778</td>
<td>-.1152, .6708</td>
<td>-.6685, .3352</td>
<td></td>
</tr>
<tr>
<td>Transfer of money to relatives or family with permanent residency in another country</td>
<td>-.674</td>
<td>35</td>
<td>.505</td>
<td>-.16667</td>
<td>-.6685, .3352</td>
<td>-.6685, .3352</td>
<td></td>
</tr>
<tr>
<td>Purchase, redeem or switch orders for mutual funds units.</td>
<td>-1.599</td>
<td>35</td>
<td>.119</td>
<td>-.38889</td>
<td>-.8827, .1049</td>
<td>-.8827, .1049</td>
<td></td>
</tr>
<tr>
<td>Check the status of your mutual funds units.</td>
<td>-1.200</td>
<td>35</td>
<td>.238</td>
<td>-.30556</td>
<td>-.8223, .2112</td>
<td>-.8223, .2112</td>
<td></td>
</tr>
<tr>
<td>Pay for goods and services online (including Bangkok Bank credit cards and supplementary credit cards).</td>
<td>.000</td>
<td>35</td>
<td>1.000</td>
<td>.00000</td>
<td>-.4044, .4044</td>
<td>-.4044, .4044</td>
<td></td>
</tr>
<tr>
<td>Set payment dates in advance so you won’t forget to pay bills when they are due.</td>
<td>.141</td>
<td>35</td>
<td>.889</td>
<td>.02778</td>
<td>-.3725, .4280</td>
<td>-.3725, .4280</td>
<td></td>
</tr>
<tr>
<td>Suspend your cheque payments.</td>
<td>-3.054</td>
<td>35</td>
<td>.004</td>
<td>-.80556</td>
<td>-1.3410, -.2702</td>
<td>-1.3410, -.2702</td>
<td></td>
</tr>
<tr>
<td>View the list of cheques issued that have been returned over the last two months.</td>
<td>-2.826</td>
<td>35</td>
<td>.008</td>
<td>-.75000</td>
<td>-1.2888, -.2112</td>
<td>-1.2888, -.2112</td>
<td></td>
</tr>
</tbody>
</table>
View the list of cheques deposited into your accounts that have been returned over the past two months. -2.777 35 .009 -.72222 -1.2502 -.1943
Suspend the use of your lost passbook. -1.990 35 .054 -.47222 -.9540 .0096
Request a hard-copy of your bank statement going back further than two months. -1.758 35 .087 -.41667 -.8977 .0644

Table 5: One Sample Test (Perceived Usefulness)

As we set assumption by let’s;

\[ H_0: \mu \geq 4 \]
\[ H_1: \mu < 4 \]

The one-sample test table above is one side test, therefore, sig. (2-tailed)/2 should more than 0.05 (significant level) in order to accept Ho. As a result, you will found there are 8 activities (blue box) that the customers perceive usefulness.

According to the conceptual framework, we would like to describe the perceived attributes of the innovation technology and other additional relevant variables whether they are significant or not at \( \mu \geq 4 \). In order to test this hypothesis, we assume;

\[ H_1: \mu_1 \geq 4, \]
\[ H_2: \mu_2 \geq 4, \]
\[ H_3: \mu_3 \geq 4 \text{ and so on} \]

**Relatively Advantage (Perceive Usefulness)**

*H1: the users and non users of Bualuang ibanking perceive differences toward the following statement “internet banking gives me greater control over my finances” (Appendix 3).*

*H2: the users and non users of Bualuang ibanking perceive differences toward the following statement “internet banking allows me to manage my finances more efficiently” (Appendix 3).*
H3: the users and non users of Bualuang ibanking perceive differences toward the following statement “I find internet banking useful for managing my financial” (Appendix3).

H4: the users and non users of Bualuang ibanking perceive differences toward the following statement “I can process the transactions with little time” (Appendix 3).

<table>
<thead>
<tr>
<th>Test Value = 4</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean Difference</strong></td>
<td><strong>Lower</strong></td>
</tr>
<tr>
<td>Internet banking gives me greater control over my finances</td>
<td>-1.7188</td>
</tr>
<tr>
<td>Internet banking makes it easier for me to conduct my banking transactions.</td>
<td>.10938</td>
</tr>
<tr>
<td>I find internet banking useful for managing my financial resources.</td>
<td>-.18750</td>
</tr>
<tr>
<td>I can process the transactions with little time.</td>
<td>-.18750</td>
</tr>
</tbody>
</table>

Table 6: One Sample Test

We can conclude that at 95 percent confidence interval, sig. (2-tailed)/2 of all hypothesis are more than α = 0.05 which means both customers who use and not use Baulaung ibanking perceive usefulness toward technology. Not withstanding, when comparing mean between those two groups, we found that the mean of those groups are slightly different toward some opinion as sig.(2-tailed) less than α = 0.05 (See Appendix 3), such as, internet banking gives me greater control over my finances, internet banking makes it easier for me to conduct my banking transactions, and I find internet banking useful to manage my financial resources. The mean differences between the two groups are 0.77381, 0.63889 and 0.74630 respectively, which can be inferred that those groups of customers who use Bualuang ibanking tend to be positive toward perceived of usefulness more than those group of non user which is
the same as Rogers (2003) stated that the greater the perceived relative advantage of an innovation, the more rapid its rate of adoption will be.

