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**An Empirical Investigation of Credit Card Users in China:
Evidence from Shijiazhuang Consumers**

A thesis
submitted in partial fulfillment
of the requirements for the Degree of
Master of Commerce and Management
at
Lincoln University
by
Weikang Dong

Lincoln University, Canterbury, New Zealand
31th March, 2014

Abstract

Abstract of a thesis submitted in partial fulfillment of the requirements for the
Degree of M. C. M.

An Empirical Investigation of Credit Card Users in China: A Case Study of Shijiazhuang

By Weikang Dong

Since the first credit card issued by the Bank of China in 1985, the domestic banks has issued 140 million credit cards in 2008, and by the end of 2009, the number of credit cards issued by the domestic banks reached 190 million, an increase of 30.37% compared to 2008. The domestic credit cards transaction totaled 2.1 trillion RMB in 2008, and this number reached 3.5 trillion RMB in 2009, an increase of 69.9% from 2008 (CIW Team Staff, 2012). At the end of 2011, domestic banks in China have issued 285 million credit cards (Peng, 2012). Today 30 percent of Chinese urban households own at least one credit card and the growth rate of credit card adoption has been an average of 40 percent per year between 2004 and 2009 (Hurst, 2012).

This study used binary logit and ordered logit models to identify and examine the factors influencing consumers' use of credit card and the choice of different level of credit limit in China. More importantly this study identifies why consumers use and do not use credit card in China. The data is collect in Shijiazhuang city, the capital city of Hebei Province.

Further, the finding shows consumers who are married and in the age group of 18 to 35 years old are the major credit card users.

Key words: credit card, China, electronic transaction, payment

Acknowledgement

I would like to express my most heartfelt thanks and appreciation to my main supervisor Dr Christopher Gan a respectable, responsible and resourceful scholar, who consistently assisted my thesis work, especially in data collection and analysis of the research findings. Thank you also to my associate supervisor, Dr Baiding Hu, who assisted me in my statistical analysis. I would like to thank them for their patience, valuable guidance, and knowledge throughout the research. Without their exceptional support and encouragement, I could not have completed my thesis.

I also would like to thank all my friends who have assisted and supported me while writing my thesis. I would like to thank Nhung who assisted me on the application of SPSS and data collection process. My appreciation also goes to my postgraduate fellows and staff in the Faculty of Commerce for their support and assistance.

Finally, thanks and love in abundance to my parents, who provided much support, both financially and emotionally. Thanks for their endless love and support that guided me through the hard times when I was studying away from home.

Contents

Abstract	ii
Acknowledgement	iv
CHAPTER ONE.....	1
1. Background of Chinese Credit Card.....	1
1.2 Problem Statement.....	6
1.3 Research Objectives	7
1.4 Structure of the Thesis.....	7
CHAPTER TWO.....	9
2. Introduction	9
2.1 General Credit Card Market	9
2.2 China's Economy Development.....	14
2.3 China's Credit Card Market	16
2.4 Factors Impacting Credit Card Use	21
2.5 Features of Credit Card	29
2.6 Demographic Factors.....	32
2.7 Summary	34
CHAPTER THREE.....	35
3. Introduction	35
3.1 Empirical Framework.....	35
3.2 Research Model.....	37
3.3 Questionnaire Development and Data.....	47
3.4 Data	49
3.5 Sampling Method	50
3.6 Data Collection Method	50
3.7 Sample Size	51
3.8 Summary	52
CHAPTER FOUR	53
4. Introduction	53

4.1 Descriptive Frequencies of the Respondents	53
4.2 Assessment of the Data	55
4.3 Correlation Coefficients of Explanatory Variables in Each Model.....	55
4.4 Data Level	56
4.5 Empirical Results and Findings of the Research	56
4.5.1 Results Pertaining to Research Objective One	57
4.5.2 Results Pertaining to Research Objective Two	67
4.5.3 Results Pertaining to Research Objective Three	75
4.6 Marginal Effect Analysis.....	76
4.7 Summary	80
CHAPTER FIVE	81
5. Introduction	81
5.1 Overview and Summary	81
5.2 Conclusions Pertaining to Research Objective One	82
5.3 Conclusions Pertaining to Research Objective Two	84
5.4 Conclusions Pertaining to Research Objective Three	85
5.5 Implications	86
5.6 Limitation and Recommendation for Future Research.....	88
5.7 Conclusions	89
References	90
Appendix One: Tables.....	97
Appendix Two: SURVEY QUESTIONNAIRE COVER LETTER	115

List of Table

Table 1.1: Comparison of Five Years Real GDP Growth of China, US and UK.....	1
Table 1.2: Credit Card Growth in China from 2008 to 2011.....	2
Table 2.1: Card Brands and Transactions Values in Asia Pacific 2007.....	12
Table 2.2: Total Value of Transaction (General Purchase) by Country.....	12
Table 3.1: Variables Definitions used in Equation (3.5).....	40
Table 3.2 Variables Definitions in used in Equation (3.8).....	44
Table 3.3: Variables Definitions used in Equation (3.9).....	46
Table 4.1: Empirical Result (Logit Model of Credit Card Users versus Non-Credit Card Users).....	59
Table 4.2: Result for Research Objective One.....	64
Table 4.3: Mean Values of Credit Card Attributes Measurement (All Respondent).....	65
Table 4.4: Characteristics for Not Using Credit Card.....	66
Table 4.5: Empirical Results (Ordered Model of Credit Card Users).....	69
Table 4.6: Marginal Effect of Each Outcome of Ordered Logit.....	70
Table 4.7: Result of Research Objective Two.....	74
Table 4.8: Result for Research Objective Three.....	76
Table 4.9: Marginal Effects of Credit Card Users and Non-Credit Card Users.....	77
Table 4.10: Marginal Effect of Factors Impact Consumers Decision to Use Credit Card.....	78
Table 4.11: Marginal Effect of Demographic Factors of Credit Card Users and Non-Credit Card Users.....	79
Table F.1: Descriptive Statistics of Socio-Economic Characteristics of All Respondents.....	97
Table F.1.1: Profile of Surveyed Respondents.....	99
Table F.2: Descriptive Statistics of the Respondents (Credit card user versus Non-credit card user)	102
Table F.3: Descriptive Statistic of the Respondents' Socio-Economic Factors.	104
Table F.4: Statements Pertaining to the Respondents' Attitude toward Credit Cards.....	104
Table F.5: Important Factor for Respondent to own a Credit Card with 1 (least important) to 8 (most important).....	108
Table F.6: Importance of the Loss of Financial Control When Choosing Credit Card.....	110
Table F.7: Correlation Coefficient of Objective One and Two.....	111
Table F.8: Correlation Coefficient of Objective Two.....	113

CHAPTER ONE

INTRODUCTION

1. Background of Chinese Credit Card

Economic growth in China has been impressive and if the trends stay as they are now it will surpass the US as the biggest GDP country in the medium term (Vilaclara, 2009). Table 1 shows the real GDP growth of China compared with US and UK from 2007 to 2011.

Table 1.1: Comparison of Five Years Real GDP Growth of China, US and UK

<div>Years Countries</div>	2007	2008	2009	2010	2011
China	14.2%	9.6%	9.2%	10.4%	9.3%
US	1.9%	-0.4%	-3.5%	3.0%	1.7%
UK	3.6%	-1.0%	-4.0%	1.8%	0.8%

Source: The World Bank (2013)

China exhibited a strong growth in the real GDP in 2008 and 2009 while U.S and U.K exhibited negative GDP growth. This reflects China's fast and strong growing economy which improves people's living standard, and consumption level. This gives rise to the emergence use of credit card, which brings great convenience to people having to carry large amounts of cash. Thus, people have started to use credit card more frequently and there has been an increased in the number of credit cards issued by commercial banks. For example, Table 2 shows the growth of total credit card payment, the total number of credit card transaction and credit card issued in

China from 2008 to 2011, which reflected a strong and continuous growth in the use of credit card in China.

