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網路銀行之消費行為意向分析—以蒙古國為例

A STUDY ON THE CONSUMERS' INTENTION TOWARD THE INTERNET

BANKING WITH EVIDENCING ON MONGOLIAN USERS

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A study on the consumers' intention toward the internet banking
with evidencing on Mongolia Users

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準碩士推薦函

本校企業管理學系管理科學碩士班研究生 見內 君在本系修業 1.5 年，已經完成本系碩士班規定之修業課程及論文研究之訓練。

1、在修業課程方面：見內 君已修滿 33 學分，其中必修科目：管理科學
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2、在論文研究方面：見內 君在學期間已完成下列論文：

(1)碩士論文：網路銀行之消費行為意向分析—以蒙古國為例

(2)學術期刊：

本人認為 見內 君已完成南華大學企業管理學系管理科學碩士班之碩士養成教育，符合訓練水準，並具備本校碩士學位考試之申請資格，特向碩士資格審查小組推薦其初稿，名稱：網路銀行之消費行為意向分析—以蒙古國為例，以參加碩士論文口試。

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Abstract

This study attempts to define the view that what factors will affect the customer satisfaction of using internet bank with reference to the users in Mongolia. There are 200 sample questionnaires were surveyed from the internet banking customers in Mongolia. ANOVA, Single factor regression and multiple variable regressions including other regression model research methods are used by this study to implement the empirical work.

This study infers that the quality of internet service will directly impact on the users' satisfaction, however, the user's personal characteristics will impact on the perceived value of the quality of internet banking service, it implied that the personal characteristics will indirectly effect on the users' satisfaction.

Keywords : Internet Banking, Customer's Satisfaction, Perceived Value, Quality of Internet Banking, Internet Banking Users

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CHAPTER ONE INTRODUCTION

1.1 Background

For nowadays, e-commerce play important role in the modern commerce. Internet banking, one kind of e-commerce product in financial market, offers their customers the channel to execute some transactions except for cash transactions via a computer or a mobile phone for the purpose of temporizing the trend of times. In generally, internet banking includes the functions of paying utility, tax and credit cards, bills; making one-off payments to other individuals, small businesses or tradesmen, and making transfers to other bank accounts or savings accounts, etc. In addition to the benefit to bank's customers, internet banking also provides the banks a platform to issue their new commodity or making advertisement in promoting the bank. The mutual benefit results the impressive growth rate of internet banking.

The status of development progress of internet banking is illustrated as followed, in initial steps, banks usually start by dispersing information on their general financial services over its internet banking webpage and use it as their advertising platform. In later steps, banks enhance their webpage operation by offering choice to view account detail or check account , to perform transactions and to purchase new financial services over the internet, etc. (Buzzle, 2009) After the major functions have been completed, the service provided by bank will be unrestricted to the place or time. That will significantly improve the bank's customers' satisfaction. For instance, Golomt bank of Mongolia has defined internet banking services as an opportunity to benefit from several types of banking services over any online devices, despite place or time (Golomt Bank, 2014).

However, what are the explained variables will relate to customers' satisfaction? Since the internet banking is more and more important day by day,

it is worth to explore the reasons which can be used to explain the customers' satisfaction. This study will do the study evidence on Mongolia. The purpose of this study is providing the useful information for the commercial bank for improving the bank competition.

The following paragraph will illustrate the history of e-bank expanding of world and in Mongolia to the background.

1.1.1 History of internet banking

Engineer working on banking data bases came up with ideas for online banking transactions, sometime during the 1980s. The creative processes of improvement of online banking were probably commenced after many companies started the concept of online shopping. The online shopping increased the use of credit cards through Internet. Many banks had already commenced producing data ware housing facilities to ease their working staffs. The improvement of these databases was widely used during the development of ATM's.

The Nottingham Building Society referred to as the NBS, begun the first Internet banking service in United Kingdom in 1983. This service formulation the basis for most of the internet banking facilities that followed. This facility was not well-developed and restricted the number of transactions and functions that account holders could execute.

The first internet banking service in United States was introduced, in October 1994. The service was developed by Stanford Federal Credit Union developed the service, that is a financial organization. The internet banking services are becoming more increasing due to the more good developed systems. Though there are pros and cons of electronic cash, it has become a revolution that is improving the banking sector (Buzzle, 2009)

While financial institutions took steps to implement Internet banking services in the mid-1990s, many consumers were afraid to transactions over the internet banking. It took widespread adoption of internet commerce, based on trailblazing companies such as amazon.com, alibaba.com and shop.com. By 2000, 80 percent of U.S. banks offered internet banking. Customer use grew slowly. At Bank of America, for example, it took 10 years to acquire 2 million internet banking customers. However, a significant cultural change took place after the Y2K scare ended.

In 2001, Bank of America became the first bank to top 3 million internet banking customers, more than 20 percent of its customer base. In comparison, bigger national institutions, such as Citigroup claimed 2.2 million online relationships in world, while J.P. Morgan Chase calculated it had more than 760,000 online banking customers. Wells Fargo had 2.4 million online banking customers, including entrepreneur. Internet banking customers proved more loyal and profitable than common customers. Bank of America customers executed a record 3.2 million electronic bill payments, totaling more than \$1 billion In October 2001.

In 2009, a report by Gartner Group estimated that 48 percent of U.S. adults and 30 percent in the United Kingdom internet banking (Keivani, 2012).

In 2011, internet banking goes mainstream. Even late adopters choose to internet banking and according to the American Bankers Association (ABA), the majority of Americans aged 55+ prefer internet banking over visiting a branch or ATM (The Financial Brand, 2012).

1.1.2 History of internet banking in the Mongolia

Internet banking services were introduced by banks in 2002 and the number of service providers reached 9 commercial banks by the end of 2009. As of 2009, internet bank users numbered 3,566, representing 134,100 transactions and 3.3 billion MNT in value (Mongol bank, 2009).

In 2011, 11 commercial banks are offering internet banking services to their customers. Consequently, mobile banking, banking service based on smart phones, was implemented to banking operations and currently 11 commercial banks are actively providing mobile bank services. Most common services offered through internet banking, are to check bank account balance, to retrieve transaction history, to perform transaction within the same bank accounts or across different banks, to make international transfers, to pay loan installments or bills, to make commercial deals and other type of electronic transactions except for cash transactions.

According to Bank of Mongolia data, as of second quarter of 2013, number of customers utilizing internet banking and mobile banking services were 342,624 and 1,125,642, respectively (Figure 1.1). In year period, the number for internet bank users increased by 11 percent to 384,207, whereas number of mobile bank users declined by 22% to 924,894.

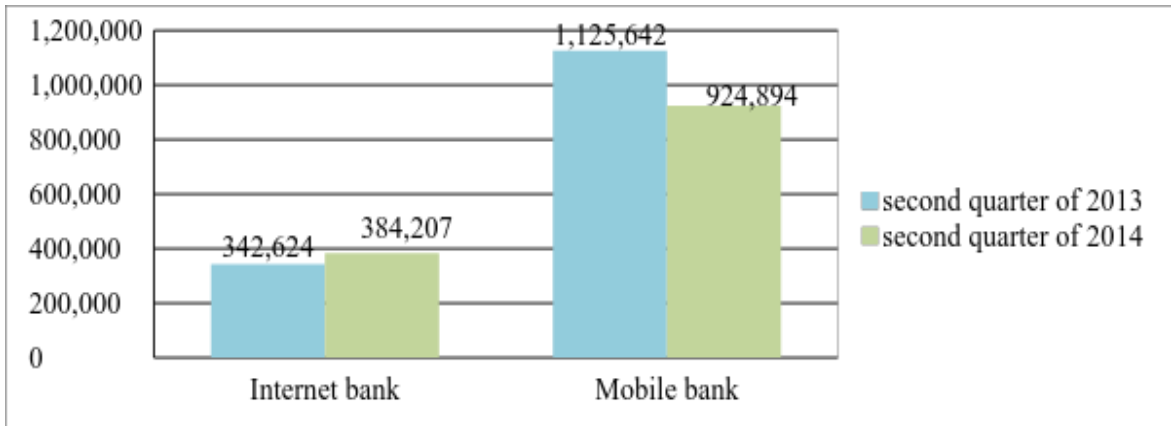


Figure 1.1 Number of customers of Internet banking and mobile banking in Mongolia

Data source: Bank of Mongolia

As of second quarter of 2014, over 1034.9 thousand transaction worth of 2910.2 billion tugrug was transferred over internet banking services, while over 1477.7 thousand transactions amounting to 6839.3 billion tugrug was transferred using mobile banking services (Figure 1.2). In other words, number of transaction over the internet banking services increased by 5% and the total amount increased by 3.6 times, compared to same period of previous year. For the case of mobile banking, number and amount of transaction increased by 82 times and 234 times, respectively, over the same one year period.