Compatibility

H5: the users and non users of Bualuang ibanking perceive differences toward the following statement “internet banking is a convenient way to manage my finance” (Appendix 4).

H6: the users and non users of Bualuang ibanking perceive differences toward the following statement “internet banking is compatible with my lifestyle” (Appendix 4).

H7: the users and non users of Bualuang ibanking perceive differences toward the following statement “internet banking fits well with the way I like to manage my finance” (Appendix 4).

H8: the users and non users of Bualuang ibanking perceive differences toward the following statement “using the internet to conduct banking transactions fits into my working style” (Appendix 4).

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet banking is a convenient way to manage my finances.</td>
<td>.388</td>
<td>63</td>
<td>.699</td>
<td>.04688</td>
<td>-.1946 - .2883</td>
</tr>
<tr>
<td>Internet banking is compatible with my lifestyle.</td>
<td>-.853</td>
<td>63</td>
<td>.397</td>
<td>-.10938</td>
<td>-.3655 - .1467</td>
</tr>
<tr>
<td>Using internet banking fits well with the way I like to manage my finance.</td>
<td>-2.678</td>
<td>63</td>
<td>.009</td>
<td>-.34375</td>
<td>-.6003 - .0872</td>
</tr>
<tr>
<td>Using the internet to conduct banking transactions fits into my working style</td>
<td>-2.678</td>
<td>63</td>
<td>.009</td>
<td>-.34375</td>
<td>-.6003 - .0872</td>
</tr>
</tbody>
</table>

Table 7: One Sample Test
The majority of the customers who are users and non users of Bualunag ibanking agree that internet banking is a convenient way to manage their finances and compatible with lifestyle. The number from the above table shows that at 95 percent confidence interval, the sig. (2-tailed)/2 is more than $\alpha = 0.05$ which means there is significant toward adoption Bualuang ibanking. On the hand, they believe that using internet banking is somewhat fits with the way they like to manage their finance and working style. The mean of these two assumptions is 3.6562 (See Appendix 4) and the value of sig. (2-tailed) at 95 percent confidence interval is less than $\alpha = 0.05$. So, we have to reject the hypothesis of H7 and H8. However, Rogers (1983) stated that one indication of the compatibility of an innovation is the degree to which it meets a felt need. From the independent samples test table (see Appendix 4), it can be concluded that there are mean difference between those groups of customers. At 95 percent confidence interval, sig. (2-tailed) of all hypothesis less than $\alpha = 0.05$ and the mean difference between those two groups are 0.59127, 0.94841, 0.59524 and 0.65873 respectively. Overall, the customers who have adopted technology being more positive than non adopter as it is shown in the statistic table (See Appendix 4).

**Complexity (Easy & Free of efforts)**

**H9:** the users and non users of Bualuang ibanking perceive differences toward the following statement “internet banking makes it easier for me to conduct my banking transactions” (Appendix 5).

**H10:** the users and non users of Bualuang ibanking perceive differences toward the following statement “using internet banking requires a lot of mental effort” (Appendix 5).

**H11:** the users and non users of Bualuang ibanking perceive differences toward the following statement “using internet banking can be frustrating” (Appendix 5).
H12: the users and non users of Bualuang ibanking perceive differences toward the following statement “internet banking is an easy way to conduct banking transactions” (Appendix 5).

<table>
<thead>
<tr>
<th>One-Sample Test</th>
<th>Test Value = 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t</td>
</tr>
<tr>
<td>Internet banking makes it easier for me to conduct my banking transactions.</td>
<td>.980</td>
</tr>
<tr>
<td>Internet banking is an easy way to conduct banking transactions.</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 8: One Sample Test

<table>
<thead>
<tr>
<th>One-Sample Test</th>
<th>Test Value = 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T</td>
</tr>
<tr>
<td>Using internet banking requires a lot of mental effort.</td>
<td>6.295</td>
</tr>
<tr>
<td>Using internet banking can be frustrating.</td>
<td>7.486</td>
</tr>
</tbody>
</table>

Table 9: One Sample Test

The less complexity of technology has direct relationship toward innovation characteristics of Bualuang ibanking as the value of sig. (2-tailed)/2 at 95 percent confidence interval for H9 and H12 more than $\alpha = 0.05$. Therefore, we have to accept hypothesis which means that the less complexity is significant toward adoption of Bualunag ibanking. In addition, the values of sig. (2-tailed)/2 at 95 percent confidence interval are less than $\alpha = 0.05$. So, we have to reject the hypothesis which means that using internet banking is not required a lot of mental effort and not frustrating. However, when comparing between group of users and non users Bualuang ibanking, we found two mean difference among these two groups toward internet banking makes it easier for them to conduct my banking transactions and Internet banking is an easy way to conduct banking transactions. The mean
differences indicate that the customers who use Bauluang ibanking tend to be positive toward easy of the technology, see value of mean difference at the appendix 5. On the other hand, both of them quite agree that using internet banking requires a lot of mental effort and can be frustrating.