Table 1.2: Credit Card Growth in China from 2008 to 2011

Years	2008	2009	2010	2011
Credit card total payment (Trillion Yuan)	2.1	3.5	5.1	7.6
Total No. of credit card transactions (Billion)	1.49	1.97	2.4	2.85
Total credit card issued (Million)	140	190	230	290

Source: CIW Team Staff (2012)

In 1985, Bank of China launched the first credit card in China. From then, China start to develop the credit card market, but compare to the western country, the development of credit card in China is just at the developing stage. China became a member of World Trade Organization (WTO) in 2001 and started to liberalize the financial industry in the beginning of 2006, including the credit card industry. The opening up of the financial industry allows foreign banks to enter into the credit card industry in China, which serve not only as a vehicle for payment transactions, but also as a means of borrowing. Chinese domestic commercial banks felt the pressure and began to pay more attention to the credit card industry. Chinese domestic commercial banks have been using China UnionPay to aggressively promote their credit cards and amassed a large number of loyal customers (Gao, 2011).

China UnionPay was launched in Shanghai by People's Bank of China in 2002.

China UnionPay is the only domestic bank card organization in China, and is the

only inter-bank network in mainland China that links the ATMs of both major and small banks in China. China UnionPay allows the credit cards issued by domestic banks to be used in different regions and different countries. In New Zealand, China UnionPay has been accepted by the Bank of New Zealand (BNZ), where UnionPay credit card holders can use their card directly at any BNZ ATM. Further, over 7700 retailers in New Zealand will accept UnionPay credit card payment (BNZ, n.d.). Today China UnionPay credit card is also affiliated with American Express, MasterCard or Visa, and they can be used as an American Express, MasterCard or Visa (Moses, 2010). One of the goals of China UnionPay is to create an independent bankcard brand of China by cooperating with China domestic commercial banks to push forward the sustainable and healthy development of China's bankcard industry (Vilaclara, 2009).

Credit card as a bank credit instrument acts as a tool of payment which improves the efficiency of transaction payment, reduce transaction costs and improve the security of transactions (Wenku, 2013). Today, credit card plays an important role in people's daily lives, it has made people's consumption of goods and services more easily and the proportion of people using credit card to purchase goods and services increases every year. According to the data from CIW Team Staff (2012), there were about 290 million credit cards issued in 2011 in China, an increase of 24.3% compare to 2010; the total credit card transactions in 2011 totaled 7.56 trillion RMB, an increase

of 47.95% compare to 2010.

The credit card holders in China have increased rapidly. The growth of credit card usage can be expected to come from the increasing number of young affluent Chinese. Young people are innovative, creative, willing to take risk and thus are expected to try new things. They are influenced less by the traditional Chinese culture such as saves first spend later. Young affluent Chinese have a positive attitude toward having a credit card and see the benefits of the credit card when travelling overseas and easier to pay by credit (Thompson, Worthington & Stewart, 2009). Thompson, et al.'s study reveals that for the young affluent Chinese, the holding of credit cards is widespread, with some students having more than one credit card. Their finding demonstrated that credit card usage levels are influenced by the ease of use and the credit card acceptance service provided, and the young affluent are more likely to avoid carrying cash.

Credit card gives people lots of convenience on purchasing goods and services, since they do not need to carry cash, but the Chinese consumers are still influenced by the traditional concept of spending, especially among the older Chinese people, which is saved first and then spend. China's households are very savings centric; the average Chinese family saves 25 per cent of their discretionary income, about six times the saving rate for US households (Thompsonand Worthington, n.d.). Another

factor that will influence the Chinese consumer is the income level. Since consumer needs to repay their debts, the income level will dictate whether they can afford to have a credit card or not.

Another reason why Chinese people do not use credit card extensively is the safety reason. This is especially true for online payment, since they do not need to enter a password when using the credit card to make a payment online. Further, in some transactions, the consumers just need to show their signatures to the cashier rather than entering password when using a credit card. This makes it is very easy for other people to use a lost or stolen credit card. Feldman's study (2007) argues that consumers will face the perceived risks and dangers as they release their credit card information into cyberspace. When given the choice, many customers would rather visit a shop or order something over the phone because hackers have and probably will find ways to steal credit card numbers from websites. Thus, many people prefer not to use credit card especially in China.

Consumers in China choose not to use credit cards because there is less acceptance point of the credit card in many retail stores. There are about 14 million merchants in China and only 300,000 accept credit card, which is only 3% of the merchants who accept credit card transactions. The difficulty of applying a credit card can be another reason why many Chinese people do not use credit cards. A report by

MasterCard and China Women's News shows 60% of the respondents said it is very difficult to apply for a credit card, such as providing many supporting documents and filling up more forms, and also the need to wait for an extended time to get the credit card from the bank (Sina, 2001).

This study identifies and examines the factor that influence consumers' use of credit card in China, and more importantly, this study identifies why Chinese consumers use or do not use credit card.

1.2 Problem Statement

For retail transactions, consumers have several choices of payment instruments, including cash, check, credit cards, and debit cards. Each choice provides a host of desired properties that differentiate one instrument from the other. The overall aim of this study is to investigate which group of people is the major credit card user in China. There are limited empirical research studies on the user behavior of the credit card in China. With a large population and the opening up of the financial industry, China has a huge potential market for credit cards. Further, the living standard in China has improved since China opened to the world, and Chinese people are influenced by some Western cultures. The new generations of Chinese youths see traditional Chinese culture as being old fashioned or obsolete while Western culture is accepted as the current trend. The American modes of doing things becomes a

model to the young generation of the Chinese society, and this bring a lot of transformation into the Chinese economy and life style because they adopt the Western values with Chinese modification (Odinye & Odinye, 2012). Today, Chinese people are more open minded and practice less traditional consumption concept. Thus, it is important to understand what factors influence Chinese consumers to use credit card and why some do not use credit cards. The findings of this study can help the banks to have a clear direction of which group of people they should target to promote their credit cards and what type of factors impact (or influence) people use of credit cards. This enables the banks to come up with more effective promotional campaigns on credit cards.

1.3 Research Objectives

The research objectives include:

- 1) To identify the factors that influence consumers' decision to use credit cards.
- 2) To determine the factors that impact credit card users' choice of different level of credit card limit.
- 3) To examine whether different demographic characteristics impact credit card users versus non-credit card users.

1.4 Structure of the Thesis

Chapter One provides an overview of the research background, research problem statement and objectives. Chapter Two reviews the literatures on the development of

credit card and the current credit card market in China. Further, it reviews different factor that impact credit card use, followed by the features of credit card and the credit card usage among consumers in different demographics groups. Chapter Three explains the data collection, variables selection, and methodology used in the study. Following this, Chapter Four presents the discussion of the empirical results and findings, and Chapter Five provides the conclusions of research findings, policy implications, limitations and recommendations for future research.

CHAPTER TWO LITERATURE REVIEW

2. Introduction

This chapter reviews the literature on credit cards. This chapter is organized as follows. Section 1 provides a brief overview of the development of credit card. Section 2 discusses the economic development in China and how it is related to the credit card use. Section 3 discusses the Chinese credit card market and the reason why China will become the biggest credit card market in the world. Section 4 discusses the factors that might influence the consumers' decision whether or not to use credit card. Section 5 discusses the advantages of credit card. Section 6 discusses the demographic of the credit card users in China.