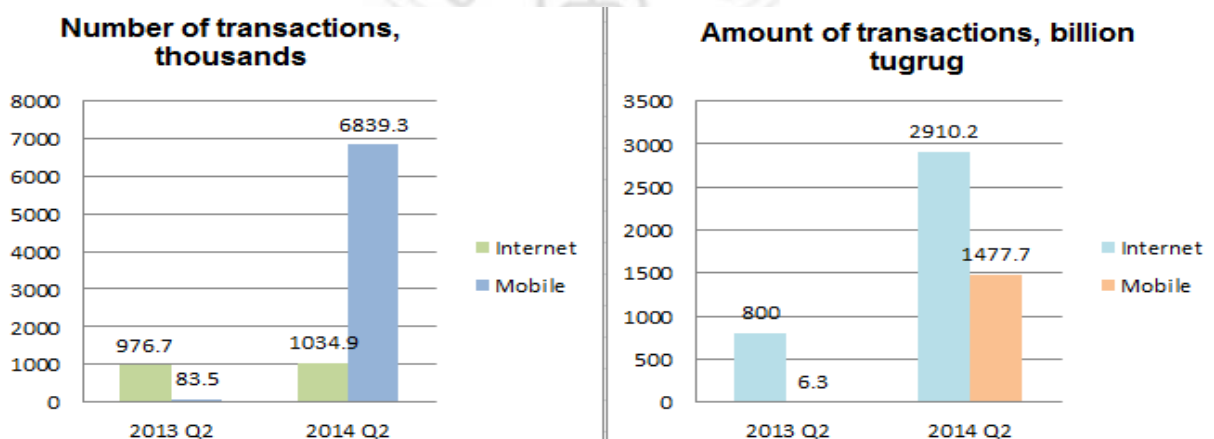


Figure 1.2 Information of transaction done by internet banking

Data source: Bank of Mongolia

1.2 Motivation

Because of increased competition, banks have had to develop new technologies and tools to remain competitive and meet the evolving requirements of consumers. The improvement of the ATM, for example, revolutionized banking and internet banking follows up on this innovation (Chou, 2000).

Internet banking allows customers to make use of banking services from their web-enabled computers consume the bank's service without the limitation of business hour or bank's location. This provides greater convenience, and presumably satisfaction, for the consumer, for the bank it efficiently lower their business cost for providing their service, forming the new branch, and collecting the consumer information, etc. Sayawardhena (2000) concluded the internet banking will benefit to bank in the stronger customer relationships. Besides that, the operation cost increase day by day in past years. For instance, one of the largest banks in Mongolia, Trade and Development Bank's operational cost for 2013 had increased to 2.5 times of its level in 2009¹. In case of Golomt bank operational cost had quadrupled in the reference period². In addition, bulk of the overall complaints received from customers are focused on heavy crowdedness in branches, longer time taken to get banking service and extended period of waiting in line. Surprisingly, most of those customers in line at branches are there to execute transactions that are available over internet banking services. Consequently, it is rational to expect that the successful internet banking service will enhance the bank's competition. Hence studying new possibilities and discovering new frontiers to enhance usage of internet banking is of positive effect to both banks and customers,

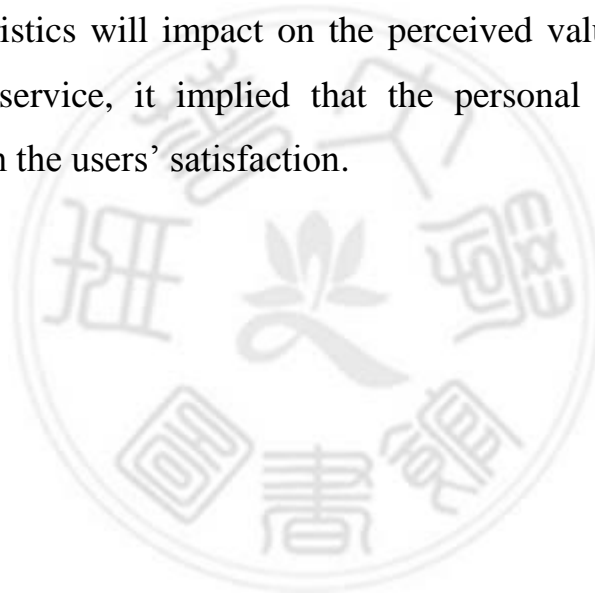
¹ Source from: Trade & Development Bank of Mongolia <http://www.tdbm.mn>

² Source from: Golomt bank of Mongolia <http://www.golomtbank.com>

through lower operational costs and less cost associated with time spent waiting in line, respectively.

1.3 Study purpose

The aim of this study is to investigate what factors will affect the customer satisfaction of using internet bank with reference to the users in Mongolia. It aims to provide the valuable information to banks for offering the internet banking service as well as to create successful internet bank services for the financial market in Mongolian. This study infers that the quality of internet service will directly impact on the users' satisfaction, however, the user's personal characteristics will impact on the perceived value of the quality of internet banking service, it implied that the personal characteristics will indirectly effect on the users' satisfaction.



CHAPTER TWO LITERATURES REVIEW

2.1 The Structure of the Factors which affecting on the internet bank

There are numerous study have studied what the key factors are which attributes to the success of internet banking and further investigated the relationship structure for these factors. For example Tan and Teo (2000), Suh and Han (2002), Ramayah and Noor (2003), Pikkarainen and Pahnla (2004), Jaruwachirathanakul and Fink (2005), Cheng, Lam and Yeung (2006), Yiu and Edgar (2007), Lee (2008), Nor and Pearson (2008), Alsajjan and Dennis (2009), Yaghoubi and Bahmani (2011), Nasri and Charfeddine (2012), Ariff and Bahari (2012), Daneshgadeh (2013). Most of the study agrees that the users' perceive value plays an important role in affecting on the users' attitudes of internet banking, besides that, the quality of internet also influences on the users' satisfaction.

Briefly, there are 2 topics will be discussed in this study. Firstly, how does the internet's quality effect on the uses' satisfaction. Secondly, whether the personal characteristics have the significant impact on the users' perceived value of quality and whether it has the direct impact on the users' satisfaction as well. Table 2-1 summarized their conclusion for studying the topic of inter banking.

Next section will make a brief review for the former study about how does the factor of users' perceived value affected on the customers' willing of using internet bank.

2.1.1 Users' perceived value

There are 75 different relationships were extracted from studies (Table 2-1).

All factors influence on users' perceived value of internet banking.