**Trailability**

*H13: the users and non users of Bualuang ibanking perceive differences toward the following statement “I want to be able to try internet banking” (Appendix 6).*

*H14: the users and non users of Bualuang ibanking perceive differences toward the following statement “I want to be able to use internet banking on a trail basis to see what it can do” (Appendix 6).*

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>I want to be able to try internet banking for at least one month.</td>
<td>-3.935</td>
<td>63</td>
<td>.000</td>
<td>-.54688</td>
<td>-.8246, -.2692</td>
</tr>
<tr>
<td>I want to be able to use internet banking on a trail basis to see what it can do.</td>
<td>-3.786</td>
<td>63</td>
<td>.000</td>
<td>-.48438</td>
<td>-.7400, -.2287</td>
</tr>
</tbody>
</table>

Table 10: One Sample Test

It is quite interesting that both of the users and non users Bualuang ibanking do not perceive significant toward tralability as the results shows that the sig. (2-tailed) at 95 percent confidence interval is less than $\alpha = 0.05$. So, we have to reject the hypothesis. From this we can refer to Gross (1942) and Ryan (1948) that relatively earlier adopter of an innovation perceive trialability more important than do later adopter. The table of dependent samples test shows no mean difference between two groups of users. The mean difference at 95 percent confidence interval, values of sig. (2-tailed) are more than $\alpha = 0.05$, therefore, we have to accept the hypothesis (see Appendix 6). As a result, we
can conclude that these groups of the users perceive useless toward trailability of the e-banking.

**Observability**

**Perceived privacy and Perceived security**

![Figure 11: Number of users & non users Bualuang ibanking by internet ability](image)

According to the above figure, both users and non users of e-banking are kind of confident over the security aspects of e-banking and the reason is advance technology internet security can provide for safer e-banking (see Appendix 7).

**H15:** the users and non users of Bualuang ibanking perceive differences toward the following statement “information concerning my e-banking transactions will be known to others” (Appendix 7).

**H16:** the users and non users of Bualuang ibanking perceive differences toward the following statement “information concerning my e-banking transactions can be tampered with others” (Appendix 7).
### Table 11: One Sample Test

The table of one-sample test above shows values of sig. (2-tailed) at 95 percent confident interval is less than $\alpha = 0.05$ that means both users and non users of Bualuang ibanking are positive toward privacy and security of the technology. However, there are no mean differences between both of two group which means perceived privacy and security is not affected to the rate of adoption. The value from the independent samples test shows value of sig. (2-tailed) at 95 percent confident interval is more than $\alpha = 0.05$ (see Appendix 7).

<table>
<thead>
<tr>
<th>Information concerning my internet banking transactions will be known to others.</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6.748</td>
<td>63</td>
<td>.000</td>
<td>.89062</td>
<td>.6269 - 1.1544</td>
</tr>
<tr>
<td>Information concerning my internet banking transactions can be tampered with others.</td>
<td>7.576</td>
<td>63</td>
<td>.000</td>
<td>.93750</td>
<td>.6902 - 1.1848</td>
</tr>
</tbody>
</table>
Chapter 5: Conclusions

Overall, there are about 84 percent of total respondents who know about Bualuang ibanking, however, this percentage consist of users and non users of Bualuang ibanking, 56.25 percent and 43.75 percent respectively. Therefore, bank still has an opportunity to convert the rest 43.75 percent to become the users of Bualuang ibanking. According to the survey results we found that 67.85 percent of non users of Bualuang ibanking age between 19 to 29 years old which is closed to the rate from internet usage survey in Thailand. Therefore, making more awareness to the right group is the way to get more users.

The results indicate that simple and low risk activities which shorten their time is preferred by the users, such as, print bank statements, view the repayment of loan, transfer fund to someone else in the same bank and bank outside, transfer of expat’s saving working in Thailand, transfer of money to relative or family in oversea, purchase, redeem or switch orders for mutual fund units, check mutual fund status, pay for goods and services and set payment dates in advance. While some activities is not useful because they do not improve the service but it is just an alternative channel for customers, for example, suspend the use of your lost passbook which you can report to the call centre.

Both of the users and non users of Bualuang ibanking perceive importantly toward Bualuang ibanking. The mean differences between the group of users and non users indicate that the group of users is more slightly positive toward perceived attributes of an innovation than the another group that we can see from the independent samples test, whereas, some but not all independent variables that is not perceived differently, such as, perceived usefulness toward the time processing, mental efforts, frustrating, exposure of an information and information attack. Additionally, the results show that these two groups perceive inversely toward trialability.