2.1 General Credit Card Market

Today, credit card has become an extremely popular payment instrument. The popularity of credit cards continues to grow as evidenced by a greater proportion of merchants that accept them and consumers that carry them (Chakravorti, 2006). The primary use of credit card today is a transactional medium, not as a source of credit. Garcia (1980) also states that when using credit card to purchase, consumers will be allowed to settle their credit card payment bill after a period of time. In the case of store cards, the retailer provides the credit, in the case of bank, gas and travel and entertainment cards, the retailer received payment from the card-issuer, who bills the consumers at the end of the month. Holders of gas, retail, and bank credit cards

usually have the option to revolve credit and pay interest, typically at the rate of 18 percent per annum, or to repay before the next billing date and avoid interest charges (Garcia, 1980). Over half and probably as much as 68% of credit card users should be considered “convenience users”, who use credit cards primarily as a transactional medium and who pay off their balance in full each month (Zywichi, n.d.).

Credit cards were first issued in the United States by hotels. During the 1960's, the BankAmericard, separate into Visa and the Master Charge systems, eliminated competition and established themselves, effectively, as the bank credit card industry (Garcia, 1980).

From 1967 to 1977 in United States, the credit card use in general has grown at an average annual rate of 12.2 percent. This growth has been faster than growth of the consumer expenditures (9.0%), and total instalment credit (10.0%). Since data first became available in 1967, the highest growth rates of the credit card usage have occurred during the expansionary phases of the business cycle in 1973 and 1977 (Garcia, 1978). Further, when credit is tight elsewhere, consumers may substitute their credit card line of credit for more traditional instalment loans (Peterson 1976).

Today credit card serves as an indispensable credit and payment instrument in the US (Chakravorti, 2006) and becomes the second most popular non-cash instrument

and growing in popularity around the world (Chakravorit, 2003). For example, in 2012, the estimated number of US credit card holders is 181 million and the estimated number of credit cards is 609.8 million. This means there are many people in US hold more than one credit card, and the annual purchase volume of credit cards in 2011 was \$2.1 trillion. Further in 2012, two-third of Americans owned at least one credit card (Infographixdirectory, 2012).

Asia Pacific has not always been at the forefront of innovations in card payment transactions, but changes have occurred across the regions significantly. Economies of scale have increased as a result of growth in credit card usage and now are dominated by debit cards and cash (KPMG International, 2009).

At the end of 2007, credit card payment in the Asia Pacific region was close to USD 1.3 trillion, around 30 percent of the global figure. The region has about 50% of the world population, this means card usage in the Asia Pacific region has a large growth potential. There are nearly 70% of the card usages for the purchase of goods and services, and around 30% for forwarding or the withdrawal of cash. Visa and MasterCard accounted for 90 percent of the card usage by volume and by values (see table 2.1) (KPMG International, 2009).

Table 2.1: Card Brands and Transactions Values in Asia Pacific 2007

Card brand	Cards (million)	Transactions Value (\$ billions)		
		Total	Purchases	Cash
Visa	446	845	556	289
MasterCard	189	311	215	96
JCB	59	67	62	5
American Express	10	55	54	1
Diners Club	3	11	10	1
Total	707	1,289	897	392

Source: KPMG International (2009)

Table 2.2 shows Japan leads in the ranking of total transactions, with USD 209 billion of purchases, where over 99% of transaction in Japan involves credit cards, followed by South Korea. China and India exhibited large growth potential with USD 24 billion and USD 2 billion of card payment, respectively when considered the large population and economic growth of both countries.

Table 2.2: Total Value of Transaction (General Purchase) by Country

Country	Total Value of Purchases by Card
Japan	USA 209 billion
South Korea	USD 203 billion
Australia	USD 140 billion
Taiwan	USD 24 billion
China	USD 24 billion
Hong Kong	USD 20 billion
New Zealand	USD 11 billion
Thailand	USD 6 billion
India	USD 2 billion

Source: KPMG International (2009)

In Australia, card payments market has been growing steadily. By the end of 2008,

with a population of 21 million, there were over 14 million credit and charge card accounts in Australia, and this number has rose to 16 million in circulation in 2010. Further, in October of 2009, Australians spent \$19.89 billion on credit cards. In the UK, a country of about 60 million people has about 50 million credit cards in circulation in 2009. Russia is another country that has rapid rise in the number of credit cards in the past few years. In 2007, there were just 12 million credit cards in Russia but by 2009 that figure had risen to 24 million and analysts predict there will be more than 35 million credit cards in use by the end of 2011 (Credit Card Bible, 2011).

Credit card usage in China has also increased dramatically over the last few years. In 2003, there were only 3 million credit cards in circulation. In November 2008, the number of credit cards held by Chinese citizens had risen to 160 million. Many people admit to holding multiple credit cards and regularly use them to pay bills such as rent and mortgage debts as well as for retail spending (Credit Card Bible, 2011). All RMB-denominated cards issued in China run through the China UnionPay (CUP) scheme, regardless whether it is credit card or debt card. Since its inception in 2002, CUP has also operated the key payments network in China, providing an inter-bank and intra-country card network that enables interoperability between different banks and cards. In 2004, China UnionPay credit card can be used in Hong Kong and Macau. In 2005, Thailand, South Korea and Singapore retailers

started to accept China UnionPay credit card (Wenku, 2007). The widely acceptance of China UnionPay in the foreign countries bring convenience to the UnionPay card holders when traveling overseas, and avoid the inconvenience of carrying cash and minimize the exchange of rate volatility. Based on the overview of development of the credit card in the past, credit card has become an important part of people's daily life.

2.2 China's Economy Development

China's economy has developed rapidly in the past few years. Most of this growth has come from higher labor productivity. From 1978 to 2011, the real GDP (gross domestic product) growth averaged about 10% per year (Haltmaier, 2013). According to the data from People's Daily Paper (2013), China's GDP in 2012 is 103 times more than the GDP in 1979, while its total economy in the world share has grown from 1.8% in 1979 to 11.5% in 2012. The fast growth of China's economy in the past 35 years is evidenced by the following factors: (1) The GDP has grown from 364.5 billion RMB in 1978 to 51.9 trillion RMB in 2012; (2) The total economy ranking in the world has risen from tenth in 1978 to second in 2010; (3) Per capita GDP has risen from 381 RMB in 1978 to 38,420 RMB in 2012 (People's Daily Paper, 2013).

The living standards and the income of Chinese people have also improved. According to an analysis of official government statistics by China Market Research

Group, the average disposable income of urban Chinese households rose to around \$3,000 per capita in 2010, but in 2000, the income was just \$760 per capita (Censky, 2012). In 2012, the average urban Chinese households' income was 26,959 RMB, the average disposable income of urban Chinese households income was 24,565 RMB, and the real growth rate was 9.6% compare to 2011 (McKinsey&Company, 2012). Further, according to the World Bank (2012), the Gross National Income per capita has grown from \$190 in 1978 to \$5,680 in 2012. Thus, China has jumped from the lower income country to the upper-middle income country. Higher income means people have more money to purchase goods and services and the ability to apply for credit cards.

As people's living standards improve, the consumer market also change over time, the most significant change is the Chinese consumers' behaviors becoming more similar to the consumers in the developed countries (McKinsey&Company, 2012). For example, instead of saving first then spending, they are more likely to use credit card to incur overdraft consumptions (Wang, 2013). This is especially so for the young people where they are more likely to use credit card to overdraft when they do not have enough money in their hands (Ma, 2013).

Household consumption has grown rapidly in China over the past two decades, averaging about 8% a year and rising to 10% in the past few years (Baker &

Orsmond, 2010). But the Chinese consumption is only one-third of the GDP, while in U.S., the consumption to GDP ratio is above two-third.

In the recent years, the growth of China economy has started to slow down, averaging around 8% growth each year, but, the consumers' consumption power is still growing rapidly. This can be seen from the higher disposable income in most urban household in China. It is forecasted that in 2020, the household average annual disposable income will account for 57% of all urban household (McKinsey&Company, 2012).