Table 2.1 Summary of relative studies for internet bank

No	Relationship tested	Frequency	Studies with Non-significant relationships	Studies with significant relationships
1	Social influence → perceived usefulness	1		(Al-Somali, Gholami, & Clegg, 2009)
2	Attitude → intention to use	10		(Yaghoubi & Bahmani, 2011), (Yaghoubi & Bahmani, 2010), (Shih & Fang, 2006), (Nor, Shanab, & Pearson, 2008), (Nor, Pearson, & Ahmad, 2010), (Nasri & Charfeddine, 2012), (Jaruwachirathanakul & Fink, 2005), (Al-Somali, Gholami, & Clegg, 2009), (Lai, Chau, & Cui, 2010), (Yousafzai, Foxall, & Pallister, 2010)
3	Social influence → intention to use	1		(Riffai & Edgar, 2012)
4	Awareness of service → perceived usefulness	1		(Al-Somali, Gholami, & Clegg, 2009)
5	Awareness of service → intention to use	1		(Riffai & Edgar, 2012)
6	Self-efficacy → perceived ease of use	2		(Al-Somali, Gholami, & Clegg, 2009), (Ariff & Bahari, 2012)
7	Self-efficacy → intention to use	1		(Tan & Teo, 2000)
8	Self-efficacy → perceived behavioral control	1		(Nasri & Charfeddine, 2012)
9	Self-efficacy → perceived usefulness	1		(Ariff & Bahari, 2012)
10	Social influence → intention to use	1		(Riffai & Edgar, 2012)

Table 2.2 Summary of relative studies for internet bank (cont.)

No	Relationship tested	Frequency	Studies with Non-significant relationships	Studies with significant relationships
11	Self-efficacy → perceived credibility	1		(Ariff & Bahari, 2012)
12	Resistance to change → attitude	1		(Al-Somali, Gholami, & Clegg, 2009)
13	Trust → attitude	3		(Al-Somali, Gholami, & Clegg, 2009), (Suh & Han, 2002), (Alsajjan & Dennis, 2009)
14	Trust → intention to use	1		(Riffai & Edgar, 2012)
15	Trust → customer continued use	1		(Ayo, Adewoye, & Oni, 2010)
16	Trust → perceived usefulness	1		(Alsajjan & Dennis, 2009)
17	Perceive enjoyment → internet banking use	1	(Pikkarainen & Pahlila, 2004)	
18	Organizational reputation → consumer continued use	1		(Ayo, Adewoye, & Oni, 2010)
19	Personalization → perceived usefulness	1		(Chau & Lai, 2003)
20	Alliance service → perceived usefulness	1		(Chau & Lai, 2003)
21	Task familiarity → perceived usefulness	1	(Chau & Lai, 2003)	
22	Prior experience → perceived ease of use	1		(Ramayah & Noor, 2003)
23	Prior experience → perceived usefulness	1	(Liao & Cheung, 2002)	(Ramayah & Noor, 2003)
24	Volume of transaction → perceived usefulness	1		(Ramayah & Noor, 2003)

Table 2.3 Summary of relative studies for internet bank (cont.)

No	Relationship tested	Frequ ency	Studies with Non- significant relationships	Studies with significant relationships
25	Volume of transaction → perceived ease of use	1		(Ramayah & Noor, 2003)
26	Training → perceived usefulness	1		(Ramayah & Noor, 2003)
27	Training → perceived ease of use	1		(Ramayah & Noor, 2003)
28	External pressure → perceived usefulness	1		(Ramayah & Noor, 2003)
29	External pressure →perceived ease of use	1		(Ramayah & Noor, 2003)
30	Relative advantages → intention to use	2	(Lai, Chau, & Cui, 2010)	(Tan & Teo, 2000)
31	Relative advantages → attitude	1		(Nor, Shanab, & Pearson, 2008)
32	Compatibility → intention to use	1		(Tan & Teo, 2000)
33	Compatibility → attitude	1		(Nor, Pearson, & Ahmad, 2010)
34	Compatibility → internet banking adoption	1		(Ndubisi & Sinti, 2006)
35	Complexity → intention to use	1	(Lai, Chau, & Cui, 2010), (Tan & Teo, 2000)	
36	Internet experience →intention to use	1		(Tan & Teo, 2000)
37	Complexity →internet banking adoption	1		(Ndubisi & Sinti, 2006)
38	Experience → intention to use	1		(Tan & Teo, 2000)
39	Importance to bank needs → internet banking adoption	1		(Ndubisi & Sinti, 2006)

Table 2.4 Summary of relative studies for internet bank (cont.)

No	Relationship tested	Frequency	Studies with Non-significant relationships	Studies with significant relationships
40	Importance to bank needs → intention to use	1		(Tan & Teo, 2000)
41	Subjective norms → intention to use	8	(Tan & Teo, 2000), (Shih & Fang, 2006)	(Lee, 2008), (Yaghoubi & Bahmani, 2010), (Yaghoubi & Bahmani, 2011), (Nor, Pearson, & Ahmad, 2010), (Yousafzai, Foxall, & Pallister, 2010), (Nasri & Charfeddine, 2012)
42	Subjective norms → trust	1		(Alsajjan & Dennis, 2009)
43	Subjective norms → perceived manageability	1		(Alsajjan & Dennis, 2009)
44	Perceived governmental support → intention to use	1		(Tan & Teo, 2000)
45	Perceived governmental support → perceived behavioral control	1		(Nasri & Charfeddine, 2012)
46	Social risk → subjective norms	1		(Lee, 2008)
47	Social risk → attitudes	1		(Lee, 2008), (Yaghoubi & Bahmani, 2011),
48	Legal risk → internet banking use	1		(Shafei & Miran, 2011)
49	Perceived behavioral control → intention to use	5		(Lee, 2008), (Yaghoubi & Bahmani, 2011), (Jaruwachirathanakul & Fink, 2005), (Yousafzai, Foxall, & Pallister, 2010), (Nasri & Charfeddine, 2012)
50	Perceived behavioral control → attitude	1		(Yousafzai, Foxall, & Pallister, 2010)
51	Personal innovativeness → intention to use	1		(Yiu & Edgar, 2007)

Table 2.5 Summary of relative studies for internet bank (cont.)

No	Relationship tested	Frequency	Studies with Non-significant relationships	Studies with significant relationships
52	Perceived manageability → attitude	1		(Alsajjan & Dennis, 2009)
53	Perceived manageability → trust	1		(Alsajjan & Dennis, 2009)
54	User involvement → perceived usefulness	1		(Liao & Cheung, 2002)
55	Convenience → satisfaction of IB	1		(Sadeghi & Farokhian, 2010)
56	Convenience → perceived usefulness	1		(Liao & Cheung, 2002)
57	Bank image → satisfaction of IB	1		(Sadeghi & Farokhian, 2010)
58	User friendliness → attitude	2	(Liao & Cheung, 2002)	(Shih & Fang, 2006)
59	Effort expectancy → intention to use	1		(Riffai & Edgar, 2012)
60	Social influence → intention to use	1	(Riffai & Edgar, 2012), (Sadeghi & Farokhian, 2010)	
61	Output quality → intention to use	1		(Riffai & Edgar, 2012)
62	Perceived playfulness → intention to use	1		(Riffai & Edgar, 2012)
63	Personality → internet banking use	1		(Yoon & Steege, 2013)
64	Personal performance → intention to use	1		(Jaruwachirathanakul & Fink, 2005)

Table 2.6 Summary of relative studies for internet bank (cont.)

No	Relationship tested	Frequency	Studies with Non-significant relationships	Studies with significant relationships
65	Culture → subjective norms	1		(Jaruwachirathanakul & Fink, 2005)
66	External environment → perceived behavioral control	1		(Jaruwachirathanakul & Fink, 2005)
67	Utilitarian oriented internet banking sites → internet banking adoption	1		(Ndubisi & Sinti, 2006)
68	Compatibility → relative advantages	1		(Lai, Chau, & Cui, 2010)
69	Hedonism oriented internet banking sites → internet banking adoption	1	(Ndubisi & Sinti, 2006)	
70	Compatibility → ease of use	1		(Lai, Chau, & Cui, 2010)
71	Compatibility → perceived usefulness	1	(Lai, Chau, & Cui, 2010)	
72	Compatibility → complexity	1		(Lai, Chau, & Cui, 2010)
73	Complexity → relative advantages	1		(Lai, Chau, & Cui, 2010)
74	Relative advantages → perceived usefulness	1		(Lai, Chau, & Cui, 2010)
75	Task familiarity → perceived ease of use	1	(Lai, Chau, & Cui, 2010)	

Data source: Daneshgadeh (2013)

The structure relationships most supported by the relative study are illustrated below.