Consequently, we realize that the time to process the transactions is not important as the time saving doing transaction at the bank. In addition, if the transactions are complex, they prefer doing transactions at the bank. This is
because the customers can not understand the results of the requirements by themselves so it is better to get an advice from bankers. Therefore, the services providing on electronic banking should reduce time to travel and give them control over their transaction, be easy to conduct the transactions and suite with their lifestyle and working.

Chapter 6: Limitations

This research is conducted in 10 weeks, therefore, our sample size may not appropriate with the total number of population. Practically, when the population is large, the size of the sample should be 200 – 300 people. Besides that, we could not control our sample as we used online survey. Therefore, all Bangkok bank customers had the same chance to do the survey, while, we focused on customers in Bangkok city only.
References


Fishbein, M, Ajzen 1975, Belief, Attitude, Intention and Behavior: An Introduction to theory and Research, Addison-Weley, Reading MA.


Ghorab, K 1997, ‘The Impact of Technology Acceptance Consideration on System Usage, and Adopted Level of Technological Sophistication: An


Appendix

Appendix 1

Survey: Internet Banking (Bualuang i-bangking)
We are students of Malardalens University doing a research on the factors that influence behavioral intention toward using internet banking as a part of our thesis. The aim of this survey is to analyze the innovation variables that influence behavioral intention toward using internet banking in a case of Bangkok Bank. All the data collected through this survey will be kept strictly confidential.

Part I
Please select the answer that best to your responses.

1 On an average, how frequently do you make transactions at the bank?
   Several times a day
   A few times a day
   A few times a week
   A few times a month
   About once a month
   Less than one a month
   Never/Almost never

2 On an average, how often do you use the ATM (Automatic Trailer Machine)?
   Several times a day
   A few times a day
   A few times a week
   A few times a month
   About once a month
   Less than one a month
   Never/Almost never

3 Which of the following banks do you patronise? (You can select more than 1 choice)
   Bangkok Bank
   Krung Thai Bank
   Siam Commercial Bank
   Bank of Ayudhaya
   Kasikorn Bank
   Kiatnakin Bank
   City Bank
   Thai Military Bank
   DBS-Thai Danu Bank
   Tisco Bank
   Bank Thai
   Thanachart Bank
   If others, please specify

4 Which of the following banking products do you currently use? (You can select more than 1 choice)
   Saving Account
   Current Account
   Fixed Deposit
   Personal Loan
   Hire Purchase / Auto Loan
   Mortgage Loan
   Overdraft
   Credit Card
   Phone Banking
   Forex Margin Trade
   Currency Exchange
   Security Agent
   Cash Management
   Mutual
   Fund
   Financial Lease
   International Trade
   Stock
   Trade
   Insurance
   I access the internet primarily from (Only one Choice)
   Home
   Office
   School
   Public Library
   Internet
   Cafés
   If others, please specify
6 On average, how frequently do you use the internet?
   - Several times a day
   - A few times a day
   - A few times a week
   - About once a month
   - Less than one a month
   - Never/Almost never

7 Please indicate the extent to which you use the internet to perform the following tasks
   Never   Sometimes   Average   Often   Always
   - Gathering information
   - Email
   - Chatting
   - Downloading
   - Shopping
   - Searching for job
   - Social networking
   - Entertainment
   - If others, please specify

8 What is the first three perceptions when talking about Bangkok Bank? (please select 1 to 3 respectively)
   - Service
   - ATM
   - Loan
   - Money Transfer
   - Be 1st
   - Credit Card
   - Bualung Phone
   - Saving Bond
   - Mutual Fund
   - Currency Exchange
   - Bualung Kids
   - Insurance
   - Property for sale
   - Counter service
   - Bualung i-banking

9 Choose only one statement that could be the best describing for you.
   - I am very skilled at using the Internet
   - I consider myself knowledgeable about good search techniques on the Internet
   - I know less about using the Internet than most users
   - I know how to find what I want on the Internet using a search engine

10 Have you heard about Bualung i-banking?
    Yes   No (Jump to part II C)

11 How do you know about Bualung i-banking? (Only one choice)
    - Friends
    - Family
    - Colleagues/Peers
    - TV.
    - Newspaper
    - Magazine
    - Poster
    - Radio
    - Events
    - Trailers
    - If others, please specify

12 Have you got a chance doing any transaction via Bualung i-banking?
    Yes   No (Jump to Part II B)

13 What's transaction on Bualuang i-banking you have used before? (You can select more than 1 choice)
    - Account Activities Review
    - Fund Transfers
    - International Funds Transfer
    - Bill Payments
    - Invest in Mutual Funds
Part II
Please select the answer that best to your responses.
A. In the following part, please indicate the how usefulness of the activity done on bualuang i-banking comparing with the normal activities.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Not at all Useful</th>
<th>Somewhat not Useful</th>
<th>Neutral</th>
<th>Somewhat Useful</th>
<th>Very Useful</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manage your accounts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a View your balances (savings, current, fixed-deposit, loan, and credit card).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b View recent transactions. Track the movements of your current, savings, and fixed-deposit accounts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c Print your bank statements.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d View your credit-card statements and transactions over the last three months.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e View the repayment history of your loan account to see how much principal you have left to repay and how much you have repaid in the last twelve months.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fund transfers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a Transfer funds between your Bangkok Bank accounts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b Transfer funds from your account to someone else’s Bangkok Bank account.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c Transfer funds to accounts at other banks.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>International Funds Transfer</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a Transfer of expenses for education overseas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b Transfer of expats’ savings working in Thailand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c Transfer of money to relatives or family with permanent residency in another country</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Invest in Mutual Funds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a Purchase, redeem or switch orders for mutual funds units.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b Check the status of your mutual funds units.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Make payments</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a Pay for goods and services online (including Bangkok Bank credit cards and supplementary credit cards).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b Set payment dates in advance so you won’t forget to pay bills when they are due.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cheques</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Suspend your cheque payments.