Since the growth of the country's per capita GDP and the living standard has been improved, people earn more money than before, and more willing to spend on luxury goods and/or leisure, such as new clothes, dining out and better electric devises. These encourage the consumers to use credit cards because of convenience and they do not have to carrying lots of cash.

2.3 China's Credit Card Market

At the beginning of 2006, credit card users in China soared to 12 million from just slightly 3 million at the beginning of 2003 (Tan, 2006) "When it comes to credit cards, China is a virgin market with vast opportunity," says Michael Lafferty, chairman of U.K. based Lafferty Group, who predicts that China will become the

world's largest credit card market by 2015 (Chu, 2012). Chinese credit card market is largely directed by political calculation, policy mission and administrative intervention. Even though economic and social factors play a vital role, government regulations and policies control or strongly influence the competitive landscape, the credit card ecosystem and the industry income structure. Even so, the Chinese credit card market will continue to be the most promising market worldwide due to the size of the national economy and population.

The Bank of China issued the first credit card in 1985 and the development of China's credit card can be divided into four stages (Zhou, 2010).

i. First stage (1985 – 1994):

The credit card in China was more likely a Quasi-credit card, and the application process was very difficult, the highest credit limit at that time was 5,000 RMB. Also, the average income of the Chinese people and consumption power were very low, where the banks issued only 8 million credit cards.

ii. Second stage (1995 – 1999)

The credit card industry came to a standstill from 1995 to 1999. During this period, many banks started to issue debit cards, which hampered the issuance of quasi-credit cards. This action almost brought the development of the credit card at a standstill. At the end of 1999, there were only 18.5 million credit cards issued in China, but there were more than 100 million debit cards issued by the banks.

iii. Third stage (2000 – 2002)

China's credit card industry began to develop comprehensively during this period, where the People's Bank of China and relevant departments started to pay more attention to the credit card industry. In March 2002, China UnionPay was established, where it is the only inter-bank network in mainland China that links the ATMs of both major and small banks in China. It allows the credit cards issued by domestic banks to be used in different regions and different countries. This is a millstone in the development of China's credit card industry. The international credit card organizations also have played a very important role on the development of China's bankcard industry. MasterCard and Visa Card are first to support the international standard dual-currency and single-currency credit card issued by the banks in China. The dual-currency credit card include both the RMB-denominated account in conjunction with China UnionPay, and a foreign-currency-denominated account, in conjunction with the foreign scheme, such as Visa. This means if the card is used in China, it is treated as a RMB transaction, processed through the China UnionPay network. If the card is used abroad, it is settled in the currency of the card, and processed through the foreign scheme's international network. China UnionPay is working to expand acceptance of its cards in the international market. For example, in 2013, there are 142 counties and regions accepting UnionPay cards (UnionPay, 2013). In New Zealand, UnionPay cardholders can use their card with Bank of New Zealand (BNZ) ATM and there are over seven thousand retailers

accepting UnionPay card payment (BNZ, n.d.).

iv. Fourth stage (2003 to present)

The credit card industry entered a competitive development stage, where each bank in China has set up its own credit card center and started to launch the China UnionPay standard credit card.

The credit card industry is the main part of the national economy, where it plays an important role in the growth of China economy and the growth in GDP. At the end of 2009, domestic credit card transaction proportion of total retail sales of social consumer goods has risen from 11.2% in 2007 to 27.9% in 2009 and this ratio has risen to 48.26% in 2012, which means nearly half of the transactions are paid by credit cards. The credit card transaction to GDP ratio has risen from 4% in 2007 to 10.4% in 2009 (Zhou, 2010).

In the term of reducing social transaction cost, credit card shows a significant advantage. In 2007, the social transaction cost of credit card transaction volume ratio was 0.41%, while the cost of cash transaction ratio was 1.76% (Zhou, 2010). In 2011, the credit card has saved up to 102.1 billion RMB in the transaction cost (Peng, 2012).

At the end of 2011, the total number of credit card issued reached 285 million, it

increased 24.3% from 2010, and 79.41% of the consumers are have no more than 3 credit cards, 35.12% have only one credit card while 1.35% have more than 10 credit cards. The total transaction reached 756 million RMB, which was 47.95% higher than the transaction volume in 2010. The number of the domestic credit card merchants has increased at the end of 2011 and the number of domestic acceptant merchants reached 3.18 million, a 45.68% increase compared to 2010 (Peng, 2012).

Vilaclara (2009) identified four reasons why China is a big potential market for the credit card business. First, there is not many people using credit card in China at present, the number of cards hold per person is 0.18 in China. Compared to U.S., there are more than 8 credit cards per person on average. Second, China is a market where credit is not used as often as in U.S. and the Chinese consumers are more savings oriented than U.S.. The average unpaid balance, credit left revolving in the cards instead of being used is only 2.5 billion RMB. If this trend is similar to the more developed economies there will be a very big growth on this numbers as consumers start to use the credit cards to carry balances. Third, as of 2007, the Chinese domestic banks have not made profit in the credit card business. However, the banks have been aggressive in the credit card business recently because they see potential profit making in the futures. For the multinational banks operating in China, the outlook is a bit different as they are already making profits on their credit card business. This is probably because the customers on average are more sophisticated.

Fourth, if we use Hong Kong's credit card market as a reference point where mainland China wants to follow, we can see that 81% of the household in Hong Kong own a credit card at the end of 2007, but in mainland China, there are only 14% of household owning a credit card. In addition, the big promotion of credit cards by Chinese banks has turned the credit card market into a big and profitable business.

2.4 Factors Impacting Credit Card Use

Ando & Modigliani's (1963) life cycle model assumed that consumer will try to maximize their utility from their lifetime consumption. This model implies that the consumers will spend more than their household income in their lifetime through borrowing.

Bryant (1990) explained that borrowing is the transfer of future resources to the present to increase current consumption. Under the budget constraint and the consumption needs, consumers will choose to borrow to maximize utility, and the credit card can be an easy way to borrow money to make consumptions. Differences in consumers' income, age and household size, marital status, education and interest rate may influence a consumer willingness to own and use a credit card.

Age: Previous studies such as Bei (1993), Canner & Cynak (1985), Choi &

DeVaney (1995), Steidle (1994) and Wasberg, Hira & Fanslow (1992) find there is a negative relationship between age and being a credit card revolver. This finding implies that younger households are more likely to use credit card as a borrowing instruments than older households (Kim & DeVaney, 2001). Awh & Waters (1974) also find that older age reduces the likelihood of an individual being an active credit cardholder. This is because older people's spending patterns probably do not need a significant amount of credit thus reduces the use of credit cards. Further the authors argued that older people tend to resist innovations and those who have grown up in a computerized society may be less resistant to such banking innovation as credit card (White, 1975). White's study showed that older people tend to use credit card less as they have less opportunity to use the credit card than younger people.

Gender: Armstrong & Craven (1993) find that gender was a predictor of how many credit cards consumer hold, and they find that females tend to have a higher average number of credit cards than males. However, Khare et al. (2011) find that males are more likely to own more credit cards and use them as a form of revolving credit than female. Similarly, Hirschman & Goldstucker (1977) find that bank credit card users were more likely to be males. The different result in credit card use between females and males can be explained that the female and male have different shopping behaviour and they may use credit card in different ways. For example, Kaynak & Harcar (2001) find women tend to use credit cards to purchase household goods,

clothing and personal belongings while men use their credit card to pay for electronics, entertainment, travel and food. Markovich & DeVaney (1997) investigate the credit card use in the college students, they found that seniors with four or more credit cards had more debt than the seniors with one to three credit cards, but there was no mention about the gender differences. White (1975) find that male probably find credit cards relatively more convenient to use when making purchase than female when they make their purchases.