Firstly, the relationship between attitude and intention to use was tested in ten studies which were significant in all studies. Moreover, the relationship between subjective norms and intention to use to use was found to be significant in six studies while it was insignificant only in two studies (Tan & Teo, 2000;

Shih & Fang, 2006). There are 5 studies investigated the relationship between Perceived behavioral and intention to use which was significant in all studies. Three studies tested the relationship between trust and attitude and all of them reported that trust significantly affects attitude.

2.1.2 The quality of the internet bank

There are 52 different relationships were extracted from studies (table 2.2). All factors determine quality of the internet banking. Some factors positively effect on define to the quality of internet banking such as perceived usefulness, perceived ease of use, security and privacy, system security and Web site design. However, some factors negative influence on define to the quality of internet banking such as security risk, time risk and financial risk.

Table 2.7 Summary of relative studies for internet bank

No	Relationship tested	Frequency	Studies with Non-significant relationships	Studies with significant relationships
1	Perceived usefulness → Attitude	10		(Lee, 2008), (Yaghoubi & Bahmani, 2011); (Yiu & Edgar, 2007); (Al-Somali, Gholami, & Clegg, 2009); (Lai, Chau, & Cui, 2010); (Jahangir & Begum, 2008); (Chau & Lai, 2003), (Suh & Han, 2002), (Yousafzai, Foxall, & Pallister, 2010), (Cheng, Lam, & Yeung, 2006)
2	Perceived usefulness → intention to use	10	(Lai, Chau, & Cui, 2010)	(Lee, 2008), (Yaghoubi & Bahmani, 2011), (Yiu & Edgar, 2007), (Nasri & Charfeddine, 2012), (Cheng, Lam, & Yeung, 2006), (Jaruwachirathanakul & Fink, 2005), (Alsajjan & Dennis, 2009), (Suh & Han, 2002), (Ramayah, Jantan, Ling, Razak, & Noor, 2003)
3	Perceived usefulness → use of internet banking	1		(Pikkarainen & Pahnla, 2004)
4	Perceived usefulness → consumer continued use	1		(Ayo, Adewoye, & Oni, 2010)

Table 2.8 Summary of relative studies for internet bank (cont.)

No	Relationship tested	Frequency	Studies with Non-significant relationships	Studies with significant relationships
5	Perceived usefulness → internet banking satisfaction	1		(Sadeghi & Farokhian, 2010)
6	Perceived ease of use → attitude	10	(Nor, Pearson, & Ahmad, 2010), (Cheng, Lam, & Yeung, 2006)	(Lee, 2008), (Yaghoubi & Bahmani, 2011), (Lai, Chau, & Cui, 2010), (Al-Somali, Gholami, & Clegg, 2009), (Jahangir & Begum, 2008), (Chau & Lai, 2003), (Suh & Han, 2002), (Yousafzai, Foxall, & Pallister, 2010)
7	Perceived ease of use → intention to use	3		(Nasri & Charfeddine, 2012), (Ariff & Bahari, 2012), (Ramayah & Noor, 2003)
8	Perceived ease of use → internet banking use	1		(Pikkarainen & Pahlila, 2004)
9	Perceived ease of use → Internet banking adoption	2	(Yiu & Edgar, 2007), (Jahangir & Begum, 2008)	
10	Perceived ease of use → perceived usefulness	8		(Lee, 2008), (Yaghoubi & Bahmani, 2011), (Lai, Chau, & Cui, 2010), (Al-Somali, Gholami, & Clegg, 2009), (Chau & Lai, 2003), (Suh & Han, 2002), (Ramayah & Noor, 2003), (Cheng, Lam, & Yeung, 2006)
11	Perceived ease of use → consumer continued use	1		(Ayo, Adewoye, & Oni, 2010)
12	Quality of internet connection → perceived ease of use	1		(Al-Somali, Gholami, & Clegg, 2009)
13	Quality of internet connection → online banking use	1	(Pikkarainen & Pahlila, 2004)	
14	Quality of internet → attitude	1		(Shih & Fang, 2006)
15	perceived usefulness → trust	1		(Suh & Han, 2002)

Table 2.9 Summary of relative studies for internet bank (cont.)

No	Relationship tested	Frequency	Studies with Non-significant relationships	Studies with significant relationships
15	perceived usefulness →trust	1		(Suh & Han, 2002)
16	Security and privacy → internet banking satisfaction	1		(Sadeghi & Farokhian, 2010)
17	Security and privacy → internet banking use	4	(Pikkarainen & Pahnla, 2004)	(Jaruwachirathanakul & Fink, 2005), (Jahangir & Begum, 2008), (Yoon & Steege, 2013)
18	Security and privacy → attitude	4	(Cheng, Lam, & Yeung, 2006)	(Nasri & Charfeddine, 2012), (Jahangir & Begum, 2008), (Suh & Han, 2002)
19	Security and privacy → intention to use	1		(Cheng, Lam, & Yeung, 2006)
20	System Security → perceived usefulness	1		(Liao & Cheung, 2002)
21	Information on online banking → internet banking use	1		(Pikkarainen & Pahnla, 2004)
22	Perceived risk →consumer continued use		(Ayo, Adewoye, & Oni, 2010)	
23	Perceived risk →intention to use	1	(Ndubisi & Sinti, 2006)	
24	Friability → internet banking adoption	1		(Ndubisi & Sinti, 2006)
25	Friability → intention to use	1		(Tan & Teo, 2000)
26	Friability → attitude	1		(Nor, Pearson, & Ahmad, 2010)
27	Perceived technological support →intention to use	1		(Tan & Teo, 2000)

Table 2.10 Summary of relative studies for internet bank (cont.)

No	Relationship tested	Frequ ency	Studies with Non- significant relationships	Studies with significant relationships
28	Perceived technological support →perceived behavioral control	1		(Nasri & Charfeddine, 2012)
29	Perceived benefit →intention to use	1		(Lee, 2008)
30	Perceived benefit → attitude	1		(Lee, 2008)
31	Performance risk → perceived usefulness	1		(Lee, 2008)
32	Performance risk → attitude	2	(Lee, 2008)	(Yaghoubi & Bahmani, 2011)
33	Performance risk →perceived ease of use	1		(Shafei & Miran, 2011)
34	Time risk → attitude	2		(Lee, 2008), (Yaghoubi & Bahmani, 2011),
35	Time risk → internet banking use	2		(Shafei & Miran, 2011)
36	Financial risk → attitude	2		(Lee, 2008), (Yaghoubi & Bahmani, 2011)
37	Financial risk → internet banking use	1		(Shafei & Miran, 2011)
38	Security risk → attitude	2		(Lee, 2008), (Yaghoubi & Bahmani, 2011)
39	Security risk →internet banking use	1		(Shafei & Miran, 2011)
40	Accuracy → satisfaction of IB	1		(Sadeghi & Farokhian, 2010)
41	Accuracy →perceived usefulness	1		(Liao & Cheung, 2002)
42	Information quality → attitude	1		(Shih & Fang, 2006)

Table 2.11 Summary of relative studies for internet bank (cont.)