- View the list of cheques issued that have been returned over the last two months.
- View the list of cheques deposited into your accounts that have been returned over the past two months.

### Other additional services

- Suspend the use of your lost passbook.
- Request a hard-copy of your bank statement going back further than two months.

### B. Please select the appropriate response that best describe your perception toward Bualuang i-banking

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Neutral</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Internet banking makes it easier for me to conduct my banking transactions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Internet banking gives me greater control over my finances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Internet banking allows me to manage my finances more efficiently.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Internet banking is a convenient way to manage my finances.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Internet banking allows me to manage my finances more efficiently.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>I find internet banking useful for managing my financial resources.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Internet banking is compatible with my lifestyle.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Using internet banking fits well with the way I like to manage my finance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Using the internet to conduct banking transactions fits into my working style</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Using internet banking requires a lot of mental effort.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Using internet banking can be frustrating.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Internet banking is an easy way to conduct banking transactions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>I want to be able to try internet banking for at least one month.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>I want to be able to use internet banking on a trial basis to see what it can do.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>I am confident over the security aspects of Internet banking.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Information concerning my internet banking transactions will be known to others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Information concerning my internet banking transactions can be tampered with others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Thai Government promotes the use of internet for commerce.

Advances in internet security technology providers for safer internet banking.

Faster internet access speeds is important for internet banking.

It is important that instructions on the website are easy to read.

It is important that instructions on the website are comprehensible.

It is important that instructions on the websites are clear.

It is important to have animations on the websites.

The website should be entertaining.

The website process my transactions promptly.

I can process the transactions with little time.

This part is especially for BBL customers who don’t even know about Bualuang i-banking.

C. To what extent would you be interested in using Internet banking if it is available?

D. If internet banking service were available to you, when would you adopt it?

<table>
<thead>
<tr>
<th>Time</th>
<th>Not Very Interested</th>
<th>Not Interested</th>
<th>Neutral</th>
<th>Interested</th>
<th>Very Interested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two months</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One month</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One week</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A half month</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PartIII
General Information

1 Gender
   Male
   Female

2 Age
   Less than 18
   18 up to 24
   25 up to 29
   30 up to 34
   35 up to 39
   More than 39

3 Education
   High School
   Undergraduated
   Post graduated
   Doctorial
   If others, please specify

4 Level of income
Less than 7000THB (1400 SEK)
More than 7000THB (1400 SEK) up to 15000THB (3000 SEK)
More than 15000THB (3000 SEK) up to 25000THB (5000 SEK)
More than 25000THB (5000 SEK) up to 50000THB (10,000 SEK)
More than 50000THB (10,000 SEK) up to 80000THB (16,000 SEK)
More than 80000THB (16,000 SEK) up to 150000THB (30,000 SEK)
More than 150000THB
Appendix 2

Interviewed - Ms. Warintra Sritipakorn, business analyst level 11 in IT division of Bangkok Bank Plc.

1. What is e-banking in your opinion?
   - E-banking in this case of service, we refer to inter service that we provides especially for retail customers and this service we have called Bualuang ibanking. For more information please visit http://www.bangkokbank.com/ibanking/

2. When was e-banking implemented?
   - Year ended 2002

3. What is/are main purpose of launching e-banking?
   - **Customer**
     - Provide more service efficiency
     - Raise bank’s image
   - **Bank**
     - Reduce work of bank branch
     - Reduce cost

4. Which bank is/are your major competitor?
   - Siam Commercial Bank
   - Kasikorn Bank
   - Krung Thai Bank

5. What is your expectation for future market share?
   - Number of one

6. What is the fist service provided for the customer?
   - Review Balance Account
   - Transfer Money
   - Bill Payment
   - Special Service
   - Supportive Service
   - Email Notification

7. What is/are your strategy?
   - Meet customer’s needs
   - Look for possibility for new technology
   - Look at competitor’s services

8. What is/are your current services?
   - Review Account Balance
   - Transfer Money
   - Billed Payment
   - Investment Service
   - Special Service
• Supportive Service
• Email Notification

9. Which is/are activities that customers use least and most?
   • No information available

10. Who is your target group?
    • Retail customers age around 20-45 years old using internet

11. How many customers? Back to 3 years
    • Private information

12. What is/are your problem? How to solve?
    • The difficult of application process that customer have to apply at the bank’s counter. We will make more channel for customer to apply.