Marital Status: Marital status also impact credit card use. Canner & Cynrak (1985) show that marital status is important in explaining who is a revolving credit card user. Kinsey (1981) and Steifle (1994) find that consumers who are married have higher expenditures than the consumers who are not married. Higher expenditures means the consumers need to spend more money or borrow, and the credit card can be the easiest way for consumers to borrow to purchase goods.

Yieh (1996) find that households headed by individuals who were female, married and unemployed were more likely to have a negative attitude toward installment borrowing. This implies such women will prefer not to use the credit card because they may have lower income but will have higher expenditures. They might not have the ability to pay off the credit card bill each month and choose not to get into debts.

Household Size: Household size is another factor that influences the consumers to be a credit card user. Godwin (1998) showed there is a positive relationship between the household size and the increase in the household debt. Similarly, Kinsey (1981) find that two-people households have more credit cards than single-person household as two-people households tend to have higher expenditures in their daily life. This finding supports the demand for the present consumption is positively related with the household size. Thus, the needs of a large amount of living expenses can be reflected in borrowing money from credit card. This is consistent with Chien & Devaney's (2001) study where household with a large household size are more likely to have favourable specific attitudes toward using credit card and higher outstanding credit card balances.

Among the households that have a credit card, Bertaout & Haliassos (2001) found that households with more children are more likely to revolve credit card debts because more children reflect the households' higher expenditure in their daily life.

Education: Education is considered as one of the human resources and can increase the demand of current consumption (Kim & DeVaney, 2001). According to Becker (1975), education can be a future resource, as well as a current human resource. Higher resources mean higher income in the future, and the higher income is likely to increase the demand for consumption and borrowing in the present (Kim &

DeVaney, 2001). This will make people more likely to have a credit card since it is an easy form of borrowing. This is consistent with Barker & sckerkaya (1992), Chien & Devaney (2001) and Choi & DeVaney (1995) studies where they found the education level was positively related to credit card use and the people with more education were more likely to have favourable specific attitudes toward credit card use and tend to use credit card more often.

Income: The effect of net worth is similar to the effect of current income, which can determine a household's level of consumption (Bryant, 1990). If net worth is constrained, consumers can borrow money from credit cards to meet their needs (Kim & DeVaney, 2001). Upper-income consumers exhibit more favorable attitudes toward credit cards than lower-income consumers (Mathews & Slocum 1972, Slocum & Mathews 1970). This is because the lower income consumers may not have the ability or money to pay off the bill on credit card when due.

Mathews & Slocum (1969) and Slocum & Mathews (1970) find that cardholders with low income and low socioeconomic status are more likely to use one credit card to repay the other credit card bill. This is because they cannot repay their credit card bill using their income only.

Also for the credit card user, Steidle (1994) find that income was negatively related to

credit card debt. This means higher income people have lower credit card debt, since higher income people can pay off their credit card debt on time, or they may not use the credit card frequently since they have enough money to purchase the goods instead of using the credit card.

Mandell (1972) find that in comparison with higher income families, families earning less than \$10,000 per year were much more likely to maintain high outstanding credit card balances and to treat those balances as a type of instalment debt.

In Monger's (1992) study, it reported that people who were married, with higher socio-economic status and higher level of educations have multiple card accounts. This implies that the people who are wealthy are using their credit cards for convenience instead of revolving the debt each month as they have the ability to pay off the credit card bill each month.

Interest rate: The interest rate and the payment pattern ultimately determine the credit card purchases and balances (Duca & Whitesell, 1995). Canner & Lockett (1992) found that credit card revolvers were more likely to be sensitive to the level of interest rate. This is because when credit card users cannot pay off their credit card bill before due day, they will end up paying higher interest rate to the bank. Higher interest rate means the users will pay more than they actually spend on their

credit card when they cannot pay off their credit card bill on time. Higher interest rate is also important for the low income consumers to consider whether to use the credit card or not, as low income means the probability of not paying off the credit card bill on time is greater.

The interest rate will activate after the credit card user cannot pay off the credit card bill on due day. For some people who have higher income interest rate on credit card is not a big issue since they can pay off the credit card bill on time and have less credit card debt (Steidle, 1994).

In China, the credit card usually has a 25 days grace period (Hexun, 2009). This means even if the consumers pay off their credit card bill after the due date but within 25 days, they still do not need to pay the credit card interest. This gives the consumers more time to prepare and pay off their credit card bills and reduces the need to pay the credit card interest.

Occupation: Based on the studies of Hong & Beak (2004) and Kinsey (1981) people who are employed in unskilled jobs and those who are generally unemployed are significantly less likely to have credit card than those employed people. And people who are in professional occupations are no more likely than those in blue-collar jobs to have credit card. This is because the unskilled jobs and the

unemployed people may not have the ability to pay off their credit card bill as they may have lower income or no incomes.

Baek & Hong (2004) find that employed people were more likely to have credit card debts than the unemployed or people who are not working. Also Zhu & Meeks (1994) find people who were employed full time have larger amounts of credit card outstanding balances compared to those who were not employed. The reason for this is that the employed people have steady income to pay off their credit card bills compared to the unemployed who do not have incomes to pay off credit card bills.

Acceptance Point: Credit card can only be used when there are acceptance points of credit card. The credit card acceptance point referred to the merchants and other shopping places where credit card payments are accepted and the credit cardholders can use their credit cards to make payments (Wong, 2005). For example, with the widely acceptance of credit card by the merchants, consumers can use their credit card to make purchase in any shopping malls, supermarkets and retailers including restaurants, gym and hotels.

Worthington's (2003) study of Chinese payment card market revealed that it is impossible to get a consumer to hold and use credit card if there are not enough acceptance points. Worthington (1998) also found that the increase in the number of

merchants accepting payment by credit card would increase the consumers' usage of credit cards. This is because more places that accept credit card payment will increase the probability that the consumers will use their credit card. Consumers will rely more on credit cards once they get used to the credit card payment and feel the convenience of using credit cards.

2.5 Features of Credit Card

Credit cards provide consumers a secure, reliable and convenient means of payment (Chakravorti, 2003). The use of credit cards gives consumers access to safe and secure transaction without the need to exchange cash. Further, credit card can help users to keep their money secure until they spend. Stolen cash is gone for good, but a stolen credit card can be cancelled with just a phone call, giving the user a safe and effective means to minimize his or her losses in the event of theft and robbery (Autoworld, 2009). Even if a credit card is stolen or lost, the user can report the loss to the bank immediately, and it is easy to track each transaction since it is recorded by the bank. In addition, the banks will likely bear the loss in 48 hours before the user reports the loss (Li, 2011).

The credit card offers consumers with unprecedented convenience as a currency transaction that is accepted worldwide. Worthington, Thompson & Stewart (2011) find that young affluent Chinese cardholder believed credit card is more convenient

than paying with cash, particularly convenient and safety when shopping online and traveling.

The use of credit card can avoid currency exchange rate risk when consumers travel overseas. In addition, the credit card can be used to book hotel, airline ticket online, etc. before the consumers start to travel. Consumers also receive some discount when booking online using their credit cards. If consumers book the hotel room online using their credit card then they will not be penalized if no room is available when they arrive at the hotel.

Credit cards have different credit limit. Consumers can choose different credit limit card to use. For consumers who are married with large household size and higher income will probably have higher daily expenditures (Steifle, 1994; Chien & Devaney, 2001). These people are more likely to request higher credit limit on their credit card, since higher credit limit will enable them to meet their high expenses.

Consumers in China have several ways to avoid annual credit card fee. For example, when the consumers have used their credit card for 3 to 6 times within a year, they do not need to pay the annual credit card fee, or when they spent a certain amount of money with their credit card, such as 2,000 RMB, they also do not need to pay for the annual credit card fee (Wenku, 2012).