No	Relationship tested	Frequency	Studies with Non-significant relationships	Studies with significant relationships
43	Transaction speed → attitude	1		(Shih & Fang, 2006)
44	Transaction speed → perceived usefulness	1		(Liao & Cheung, 2002)
45	Performance expectancy → intention to use	1		(Riffai & Edgar, 2012)
46	Website design → satisfaction of IB	1		(Sadeghi & Farokhian, 2010)
47	Website design → intention	1		(Riffai & Edgar, 2012)
48	Perceived credibility → intention to use	1		(Ariff & Bahari, 2012)
49	Feature of website → intention to use	1		(Jaruwachirathanakul & Fink, 2005)
50	Perceived usefulness → internet banking adoption	2		(Yiu & Edgar, 2007), (Jahangir & Begum, 2008)
51	Accessibility → perceived ease of use	1		(Lai, Chau, & Cui, 2010)
52	Accessibility → satisfaction of IB	1		(Lai, Chau, & Cui, 2010)

Data source: Daneshgadeh (2013)

The structure relationships most supported by the relative study are illustrated below.

Firstly, the relationship between perceived usefulness and attitude was tested in ten studies which were significant in all studies. Moreover, the relationship between perceived usefulness and intention to use was found to be significant in 10 studies while it was insignificant only in one study (Lai, Chau, & Cui, 2010). 10 studies investigated the relationship between perceived ease

of use and attitude. The mentioned relationship was insignificant in two of studies (Nor, Pearson, & Ahmad, 2010; Cheng, Lam, & Yeung, 2006). 8 studies tested the relationship between perceived ease of use and perceived usefulness and all of them reported that perceived ease of use significantly affects perceived usefulness.

For conclusion the result of these study, the give strong evidence to support the perceived value of using internet banking to user play an important role in influencing the motivation of using internet bank.



CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Research framework

In this study, we infer that the customer satisfaction can be attributing to the quality of internet. And moreover, it further expects that the user's personal characteristics will effect on the users' perceived value of the quality of internet. It implies even the internet quality can explain the customers satisfaction, the personal characteristics within in the users still play the important role to impact on the perceived value of the internet quality. For the purpose of investigating the relationships among theses 3 dimensions, there are three major sections are going to be discussed in the following section including (1) user's perceived value, (2) the function of internet quality, (3) customer's satisfaction. This study aims to examine the topic evidencing in Mongolia, and a survey questionnaire is employed for this study. The items were formulated as Likely-type statements anchored by a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The operational definitions of each section are described as follows:

In this study, we assume the personal characteristics will effect on the user's perceived value of internet quality including gender, age, education, location, monthly income, occupation, using internet banking and frequency of using the service,) to measure the level of perceived.

There are 4 sub-dimensions are attribute to the quality on internet including Efficiency, Reliability, Responsibility and security.

Figure 3.1 the model of customer's satisfaction, it shows the relationship between the relationships among these 3 dimensions. As the figure shown, 4 sub-dimensions are attributed to the internet quality which is the main factor can be used to directly explain the customers' satisfaction. However, the

personal characteristics also play the important role in effecting the users perceived value of the internet quality. Thus, it is both the direct and indirect reason in explaining the customers' satisfaction.

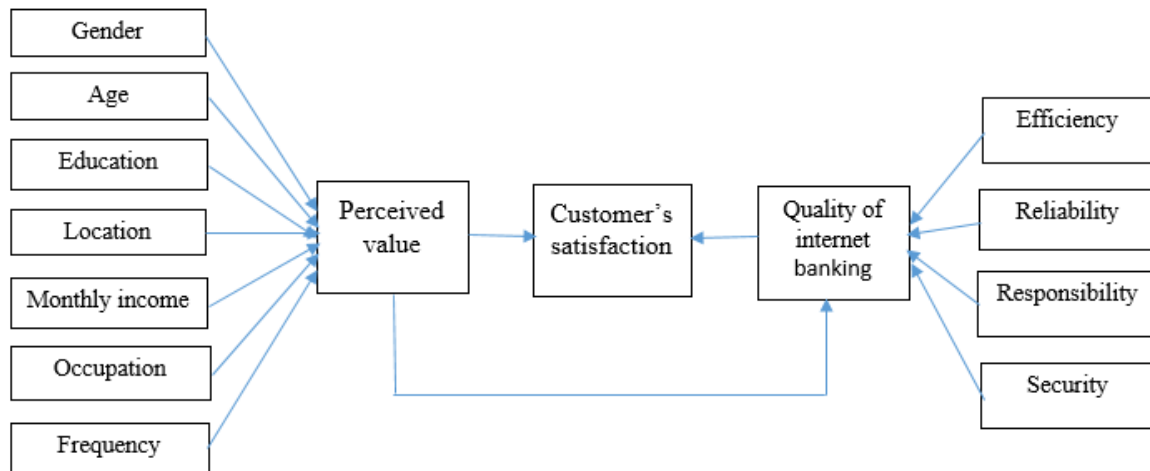


Figure 3.1 Research Framework

1. Efficiency

Efficiency is one of four sub-dimensions of internet quality defined by this study. In internet banking context, efficiency of internet banking services is the extent to which a customer believes that using the internet banking system would improve the efficiency of his/her banking activities and moreover it provides more direct and indirect advantages for the users while it is compared to traditional branch based banking (Daneshgadeh, 2013). Quality of internet banking could be measured by user's effective time management such as speed of web site of E-Bank, quick and easy to complete a transaction, simple structure of website. In this study, we try to reinvestigate whether the internet efficiency will positively impact on the customer satisfaction in Mongolia.

2. Reliability

Reliability is also attributed as the sub-dimension of internet quality. In internet banking context, reliability of internet banking effect on customer's trust. Reliability of internet banking is defined by the degree of how bank

provides the service at the promised time, keeps accurate records of user's account transactions and delivers the service exactly as promised show. In this study, we try to reinvestigate whether the internet reliability will positively impact on the customer satisfaction in Mongolia.

3. Responsibility

Responsibility is also attributed as the sub-dimension of internet quality. In internet banking context, responsibility is directly related with service quality of bank's employee. Responsibility refers to availability of internet banking employee when problem occurs, or how well the bank supplied information regarding the popular problems. Employee's responsibility influence the service quality. In this study, we try to reinvestigate whether the internet responsibility will positively impact on the customer satisfaction in Mongolia

4. Security

Security is one of four the sub-dimensions of internet quality defined in this study. In internet banking context, Security of transactions over the internet is a burning issue and thus an important factor of service quality (Dickinson & Mwesigwa, 2013). Customer's trust in internet banking will be increased by securing the information regarding user's internet banking activities, personal information, and financial security. In this study, we try to reinvestigate whether the internet security will positively impact on the customer satisfaction in Mongolia

5. Customer's satisfaction

It is rational to infer that the customers' satisfaction and the users' trust are the key factors to determine whether the internet banking service can keep the dominance of sustainable development or not. However, this satisfaction is directly dependent on the internet banking quality factors mentioned above.

Besides that, this study suspects that the personal characteristics might have significant impact on the users' perceived value of the internet banking quality. It implies that it is necessary to compare the impact of the personal characteristics on the users' satisfactions.

3.2 Data analysis

This study used SPSS 18.0 and Excel as major tools to help us analyze the collected data. The following data analysis methods adopted to test the hypotheses.

2 methods are employed to investigate the relationship among these 3 dimensions. One is the ANOVA which is used to investigate whether the personal characteristics will effect on the perceived value of the internet quality. Furthermore, the regression model is employed to analysis the relationship among the internet quality, the personal characteristics and the customers' satisfaction.

3.2.1 ANOVA

One-Way Analysis of Variance (ANOVA) is a statistic method used to compare means of two or more samples. ANOVA is based on the following assumptions: the populations must be equal. Upon the rejection of null hypothesis, it means that the differences in means across groups are existed and Duncan's multiple-range test should be applied to further identifying comparisons of differences between individual groups. (Wannadee, 2010) in where, perceived value of quality can divided into 4 sub dimension, which are efficiency, reliability, responsibility and security.

H_0 : Gender will not affect the perceived value of quality.

H_1 : Age will not affect the perceived value of quality.

H₂: Education will not affect the perceived value of quality.

H₃: Location will not affect the perceived value of quality.

H₄: Monthly income will not affect the perceived value of quality.