13. What is/are strategy to increasing number of customers?
    • Improve application process
    • Offer promotion
    • Join trade fair or event
    • Plan right strategy to get the right target

14. What is your organization structure?
    • IT team and Business team under IT department
Appendix 3

Let’s H1: $\mu_1 = \mu_2$, $\mu_1$ = an average mean of customers who use Bualuang ibanking, $\mu_2$ = an average mean of customers who not use Bualuang ibanking

H2: $\mu_1 = \mu_2$, $\mu_1$ = an average mean of customers who use Bualuang ibanking, $\mu_2$ = an average mean of customers who not use Bualuang ibanking and so on until H4

<table>
<thead>
<tr>
<th>Using Bualuang ibanking</th>
<th>Internet banking gives me greater control over my finances</th>
<th>Using Bualuang ibanking</th>
<th>Internet banking makes it easier for me to conduct my banking transactions.</th>
<th>Using Bualuang ibanking</th>
<th>I find internet banking useful for managing my financial resources.</th>
<th>Using Bualuang ibanking</th>
<th>I can process the transactions with little time.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Internet banking gives me greater control over my finances</th>
<th>Yes</th>
<th>N: 36, Mean: 4.1667, Std. Deviation: .91026, Std. Error Mean: .15171</th>
<th>No</th>
<th>N: 28, Mean: 3.3929, Std. Deviation: .95604, Std. Error Mean: .18068</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Internet banking makes it easier for me to conduct my banking transactions.</th>
<th>Yes</th>
<th>N: 36, Mean: 4.3889, Std. Deviation: .76636, Std. Error Mean: .12773</th>
<th>No</th>
<th>N: 28, Mean: 3.7500, Std. Deviation: .92796, Std. Error Mean: .17537</th>
</tr>
</thead>
</table>

|---------------------------------------------------------------|-----|---------------------------------------------------------------|----|---------------------------------------------------------------|

<table>
<thead>
<tr>
<th>I can process the transactions with little time.</th>
<th>Yes</th>
<th>N: 36, Mean: 3.9722, Std. Deviation: .97060, Std. Error Mean: .16177</th>
<th>No</th>
<th>N: 28, Mean: 3.6071, Std. Deviation: 1.06595, Std. Error Mean: .20145</th>
</tr>
</thead>
</table>

Independent Samples Test

<table>
<thead>
<tr>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.080</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>.626</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>1.211</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>1.413</td>
</tr>
</tbody>
</table>
Appendix 4

One-Sample Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet banking is a convenient</td>
<td>64</td>
<td>4.0469</td>
<td>.96658</td>
<td>.12082</td>
</tr>
<tr>
<td>way to manage my finances.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet banking is compatible</td>
<td>64</td>
<td>3.8906</td>
<td>1.02535</td>
<td>.12817</td>
</tr>
<tr>
<td>with my lifestyle.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using internet banking fits well</td>
<td>64</td>
<td>3.6562</td>
<td>1.02692</td>
<td>.12836</td>
</tr>
<tr>
<td>with the way I like to manage my</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>finance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using the internet to conduct</td>
<td>64</td>
<td>3.6562</td>
<td>1.02692</td>
<td>.12836</td>
</tr>
<tr>
<td>banking transactions fits into my</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>working style.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Let’s H5: $\mu_1 = \mu_2$, $\mu_1$ = an average mean of customers who use Bualuang ibanking, $\mu_2$ = an average mean of customers who not use Bualuang ibanking

H6: $\mu_1 = \mu_2$, $\mu_1$ = an average mean of customers who use Bualuang ibanking, $\mu_2$ = an average mean of customers who not use Bualuang ibanking and so on until H8