Furthermore, the credit card can be useful when people do not carry enough cash or not carrying cash, especially when traveling. It is difficult to borrow money overseas, the credit card becomes useful in this situation. Credit card can relieve the consumers' financial stress when they have to make a large amount of one-time payment. They can apply for installment payment to repay the credit card bill after they have use the credit card to pay for the large amount of one-time payment (Xici, 2012).

Many banks credit cards have cooperated with retailers to promote their credit cards, for example, when a consumer spend certain amount of money with one retailer by using his/her credit card, the retailer will gives him/her 20% discount per credit card transaction. Consumers also can get some discounts when they use credit card to buy movie tickets or pay for the dinner in some restaurants. Consumers can earn credit card points when they use their credit card and the points can be used to exchange for gifts or be in the draw for prizes (Xici, 2012).

For some parents with their children studying in other cities, provinces or countries, they can apply for a supplementary card for their children where the parents can basically take control of the children's expenditure (Xici, 2012).

Other advantages of a credit card include offer free accident insurance, medical

insurance, trailer and car wash, bank or airport VIP lounge service, etc. (Xici, 2012).

All features and advantages of a credit card can only be achieved if the consumers can get the credit card. Thus, the application process for a credit card is very important. The domestic banks in China have simplified the credit card application process where consumers no longer need to provide many documents to the bank to apply for a credit card. The consumers can even apply for a credit card online. This encourages many consumers to start to apply for and use credit card (Sina, 2011).

2.6 Demographic Factors

Armstrong & Craven (1993) demonstrated that females tend to have a higher number of credit cards than males, but found that on average, females carry lower balances. Hayhoe, Leach, & Turner (1999) found that females are more likely to have four or more credit cards. Further higher income consumers are the main target for the credit card issuers. Studies by Mandell (1972) and Awh & Walters (1974) revealed that family income, education and socio-economic standing were the main determinants for credit card usage. This is further evidenced by credit card companies targeting higher income group consumers. Historical evidence demonstrated that the rising income and the increased in the purchasing power of the household are among the most significant factors during the 1982s and 1990s that resulted in increasing demand for credit card facilities (Kara et al., 1994). According to a research by Mathews & Slocum (1969), people who are in the higher social

class are more likely to use credit cards as a convenient payment tool. Awn & Waters (1974) state that older users are more likely to be inactive user of credit card, and people with higher socioeconomic status are more likely to be active user of credit card.

In China, credit-card companies are targeting young, affluent users who desire a better lifestyle, are more inclined to use bank loans to fund purchases of cars and mortgages. Consumers under the age of 35 with assets of more than 500,000 RMB hold the highest number of cards among all Chinese groups, with 2.6 on average (Leung, 2011). Also 67.4% of Chinese credit card users are male, 32.6% are female, and for the users in different age group, the young people who are between 25 to 29 years old (41.5%) are the major user of credit cards (Yang, 2011).

Chen & Li's (2010) study also found Chinese consumers who are 26 to 35 years old have high knowledge of credit card. However, when the age increases the consumers' knowledge of credit card reduces, since older people may have fewer chances to use the credit card in their spending patterns. Education level has a positive relationship with the knowledge level of credit card. Monthly incomes have a positive relationship with the use of credit card. As income level increases, consumers' use of credit card increases too (Chen & Li, 2010).

People in different demographic groups have different emotion¹ attitude toward credit card. People who are between 26-35 years old have the highest emotion attitude toward credit card, as their age increase, their emotion attitude will decrease. Consumers who are single or married with no children have a stronger positive emotion attitude towards credit card (Chen & Li, 2010). People who have strong positive emotion attitude toward credit card are usually young people. A possible explanation for this is that young people feel the use credit card have become a necessity and think the credit card payment is more convenient than using cash (Yuan, 2013).

2.7 Summary

Chapter Two begins with an overview of development of credit card in general, followed by the credit card market in China and the different factors that influence the consumers' decision in using credit cards. The advantage of credit card and the different demographic group of credit card users were discussed in this chapter as well. The following Chapter details the theoretical and empirical methodologies, sampling and data collection.

¹ To be recognized, and willingness to use.

CHAPTER THREE

RESEARCH METHODOLOGY

3. Introduction

Chapter Three begins with a description of the research methodology. The empirical framework in this research is derived from the qualitative choice modelling. Logit analysis is chosen because of the binary nature of the dependent variable, and it is used to determine the factors that influence consumers' decision to use credit card. Ordered logit is used to determine whether there are differences in choosing different level of credit limit base on different demographic characteristics. A discussion of the research design, survey questionnaire development and format, sample size and sampling technique concludes the chapter.

3.1 Empirical Framework

The empirical research is developed based on the qualitative choice analysis, which is widely used in describing decision-makers' choices in areas such as banking, transportation, telecommunication and housing (Ben-Akiva & Lerman, 1985; Train, 1986). A qualitative choice situation is defined as one in which a decision-maker faces a choice among a set of alternatives which satisfy the following criteria:

- 1) The number of alternatives in the set is finite;
- 2) The alternatives are mutually exclusive; that is, the person's choosing one alternative in the set necessarily implies that the person does not choose another alternative; and

3) The set of alternatives is exhaustive: that is, all possible alternatives are included, and so the person necessarily chooses on alternative from the set (Varian, 1992).

Any choice or decision is represented by a continuous variable is not considered as a qualitative choice situation (Gao, 2011). A qualitative choice model designates a class of models, such as logit and probit, which attempt to related the probability of making a particular choice to various explanatory factors and calculates the probability that the decision-maker will choose a particular choice or decision from a set of choices or decisions(J_n), given data observed by the researcher. This choice probability (P_{in}) depends on the observed characteristics of alternative i (z_{in}) compared with all other alternatives (z_{jn} , for all j in J_n and $j \neq i$) and on the observed characteristics of the decision-maker (s_n) (Gao, 2011). The choice probability can be specified as a parametric function of the general form:

$$P_{in} = f(z_{in}, z_{jn}, s_n, \beta) \quad (3.1)$$

Where f is the function relating the observed data to the choice probabilities specified up to some vector of parameters (β).

By relating qualitative choice models to utility theory, a clear meaning of the choice probability emerges from the derivation of probabilities from utility theory; the utility from each alternative depends on various factors, including the characteristics of both alternative and decision-maker (Gao, 2011).

By labelling the vector of all relevant characteristics of person n as r_n and the vector of all characteristics of alternative i chosen by person n as x_{in} , we can write the utility as a function of these factors,

$$U_{in} = U(x_{in}, r_n) \quad (3.2)$$

Different qualitative choice models are obtained by specifying different distributions for unknown component of utility (ε_{in}) and deriving functions for the choice probabilities (Train, 1986; Ben-Akiva and Lerman, 1985; Greene, 1990). The logit model is used in this research because of the binary choice of the dependent variable.

The choice probabilities are expressed as follows (Train, 1989; Ben-Akiva and Lerman, 1985; Greene, 1990):

$$P_{in} = 1 / (1 + e^{-\mu[V_{in} - V_{jn}]}) \quad (3.3)$$

3.2 Research Model

The binary logit model is applied to the first and third research objectives where the consumers only face a simple binary choice of use or do not use the credit card. The ordered logit model is used in second objective, where the consumer facing a choice of using credit card or not depend on different level of credit limits. The logit model

attempts to predict the probability of credit card use in urban China related to a set of explanatory factors. The ordered logit model is used to predict the probability of credit card use based on different level of credit limit on the credit card.