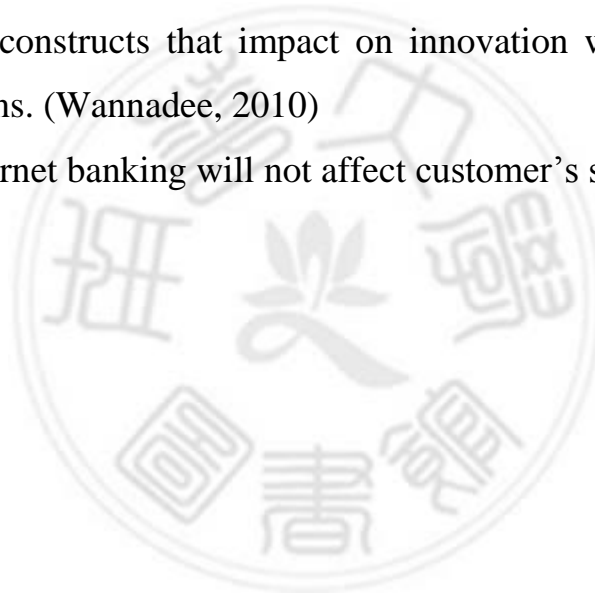
H₅: Occupation will not affect the perceived value of quality.

H₆: Frequency will not affect the perceived value of quality.

3.2.2 Multiple variable regression model

For a better understanding of the relationships between all the variables, multiple regressions analysis will be used to analyze the relationships between a single dependent variable and several independent variables. In this study, relevant research constructs that impact on innovation will be analyzed by multiple regressions. (Wannadee, 2010)

H₇: Quality of internet banking will not affect customer's satisfaction.



CHAPTER FOUR EMPIRICAL RESULT

4.1 Data

It collects 200 respondents between 2nd of January and 22nd of February through hardcopy and online in Mongolia for the former questionnaire survey. The all respondents were users of internet banking and to participate the survey was voluntary. Total of 230 responses were collected, so the average response rate was 92%. Out of 230 responses, 30 invalid questionnaires were excluded from our sample since the respondents did not have the experience of using the internet banking service. Thus, 200 samples are valid questionnaires which will be included as our empirical sample to put into analyses process.

4.2 Characteristics of respondents

Demographic profile of students for this study includes gender, age, education, location, monthly income (USD), occupation and frequency of using the service of study. The following Table 4.1 represents the demographic characteristics of the internet banking users.

Table 4.1 Demographic characteristics of the respondents

Gender	Male	85	42.5
	Female	115	57.5
Age	less than 21	58	29
	22~30	91	45.5
	31~40	41	20.5
	41~50	7	3.5
	More than 50	3	1.5
Education	Below high school	3	1.5
	High school	30	15
	College/ bachelor	97	48.5
Location	Above college	70	35
	Downtown	106	53
	City	88	44
	Countryside	6	3

Table 4.2 Demographic characteristics of the respondents (cont.)

Monthly income (USD)	less than 125	67	33.5
	126~250	26	13
	251~375	19	9.5
	376~500	30	15
	501~750	34	17
	751~1000	16	8
	More than 1001	8	4
Occupation	self-employed	19	9.5
	professional	9	4.5
	jobholder	25	12.5
	Service	12	6
Occupation	Industrial	28	14
	Business	67	33.5
	Education	24	12
Using internet banking	Students	16	8
	Others	200	100
	Yes	86	43
	No	60	30
Frequency of using the service	More than once a week	18	9
	Once in 2~3 months	12	6
	Once half a year	4	2
	More than once a month	20	10
	Once in 4~5 months		
	Once a year		

The gender distribution of respondents is 42.5 percent for male and 57.5 percent for female. Majority of the respondents were female which is 115 respondents while male is 85 respondents make the grand total respondents are 200.

The breakdown of age groups is dominated by the group of 22~30 which consist of 91 people (45.5%),

The breakdown of Education is dominated by the group of College/ bachelor which consist of 97 people (48.5%).

The breakdown of Location is dominated by the group of Downtown which consists of 106 people (53%).

The breakdown of Monthly income is dominated by the group of less than 125 USD which consist of 67 people (33.5%).

The breakdown of Occupation is dominated by the group of Education which consists of 67 people (33.5%).

The breakdown of Occupation is dominated by the group of Education which consists of 67 people (33.5%).

The breakdown of Frequency of using the service is dominated by the group of more than once a week which consist of 86 people (43%)

4.3 Pre Test Analysis

The pre-test is used to conduct to evaluate and to refine the measurement instrument. The questionnaire surveys are used to implement the empirical work, and the questionnaires were distributed using the convenience sample to 35 people and 30 valid responses are collected. The r statistics of Cronbach's alpha (α) to tell the internal consistency of each factor.

According to Nunnally (1978) the alpha value should be greater than 0.7 for the variables used in research. Cronbach's alpha is the most common measurement of instrument reliability (Daneshgadeh, 2013).

In table 4.2, it was denoted as point 0.826 and 0.772 for efficiency and reliability respectively and 0.852 for responsibility and 0.830 for customer's satisfaction and 0.914 for security. These values indicated a high reliability of data and researcher satisfied with instruments and then decided to continue the study.

Table 4.3 Results of reliability tests

Research Item	Cronbach's α
Efficiency	0.826
Reliability	0.772
Responsibility	0.852
Security	0.914
Customer's satisfaction	0.830

4.4 ANOVA result

This statistic method is useful for studies involving two or more groups. ANOVA is used to determine if there are significant differences between two or more means at a selected probability level (Gay and Diehl 1992). According to Cooper and Schindler (1998) state that ANOVA “uses a single-factor, fixed effects model to compare the effects of one factor on a continuous dependent variable.” A “fixed-effects” model means that the factors are specified in advance and the results are therefore not generalizable to other levels of treatment that were not specified in advance. With the purpose of gaining further understanding on the differences in customers' character, one-way ANOVA was performed in order to find the significant difference of quality factors among each group.

The One-Way ANOVA procedure produces a one-way analysis of variance for a quantitative dependent variable by a single factor (independent) variable. Analysis of variance is used to test the hypothesis that several means are equal.

Table 4.4 H0: The different level of “Gender” among group of “Quality of internet banking”

Variable	Female (A)	Male (B)	F-value	P-value	Differences between group
Efficiency	3.27	3.41	1.31	0.25	A<B
Reliability	3.27	3.37	0.57	0.44	A<B
Responsibility	3.16	3.13	0.05	0.82	A>B
Security	3.28	3.21	0.32	0.57	A>B
Customer's satisfaction	3.28	3.32	0.11	0.73	A<B

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

According to the table 4.3, there are no difference between female and male in in quality of internet banking factor. It shown that different gender can't played significant role in this factor.

Table 4.5 H1: The different level of “Age” among group of “Quality of internet banking”

Variable	less than 21 (A)	22~30 (B)	31~40 (C)	41~50 (D)	More than 50 (E)	F-value	P-value	Differences between group
Efficiency	2.98	3.45	3.61	3.12	2.9	5.07	0.000***	C>B>D>A>E
Reliability	2.8	3.57	3.56	3.01	3	8.84	1.39×10 ⁻⁶ ***	B>C>D>E>A
Responsibility	2.76	3.33	3.33	3.11	3	5.34	0.000***	B>C>D>E>A
Security	0.63	0.82	0.91	1.05	0	3.8	0.005**	D>C>B>A>E
Customer's satisfaction	2.99	3.45	3.4	3.31	3	3.01	0.019*	B>C>D>E>A

Note: *** p < 0.001, ** p<0.01, * p< 0.05, +p<0.1

According to the table 4.4, there are all variables are significant. The reliability, responsibility and satisfaction in the internet banking are very important factors for 22-30 years old of internet banking users, for the users of 41-50 years the important factor is the efficiency and for the users of 41-50 years the security is regarded as the important factor.