Group Statistics

<table>
<thead>
<tr>
<th></th>
<th>Using Bualung ibanking</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet banking is a convenient</td>
<td>Yes</td>
<td>36</td>
<td>4.3056</td>
<td>.88864</td>
<td>.14811</td>
</tr>
<tr>
<td>way to manage my finances.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>28</td>
<td>3.7143</td>
<td>.97590</td>
<td>.18443</td>
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<tr>
<td>Internet banking is compatible</td>
<td>Yes</td>
<td>36</td>
<td>4.3056</td>
<td>.78629</td>
<td>.13106</td>
</tr>
<tr>
<td>with my lifestyle.</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>28</td>
<td>3.3571</td>
<td>1.06160</td>
<td>.20062</td>
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<tr>
<td>Using internet banking fits well</td>
<td>Yes</td>
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<td>3.9167</td>
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<td>.15622</td>
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<td>with the way I like to manage my</td>
<td></td>
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<td></td>
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<tr>
<td>finance.</td>
<td>No</td>
<td>28</td>
<td>3.3214</td>
<td>1.05597</td>
<td>.19956</td>
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<tr>
<td>Using the internet to conduct</td>
<td>Yes</td>
<td>36</td>
<td>3.9444</td>
<td>.89265</td>
<td>.14878</td>
</tr>
<tr>
<td>banking transactions fits into my</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>working style.</td>
<td>No</td>
<td>28</td>
<td>3.2857</td>
<td>1.08379</td>
<td>.20482</td>
</tr>
<tr>
<td></td>
<td></td>
<td>t</td>
<td>df</td>
<td>Sig. (2-tailed)</td>
<td>Mean Difference</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------------------------</td>
<td>-----</td>
<td>-----</td>
<td>----------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Internet banking is a convenient way to manage my finances.</td>
<td>Equal variances assumed</td>
<td>2.530</td>
<td>62</td>
<td>.014</td>
<td>.59127</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>2.500</td>
<td>55.309</td>
<td>.015</td>
<td>.59127</td>
</tr>
<tr>
<td>Internet banking is compatible with my lifestyle.</td>
<td>Equal variances assumed</td>
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<td>62</td>
<td>.000</td>
<td>.94841</td>
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<td>Equal variances not assumed</td>
<td>3.958</td>
<td>48.189</td>
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<td>.94841</td>
</tr>
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<td>Using internet banking fits well with the way I like to manage my finance.</td>
<td>Equal variances assumed</td>
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<td>.59524</td>
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<tr>
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<td>54.456</td>
<td>.022</td>
<td>.59524</td>
</tr>
<tr>
<td>Using the internet to conduct banking transactions fits into my working style</td>
<td>Equal variances assumed</td>
<td>2.666</td>
<td>62</td>
<td>.010</td>
<td>.65873</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>2.602</td>
<td>51.869</td>
<td>.012</td>
<td>.65873</td>
</tr>
</tbody>
</table>
Appendix 5

Let’s H9: \( \mu_1 = \mu_2 \), \( \mu_1 \) = an average mean of customers who use Bualuang ibanking, \( \mu_2 \) = an average mean of customers who not use Bualuang ibanking
H10: \( \mu_1 = \mu_2 \), \( \mu_1 \) = an average mean of customers who use Bualuang ibanking, \( \mu_2 \) = an average mean of customers who not use Bualuang ibanking and so on until H12

<table>
<thead>
<tr>
<th></th>
<th>Using Bualung ibanking</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet banking makes it easier for me to conduct my banking transactions.</td>
<td>Yes</td>
<td>36</td>
<td>4.3889</td>
<td>.76636</td>
<td>.12773</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>28</td>
<td>3.7500</td>
<td>.92796</td>
<td>.17537</td>
</tr>
<tr>
<td>Using internet banking requires a lot of mental effort.</td>
<td>Yes</td>
<td>36</td>
<td>3.0278</td>
<td>1.18288</td>
<td>.19715</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>28</td>
<td>2.6071</td>
<td>.87514</td>
<td>.16539</td>
</tr>
<tr>
<td>Using internet banking can be frustrating.</td>
<td>Yes</td>
<td>36</td>
<td>3.1389</td>
<td>1.17480</td>
<td>.19580</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>28</td>
<td>2.9286</td>
<td>1.05158</td>
<td>.19873</td>
</tr>
<tr>
<td>Internet banking is an easy way to conduct banking transactions.</td>
<td>Yes</td>
<td>36</td>
<td>4.3056</td>
<td>.85589</td>
<td>.14265</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>28</td>
<td>3.6071</td>
<td>1.06595</td>
<td>.20145</td>
</tr>
</tbody>
</table>

Independent Samples Test

<table>
<thead>
<tr>
<th></th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t</td>
<td>df</td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td>Internet banking makes it easier for me to conduct my banking transactions.</td>
<td>Equal variances assumed</td>
<td>3.016</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>2.945</td>
<td>51.963</td>
</tr>
<tr>
<td></td>
<td>Using internet banking requires a lot of mental effort.</td>
<td>Equal variances assumed</td>
<td>1.575</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>1.635</td>
<td>61.873</td>
</tr>
<tr>
<td>Using internet banking can be frustrating.</td>
<td>Equal variances assumed</td>
<td>.743</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>.754</td>
<td>60.722</td>
</tr>
<tr>
<td>Internet banking is an easy way to conduct banking transactions.</td>
<td>Equal variances assumed</td>
<td>2.908</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>2.829</td>
<td>50.978</td>
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</tbody>
</table>

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Appendix 6

Let’s H13: $\mu_1 = \mu_2$, $\mu_1$ = an average mean of customers who use Bualuang ibanking, $\mu_2$ = an average mean of customers who not use Bualuang ibanking

H14: $\mu_1 = \mu_2$, $\mu_1$ = an average mean of customers who use Bualuang ibanking, $\mu_2$ = an average mean of customers who not use Bualuang ibanking

### Group Statistics

<table>
<thead>
<tr>
<th>Using Bualung ibanking</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>I want to be able to try internet banking for at least one month.</td>
<td>Yes</td>
<td>36</td>
<td>3.4444</td>
<td>1.20581</td>
</tr>
<tr>
<td>I want to be able to use internet banking on a trial basis to see what it can do.</td>
<td>Yes</td>
<td>36</td>
<td>3.3889</td>
<td>1.07644</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>28</td>
<td>3.4643</td>
<td>.99934</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>28</td>
<td>3.6786</td>
<td>.94491</td>
</tr>
</tbody>
</table>