In research objective one, with regards to the perspective of making a credit card use decision, the consumers are faced with a simple binary choice situation: have or not have a credit card. The consumer's utility associated with having a credit card is denoted as U_{1n} , and the utility associated with not having a credit card is denoted as U_{0n} , it can be expressed as (Gao, 2011):

$$U_{in} = V_{in} + \varepsilon_{in} \quad \forall i \in J_n \text{ and } J_n = \{0, 1\} \quad (3.4)$$

The consumer will choose to have a credit card if $U_{1n} > U_{0n}$, the utility of each choice (V_{in}) depends on the vector of observable attributes of the choice and the vector of observable consumer characteristics. The error term (ε_{in}), which includes all unobservable and excludes the consumer characteristics, is assumed to be independently distributed. The choice probability of $U_{1n} > U_{0n}$ is given by $P_{1n}^* = \Pr_n(U_{1n} > U_{0n}) = 1 / (1 + e^{-\mu(V_{1n} - V_{0n})})$, where $\mu > 0$ (Gao, 2011). Hence, the parametric functional form of the logit model can be written as follows:

$$Y_{in}^* = f(CO, CL, IR, AP, AF, RP, AP_2, X_1, X_2, \dots, X_8, \varepsilon) \quad (3.5)$$

Where

² This is a reduce form equation

Y_{in}^* = Decision to have a credit card (where 1 = have; 0 = do not have)

CO (+) = Convenience

CL (+) = Credit limit

IR (-) = Interest Rate

AP (+) = Acceptant point

AF (-) = Annual fee

RP (+) = Reward program

AP₂ (+) = Applying credit card process

Demographic Characteristics:

X₁ = Age of consumer (+/-)

X₂ = Male (-)

X₃ = Marital status (single) (-)

X₄ = Highest educational attainment (-)

X₅ = Annual household income (+/-)

X₆ = Occupation (+/-)

X₇ = Size of household (+)

X₈ = Duration of work (+)

ε_{in}^* = Error term

The explanatory variable in equation 3.5 include convenience, credit limit, interest rate, accept point, annual fee, reward program, apply process, which are all discrete variables, and young age, male, single, education attainment, occupation, annual

household income, size of household, duration of work, which are all dummy variables. Table 3.1 defines the variable used in equation (3.5).

Table 3.1: Variables Definitions used in Equation (3.5)

Variable Name	Description
Have Credit Card	Dummy variable equal to 1 if consumers have a credit card; 0 otherwise
Convenience	Discrete variable, use rating scale of 1 to 8 from 1 (least important) to 8 (most important)
Credit Limit	Discrete variable, use rating scale of 1 to 8 from 1 (least important) to 8 (most important)
Interest Rate	Discrete variable, use rating scale of 1 to 8 from 1 (least important) to 8 (most important)
Accept Point	Discrete variable, use rating scale of 1 to 8 from 1 (least important) to 8 (most important)
Annual Fee	Discrete variable, use rating scale of 1 to 8 from 1 (least important) to 8 (most important)
Reward Program	Discrete variable, use rating scale of 1 to 8 from 1 (least important) to 8 (most important)
Apply Process	Discrete variable, from 1 (very easy) to 4 (not easy at all)
Young age	Dummy variable equal to 1 if the respondent's age is older than 18 and younger than 35 years old; 0 otherwise
Male	Dummy variable equal to 1 if the respondent is male; 0 otherwise
Single	Dummy variable equal to 1 if the respondent is single; 0 otherwise
Bachelor	Dummy variable equal to 1 if the respondent's education level is bachelor; 0 otherwise
Middle Professional	Dummy variable equal to 1 if the respondent is employed in a middle professional job; 0 otherwise
Working Duration	Dummy variable equal to 1 if the respondent's duration of employment is 1 to 5 years; 0 otherwise
Size of household: Three	Number of family members in the household
Low Income	Dummy variable equal to 1 if monthly income is less than 4000RMB; 0 otherwise
ε_i	Error term

Based on the previous studies by Bei (1993), Canner & Cynak (1985), Choi & DeVaney(1995), Steidle (1994) and Wasberg, Hira & Fanslow (1992), there is a

negative relationship between age and being a credit card user. The authors found younger age households are more likely to use the credit card while older age will reduce the likelihood of being an active credit card holder, since older people do not need a significant amount of credit in their spending patterns and have less time to use the credit card than younger people (Awh & Waters, 1974; White, 1975). According to the studies of Armstrong & Craven (1993) and Markovich & DeVaney (1997), they found there is no significant difference in gender and the use of credit card. This is because females and males may use credit card in different ways and shopping for different goods. For example, Kaynak & Hancar (2001) found females are more likely to purchase clothing and household goods and males are more likely to use credit card to purchase electric devices. Also in the previous studies by Kinsey (1981), Steifle (1994), Godwin (1998), Bertaout & Haliassos (2001), White (1975), Kim & DeVaney (2001), Mathews & Slocum (1972), Slocum & Mathews (1970), and Hong & Beak (2004), the coefficient of the borrower characteristics such as marital status, educational attainment, occupation, household income, size of household, duration of work are expected to be positively related to credit card use. However, interest rate is negatively related to credit card use, especially for the lower income consumers, as low income means a higher probability not paying off the credit card bill on time. If the credit card holder misses paying off the credit card bill on time, he or she will have to pay the interest rate incurred. This implies the credit card user pays more than he or she actually spent.

Objective two determines the most important factors that affect the credit card users' choice of different levels of a credit card limit. This is an ordered logit, as the consumers face different level of credit card limit in using credit cards. In an ordinal logistic regression, the event of interest is observing a particular score or in an order. For the consumers choosing different credit limit level on their credit card, the model has following odds:

$$\theta_1 = \text{prob}(\text{credit limit less 1000}) / \text{prob}(\text{credit limit greater than 1000})$$

$$\theta_2 = \text{prob}(1001 \text{ to } 5000) / \text{prob}(\text{greater than } 5000)$$

$$\theta_3 = \text{prob}(5001 \text{ to } 10000) / \text{prob}(\text{greater than } 10000)$$

$$\theta_4 = \text{prob}(10001 \text{ to } 20000) / \text{prob}(\text{greater than } 20000)$$

$$\theta_5 = \text{prob}(20001 \text{ to } 50000) / \text{prob}(\text{greater than } 50000)$$

$$\theta_6 = \text{prob}(50001 \text{ to } 100000) / \text{prob}(\text{greater than } 100000)$$

The last category does not have an odd associated with it since the probability of the last level is 1 including the last odds (Norusis, 2011).

All of the odds are of the form:

$$\theta_j = \text{prob}(\text{score} \leq j) / \text{prob}(\text{score} > j) \quad (3.6)$$

The equation 3.6 also can be written as:

$$\theta_j = \text{prob}(\text{score} \leq j) / (1 - \text{prob}(\text{score} \leq j)), \quad (3.7)$$

Since the probability of a score greater than j is 1-probability of a level less than or equal to j (Norusis, 2011).