Table 4.6 H2: The different level of “Education” among group of “Quality of internet banking”

Variable	Below high school (A)	High school (B)	College/ bachelor (C)	Above college/ bachelor (D)	F-value	P-value	Differences between group
Efficiency	3.5	2.97	3.3	3.83	3.46	0.0172*	D>A>C>B
Reliability	3.59	2.77	3.27	3.79	6.91	0.0001**	D>A>C>B
Responsibility	3.36	2.84	3.08	3.6	3.64	0.0135*	D>A>C>B
Security	3.35	2.98	3.23	4.14	2.21	0.088 ⁺	D>A>C>B
Customer's satisfaction	3.38	3	3.31	4.06	2.22	0.0868 ⁺	D>A>C>B

Note: *** p < 0.001, ** p<0.01, * p< 0.05, +p<0.1

According to the table 4.5, there are all variables are significant. For the users with the above college/bachelor's degrees the service quality of the internet banking is very important.

Table 4.7 H3: The different level of “Location” among group of “Quality of internet banking”

Variable	Downtown (A)	City (B)	Countryside (C)	F-value	P-value	Differences between group
Efficiency	3.335	3.37	2.61	2.44	0.0895 ⁺	B>A>C
Reliability	3.33	3.32	2.7	1.25	0.2876	A>B>C
Responsibility	3.18	3.16	2.53	1.81	0.1662	A>B>C
Security	3.31	3.22	2.45	2.2	0.1077	A>B>C
Customer's satisfaction	3.33	3.28	2.92	0.57	0.56	A>B>C

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

According to the table 4.6, there are no difference between downtown, city and countryside in in quality of internet banking factor. It shown that different location can't played significant role in this factor.

Table 4.8 H4: The different level of “Monthly income (USD)” among group of “Quality of internet banking”

Variable	less than 125 (A)	126~250 (B)	251~375 (C)	376~500 (D)	501~750 (E)	751~1000 (F)	More than 1001 (G)	F-value	P-value	Differences between group
Efficiency	2.87	3.07	3.44	3.64	3.77	4.08	3.16	11.2	9.02×10^{-11} ***	F>E>D>G>C>B>A
Reliability	2.79	3.14	3.55	3.61	3.72	3.96	3.64	9.56	3.33×10^{-9} ***	F>E>D>G>C>B>A
Responsibility	2.77	2.92	3.33	3.4	3.48	3.77	3.05	6.87	1.26×10^{-6} ***	F>E>D>G>C>B>A
Security	2.9	3.14	3.44	3.33	3.52	3.85	3.37	3.88	0.0011**	F>E>C>G>B>A
Customer's satisfaction	2.95	3.27	3.52	3.38	3.59	3.77	3.2	3.86	0.001**	F>E>C>D>B>G>A

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

According to the table 4.7, there are all variables are significant. For the users with the salary of US\$ 725-1.000 the quality of internet banking is very important.

Table 4.9 H5: The different level of “Occupation” among group of “Quality of internet banking”

Variable	self-employed professional (A)	jobholder (B)	Service (C)	Industrial (D)	Business (E)	Education (F)	Students (G)	Others (L)	F-value	P-value	Difference between group
Efficiency	3.6	3.67	3.42	3.55	4	2.75	3.26	3.74	12.35	5.06×10 ⁻¹³ ***	E>L>A>B>D>C>G>F
Reliability	3.65	4.04	3.38	3.35	3.93	2.66	3.3	4.05	14.53	3.93×10 ⁻¹⁵ ***	L>B>E>A>C>D>G>F
Responsibility	3.21	3.68	3.22	3.53	3.48	2.6	3.23	3.97	11.1	9.05×10 ⁻¹² ***	L>B>D>E>G>C>A>F
Security	3.51	3.58	3.26	3.4	3.7	2.69	3.43	3.7	7.38	7.38×10 ⁻⁸ ***	E>L>B>A>D>G>C>F
Customer's satisfaction	3.56	3.62	3.32	3.51	3.8	2.72	3.45	3.88	9.61	3.14×10 ⁻¹⁸ ***	L>E>B>A>D>G>C>F

Note: *** p < 0.001, ** p<0.01, * p< 0.05, +p<0.1

According to the table 4.8, there are all variables are significant. The business holders are seen the efficiency and security factors as important, for the users of other occupation the important factors are the reliability, responsibility and satisfaction.

Regarding to the table 4.9, there are all variables are significant. For the customers making transactions once a week are considered the quality of the internet banking as the most important.

Table 4.10 H6: The different level of “Frequency” among group of “Quality of internet banking”

Variable	More than once a week (A)	Once in 2~3 months (B)	Once half a year (C)	More than once a month (D)	Once in 4~5 months (E)	Once a year (F)	F-value	P-value	Differences between group
Efficiency	3.96	2.99	2.8	3.53	3.73	2.88	11.5	1.06×10^{-9} ***	A>E>D>B>F >C
Reliability	3.7	3.1	2.79	3.39	3.68	2.69	8.68	1.89×10^{-7} ***	A>E>D>B>C >F
Responsibility	3.55	3.04	2.8	3.21	3.39	2.65	4.4	0.000786***	A>E>D>B>C >F
Security	3.92	3.07	2.78	3.34	3.6	2.52	8.13	5.49×10^{-7} ***	A>E>D>B>C >F
Customer's satisfaction	3.9	3.06	2.86	3.31	3.66	3.59	6.97	4.26×10^{-7} ***	A>E>D>B>F >C

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

4.4.1 Result of ANOVA

According to the result of ANOVA, it shows that what customer think that which factor of internet banking quality is important.

Table 4.11 Results of the personal characteristic will affect the quality of internet banking.

Factor	Age	Monthly income	Education	Occupation	Frequency
Efficiency	31-40	725-1000	Above college/ bachelor	Business	More than once a week
Reliability	22-30	725-1000	Above college/ bachelor	Others	More than once a week
Responsibility	22-30	725-1000	Above college/ bachelor	Others	More than once a week
Security	41-50	725-1000	Above college/ bachelor	Business	More than once a week

As shown in the table 4.31, while the reliability and responsibility in the internet banking are very important factors for 22-30 years old of internet banking users, for the users of 31-40 years the important factor is the efficiency and for the users of 41-50 years the security is regarded as the important factor.

According to this, it appears that the users aged between 22 and 30 are using the internet banking as they are trying to save time from their busy work or life.

The users aged from 41 to 50 years old may have lots of money in their savings accounts so they are mostly paying attention to the internet banking security as they have higher amounts of money used in the banking transactions.

Regarding to the monthly income, the users with the salary of US\$ 725-1.000 are mostly the citizens aged from 22 to 40 and it shows that the internet banking quality is very important for these people because these people are often very active in the community which means they are making a lot of purchases, receiving many other services and interested to save their time by using the internet banking services.

Regarding to the education levels, for the users with the above college/bachelor's degrees the service quality of the internet banking is very important because as the educated people they have a good knowledge about the internet banking services in the domestic and international banks including the financial fraud and information security. So they prefer mostly the quality, safe and reliable services.

For the occupational factors, the business holders are seen the efficiency and security factors as important because these people are making the decisions by calculating the risks and as they are very busy they are using the internet banking services by choosing risk-free and efficient services only.

Regarding to the frequency factors, the customers making transactions once a week are considered the quality of the internet banking as the most important because these people are the active members of these internet banks and makes all their payments or purchases by the internet banking only. So it is possible to make payments and purchases without any risks or problems if the internet banking has quality and reliable services. But for the customers

using the internet banking services once per year the quality is shown to be as not very important factor.

4.5 Multiple variable regression model

Multiple regression analysis was used to investigate the relationship between dependent variable and independent variables. The multiple regression result to test on Hypothesis H₇.