### Independent Samples Test

<table>
<thead>
<tr>
<th>I-test for Equality of Means</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>I want to be able to try internet banking for at least one month.</td>
<td>Equal variances assumed</td>
<td>-0.070</td>
<td>62</td>
<td>.944</td>
<td>-.01984</td>
<td>.28236</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>-0.072</td>
<td>61.719</td>
<td>.943</td>
<td>-.01984</td>
<td>.27578</td>
</tr>
<tr>
<td>I want to be able to use internet banking on a trial basis to see what it can do.</td>
<td>Equal variances assumed</td>
<td>-1.126</td>
<td>62</td>
<td>.265</td>
<td>-.28968</td>
<td>.25733</td>
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<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>-1.144</td>
<td>61.040</td>
<td>.257</td>
<td>-.28968</td>
<td>.25313</td>
</tr>
</tbody>
</table>
Appendix 7

Let's H15: \( \mu_1 = \mu_2 \), \( \mu_1 \) = an average mean of customers who use Bualuang iBanking, \( \mu_2 \) = an average mean of customers who not use Bualuang iBanking

H16: \( \mu_1 = \mu_2 \), \( \mu_1 \) = an average mean of customers who use Bualuang iBanking, \( \mu_2 \) = an average mean of customers who not use Bualuang iBanking

<table>
<thead>
<tr>
<th>Group Statistics</th>
<th>Using Bualung iBanking</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information concerning my internet banking transactions will be known to others.</td>
<td>Yes</td>
<td>36</td>
<td>3.0000</td>
<td>1.09545</td>
<td>.18257</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>28</td>
<td>2.7500</td>
<td>1.00462</td>
<td>.18986</td>
</tr>
<tr>
<td>Information concerning my internet banking transactions can be tampered with others.</td>
<td>Yes</td>
<td>36</td>
<td>2.9444</td>
<td>1.04045</td>
<td>.17341</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>28</td>
<td>2.9286</td>
<td>.9400</td>
<td>.17764</td>
</tr>
</tbody>
</table>

Independent Samples Test

<table>
<thead>
<tr>
<th>t-test for Equality of Means</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information concerning my internet banking transactions will be known to others.</td>
<td>.939</td>
<td>62</td>
<td>.351</td>
<td>.25000</td>
<td>.26630</td>
<td>-.28233</td>
<td>.78233</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>.949</td>
<td>62.268</td>
<td>.346</td>
<td>.25000</td>
<td>.26340</td>
<td>-.27683</td>
<td>.77683</td>
</tr>
<tr>
<td>Information concerning my internet banking transactions can be tampered with others.</td>
<td>.063</td>
<td>62</td>
<td>.950</td>
<td>.01587</td>
<td>.25146</td>
<td>-.48679</td>
<td>.51853</td>
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<tr>
<td>Equal variances not assumed</td>
<td>.064</td>
<td>60.556</td>
<td>.949</td>
<td>.01587</td>
<td>.24825</td>
<td>-.48061</td>
<td>.51235</td>
</tr>
</tbody>
</table>
Appendix 9

How do u know Bualung i-banink

How do u know Bualung i-banink

<table>
<thead>
<tr>
<th>Source</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends</td>
<td>12</td>
</tr>
<tr>
<td>Family</td>
<td>6</td>
</tr>
<tr>
<td>Colleagues/Friends</td>
<td>8</td>
</tr>
<tr>
<td>TV</td>
<td>5</td>
</tr>
<tr>
<td>Newspaper</td>
<td>5</td>
</tr>
<tr>
<td>Magazine</td>
<td>6</td>
</tr>
<tr>
<td>Doctor</td>
<td>9</td>
</tr>
<tr>
<td>Events</td>
<td>2</td>
</tr>
<tr>
<td>Trails</td>
<td>17</td>
</tr>
<tr>
<td>Other, please specify</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix 10

Causal Diagram

\[ \begin{align*}
  &\text{be} \rightarrow A \\
  &\text{BI} \rightarrow B \\
  &\text{bn} \rightarrow SN
\end{align*} \]

Structural Equations

\[ \begin{align*}
  B &= b_1 BI + E \\
  BI &= b_2 A + b_3 SN + l \\
  A &= b_4 \sum_{i=1}^{n} be_i + f \\
  SN &= b_5 \sum_{i=1}^{n} bm_i + E
\end{align*} \]

Figure 1. Fishbein/Ajzen Model

**B** = Behavior  
**BI** = Behavioral Intention  
**A** = Attitude  
**SN** = Subjective Norms  
**bm** = beliefs about the social expectations of specific others multiplied by the motivation to conform to them  
**be** = beliefs about the specific consequences of behavior multiplied by the evaluation  
**E** = Error term