Table 4.12 H7: Multiple Regression Results for quality of internet banking on Customer satisfaction

	Customer's satisfaction		
	Adj-R ²	Beta (β)	P-value
Efficiency	0.774	0.12	0.062
Reliability		0.22**	0.003
Responsibility		0.16*	0.019
Security		0.42***	0.000

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

As seen in Table 4.32, security ($\beta = 0.42$, $p < 0.001$) was the strongest variable that significantly influenced the customer satisfaction, followed by reliability ($\beta = 0.22$, $p < 0.01$) and responsibility ($\beta = 0.16$, $p < 0.05$). The value of R² (77.4%) implies that this model explained about 77% of the total variance customer satisfaction.

The survey results shows and proves the significant influence that the personal characteristics and service quality are both very important to the internet banking customer's satisfaction. Regarding from the multiple variable regression models, the internet banking quality is affecting 77.4% of the customer's satisfaction. This shows that the banks can keep their internet banking customers and increasing their numbers in the future by keeping the efficiency, reliability, responsibility and security factors in high quality which directly affects to the internet banking quality.

CHAPTER FIVE CONCLUSION AND DISCUSSION

5.1 Conclusion

The aim of this study is to investigate what factors will affect the customer satisfaction of using internet bank with reference to the users in Mongolia. It aims to provide the valuable information to banks for offering the internet banking service as well as to create successful internet bank services for the financial market in Mongolian.

The researched developed 8 hypotheses, according to the result H_1 H_2 H_4 H_5 H_6 and H_7 are not supported, only H_0 and H_3 are supported. Regarding to the each factor affecting to the customer's satisfaction the internet banking security factor has the highest rates. It is also proves that the evidence of the customer's age, personal data, educational attainment and internet banking quality factors depending on their monthly income and professional levels were received differently. For example, while the customers aged 31-40 were considered the efficiency factor in the internet banking as important; the customers aged more than 50 years old have seen it as not important.

Regarding to the above mentioned study, while the customers aged 22-30 years old including the customers with monthly income of US\$ 751-1.000, customers with bachelor's degrees, customers who use the internet banking services once per week and business holders were considered as the internet banking quality is very important for their satisfaction; the customers younger than 21 years old and customers with income less than US\$ 125 including the customers holding GDAs, customers working in the educational sector and customers using the internet banking services once per year were considered that the internet banking quality will not be affected to their satisfaction.

5.2 Discussion

However, as the security of the internet banking is affecting to the customer's satisfaction the study results shows that it is needed to improve and regularly update the website used for the internet banking services by ensuring their security protection.

Also it can be seen that the promotion about the quality of the internet banking to the people aged 22-30, with monthly income of US\$ 1.000 and with bachelor's degrees will make them very easily and fast to the customers.

But it is possible to make more active the online banking operations of the customers younger than 21 years old and customers with income less than US\$ 125 including the customers holding GDAs, customers working in the educational sector and customers using the internet banking services once per year by introducing them about the advantages of the internet banking for their further increase of the use including the possibilities to attract them by the lottery prizes.

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LIST OF APPENDIX

APPENDIX A SURVEY INSTRUMENT OF MAIN STUDY

Section I: Personal characteristics

Age	<input type="checkbox"/> less than 21	<input type="checkbox"/> 22~30	<input type="checkbox"/> 31~40	<input type="checkbox"/> 41~50	<input type="checkbox"/> More than 50			
Education	<input type="checkbox"/> Below high school	<input type="checkbox"/> High school	<input type="checkbox"/> College/ bachelor	<input type="checkbox"/> Above college				
Location	<input type="checkbox"/> Downtown	<input type="checkbox"/> City	<input type="checkbox"/> Countryside					
Monthly Income(USD)	<input type="checkbox"/> less than 125	<input type="checkbox"/> 126~250	<input type="checkbox"/> 251~375	<input type="checkbox"/> 376~500	<input type="checkbox"/> 501~750	<input type="checkbox"/> 751~1000	<input type="checkbox"/> More than 1001	
Occupation	<input type="checkbox"/> self-employed professional	<input type="checkbox"/> Business	<input type="checkbox"/> jobholder	<input type="checkbox"/> Education	<input type="checkbox"/> Service	<input type="checkbox"/> Students	<input type="checkbox"/> Industrial	<input type="checkbox"/> Others
Using internet banking	<input type="checkbox"/> Yes	<input type="checkbox"/> No						
Frequency of using the service	<input type="checkbox"/> More than once a week	<input type="checkbox"/> More than once a month	<input type="checkbox"/> Once in 2~3 months	<input type="checkbox"/> Once in 4~5 months	<input type="checkbox"/> Once half a year	<input type="checkbox"/> Once a year		

Section 2: Service Quality

No	Questionnaire	Extremel y disagree	Very disagree	Moderately agree	Very agree	Extreme ly agree
Efficiency						
1	I think the Web site of E-Bank loads its pages fast	1	2	3	4	5
2	I think that is quick and easy to complete a transaction on the Web site of E-Bank.	1	2	3	4	5
3	Finding what I need is simple and easy on the Web site of E-Bank	1	2	3	4	5
4	I think the navigating within E-Bank's Web site is very easy	1	2	3	4	5
5	I think the web site of E-Bank contains relevant information explained in an easy to understand.	1	2	3	4	5
6	In my opinion, web site of E-Bank is updated regularly	1	2	3	4	5
7	In my opinion, website design of E-Bank is visually attractive.	1	2	3	4	5
8	My time management will be more effective by using e-bank	1	2	3	4	5
9	In my opinion, the service from bank is becoming accessible applying e-bank	1	2	3	4	5
10	In my opinion, ease of use is important in the adoption of internet banking	1	2	3	4	5
Reliability						
11	From my perspective, E-Bank keeps accurate records of my account transactions	1	2	3	4	5
12	From my perspective, E-Bank delivers the service exactly as promised	1	2	3	4	5
13	From my perspective, E-Bank always provides the service at the promised time	1	2	3	4	5

14	In my views, the Web site pages do not freeze once I enter my transaction information	1	2	3	4	5
15	In my views, if there is a mistake, E-Bank can make it right quickly and effectively	1	2	3	4	5
16	The way I see it, trust on the bank plays an important role in the adoption of internet banking services.	1	2	3	4	5
17	The way I see it, customer trust in internet-banking service is strong.	1	2	3	4	5
18	The way I see it, bank reputation impact on customer's trust.	1	2	3	4	5
	Responsibility	1	2	3	4	5
19	From my perspective, the case of problems in the web site I can speak with a person (through telephone or in person at a branch) at E-Bank	1	2	3	4	5
20	From my perspective, e-bank usually compensate efficiently to user when website in problem	1	2	3	4	5
21	The way I see it, web site of E-Bank contains answers to frequently asked questions	1	2	3	4	5
22	The way I see it, the information provided by e-bank is clear, simple, precise and understandable helping me to perform internet banking transactions easily.	1	2	3	4	5
23	The way I see it, e-bank usually provides useful information	1	2	3	4	5
	Security/privacy	1	2	3	4	5
24	From my perspective, E-Bank secures information regarding my internet banking activities.	1	2	3	4	5
25	In my opinion, Web site of E-Bank is equipped with adequate security features	1	2	3	4	5
26	From my perspective, E-Bank does not misuse my personal information	1	2	3	4	5

27	From my perspective, E-Bank is honest concerning its online transaction services	1	2	3	4	5
28	From my perspective, Web site of E-Bank makes appropriate statements concerning the completion of transactions	1	2	3	4	5
29	I believe safety of e-bank website	1	2	3	4	5
30	The way I see it, transferring private information through e-bank is safe	1	2	3	4	5
	Customer's satisfaction	1	2	3	4	5
31	The way I see it, the overall convenience of using my bank's Web site	1	2	3	4	5
32	I can trust my Web site of E-bank.	1	2	3	4	5
33	The way I see it, the e-bank provide the satisfactory information to their customers	1	2	3	4	5
34	The way I see it, the e-bank provide the satisfactory service to their customers.	1	2	3	4	5
35	The way I see it, the overall value of using e-bank is in line with expectations	1	2	3	4	5