Hence, the parametric functional forms of the relationship between different credit limit and having a credit card can be written as follows:

$$\ln(\text{prob}(\text{event}) / (1 - \text{prob}(\text{event}))) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_{13} X_{13} \quad (3.8)$$

Where:

X_1 = Number of credit card

X_2 = How long owning credit card

X_3 = Monthly spending

X_4 = Annual fee

X_5 = Interest Rate

X_6 = Gender of consumer (where 1 = male; 0 = female) (+/-)

X_7 = Age of consumer (+/-)

X_8 = Marital status (single) (-)

X_9 = Highest educational attainment (+)

X_{10} = Occupation (+)

X_{11} = Duration of work (+)

X_{12} = Size of household (+)

X_{13} = Monthly household income (+)

Table 3.2 defines the variables used in equation (3.8)

Table 3.2 Variables Definitions in used in Equation (3.8)

Variable Name	Description
Number of credit card	Number of credit card the respondent owns
How long owning credit card	Discrete variable, use 1 to 4 represents different range of time.
Monthly Spending	Discrete variable, use 1 to 5 represents different range of spending.
Annual Fee	Discrete variable, use 1 to 4 represents different range of annual fee.
Interest Rate	Discrete variable, use 1 to 4 represents different range of interest rate.
Young age	Dummy variable equal to 1 if the respondent's age is older than 18 and younger than 35 years old; 0 otherwise
Male	Dummy variable equal to 1 if the respondent is male; 0 otherwise
Single	Dummy variable equal to 1 if the respondent is single; 0 otherwise
Bachelor	Dummy variable equal to 1 if the respondent's education level is bachelor; 0 otherwise
Middle Professional	Dummy variable equal to 1 if the respondent is employed in a middle professional job; 0 otherwise
Working Duration	Dummy variable equal to 1 if the respondent's duration of employment is 1 to 5 years; 0 otherwise
Size of household: Three	Number of family members in the household
Low Income	Dummy variable equal to 1 if monthly income is less than 4000RMB; 0 otherwise
ε_i	Error term

Previous researches showed that lower income consumers are more likely to have more than one credit card (Slocum & Mathews, 1970). The lower income consumers will use the second credit card to pay off the first credit card bill since they cannot pay off the credit card bill using their income only (Slocum & Mathews, 1970). Monthly spending and the number of credit cards owned are positively related to the credit limit. Abdul-Muhmin & Umar (2007) and Baek & Hong (2004) found consumers who have more than one credit cards tend to have higher debt, where higher debt reflect they have higher credit limit on their credit cards. Further,

according to the finding reported by Bertaout & Haliassos (2001), Chien & Devaney (2001) and Kinsey (1981), household who have higher spending are more likely to have a higher credit limit credit card. Consumers with higher education level will have higher credit limit on their credit card, since higher education level means higher income in the future, and the higher income is likely to increase the demand for consumption and borrowing in the present (Kim & DeVaney, 2001). Higher credit card limit will meet their increasing demand for consumption and borrowings.

Objective three tests the characteristics of the respondents to find out which group of respondents are major credit card users. The logic model is used to test the demographics variables in this objective. The consumer will choose to have a credit card if $U_{1n} > U_{0n}$, the utility of each choice (V_{in}) depends on the vector of observable attributes of the choice and the vector of observable consumer characteristics. The error term (ε_{in}), which includes all unobservable and excludes the consumers' characteristics, is assumed to be independently distributed. The choice probability of $U_{1n} > U_{0n}$ is given by $P^*_{1n} = \Pr_n(U_{1n} > U_{0n}) = 1/(1 + e^{-(V_{1n} - V_{0n})})$, where $\mu > 0$. Hence, the parametric functional form of the logit model can be written as below (Gao, 2011):

$$Y_{in}^{**} = f(X_1, X_2, X_3, \dots, X_9) + \varepsilon_{in}^{**3} \quad (3.9)$$

Where

Y_{in}^{**} = Decision to have a credit card (where 1 = have; 0 = do not have)

³ This is a reduce form equation

X_1 = Age of consumer (+/-)

X_2 = Gender of consumer (male) (-)

X_3 = Marital status (single) (-)

X_4 = Highest educational attainment (-)

X_5 = Annual household income (+)

X_6 = Occupation (+)

X_7 = Size of household (+)

X_8 = Duration of work (+)

ε_{in}^* = Error term

Table 3.3 defines the variables used in equation (3.9).

Table 3.3: Variables Definitions used in Equation (3.9)

Variable Name	Description
Have Credit Card	Dummy variable equal to 1 if the respondent has a credit card; 0 otherwise
Young age	Dummy variable equal to 1 if the respondent's age is older than 18 and younger than 35 years old; 0 otherwise
Male	Dummy variable equal to 1 if the respondent is male; 0 otherwise
Single	Dummy variable equal to 1 if the respondent is single; 0 otherwise
Bachelor	Dummy variable equal to 1 if the respondent's education level is bachelor; 0 otherwise
Middle Professional	Dummy variable equal to 1 if the respondent is employed in a middle professional job; 0 otherwise
Working Duration	Dummy variable equal to 1 if the respondent's duration of employment is 1 to 5 years; 0 otherwise
Size of household: Three	Number of family members in the household
Low Income	Dummy variable equal to 1 if monthly income is less than 4000RMB; 0 otherwise
ε_i	Error term

3.3 Questionnaire Development and Data

In order to obtain more reliable and accurate results, the survey questionnaire is used and all questions are derived from previous studies. The questionnaire contains four parts: general information of consumer payment behaviours, credit card users, non-credit card users and socio-economic background of the respondents.

The first part of the survey questionnaire comprises of questions which concern with information of the respondents' perception about the payment methods and the attributes of credit card. The questions include how convenience and safety the credit card is, and the features, such as reward program, grace period of the credit card, and the application process of the credit card. The first part of the survey questionnaire also identifies whether the respondent is a credit card user or a non-credit card user.

The second part of the survey questionnaire contains the general credit card information of credit card user, such as the type of credit card, credit card limits, annual fee and interest rate on the credit card. In addition, the questions also include how the respondents use the credit card, frequency of using the credit card and the respondents' behavior in repaying their credit card bill.

The third part of the survey questionnaire investigates the causes of non-credit card

users. The questions measure the factors, which impact the consumers in urban China who decide not to use credit card, such as inconvenient, high annual fee, security concerns, privacy concerns, etc. In addition, the questions also ask the respondents whether or not they want a credit card in the future, and the features a credit card need to have to convince them to obtain a credit card.

Section four of the survey questionnaire contained the socio-economic background of the respondents, which could possibly affect the respondents' ability in obtaining a credit card. All questions are designed to help the researcher to construct the socio and demographic profile of the sample respondents. The general questions in this section include age, gender, education attainment, marital status, occupation, etc.

A pre-test of the survey questionnaire was conducted to assess the reliability and validity of the survey questions. As the questionnaire is developed specifically for this research, pre-testing helps to clarify the items and questions used in the questionnaire. A total of 30 questionnaires are randomly distributed to both household residents (both credit card user and non-credit card user) in Shijiazhuang aged 18 years and older. The respondents were encouraged to comment on any questions or statements that they thought were ambiguous or unclear. Some minor wording modifications to the questionnaire are made as a result of this process.

3.4 Data

Taking into account the limitation of time and budget and practical difficulties in obtaining the list and information of the targeted population, the research used convenience sampling to select the sampling units. The results from the survey, therefore, cannot be interpreted beyond the sample (Zikmund, Babin, Carr & Griffin, 2010). Cross-sectional data is used to conduct this research. It is useful for comparisons among various population segment (Wong, 1996). This method has the advantage of achieving a good response rate with complete information, good control over the respondent's identity, flexibility during the data collection process, less restriction by the length of the questionnaire, clarity and lack of sequence bias.

Due to the lack of published research in China regarding credit card users, it is necessary to collect primary data to answer the three research objectives of the study. The sample of respondents' responses was drawn from the Shijiazhuang city, Hebei Province of China, from September 2013 to October 2013. A total of 409 completed survey questionnaires were returned. The survey questionnaire comprises the bulk of data required by this research, which determines the factors influencing the respondents' decision to obtain a credit card. The survey data also identifies the borrower characteristics of both credit card user and non-credit card user. Shijiazhuang city is chosen because it is one of the rapidly developing cities in China (Ji, 2010), and it is the capital of Hebei Province and is the economic center

of Hebei Province. As people's living standard improved significantly, more people have access to credit cards.

3.5 Sampling Method

The sample is drawn from household residents (both credit card user and non-credit card user) in Shijiazhuang, the capital city of Hebei Province to examine the factors affecting their decision to obtain a credit card. The data is collected from a convenience sample of individuals, irrespective of their gender, occupation, or income. Convenience sampling is used in the study due to the practical difficulties in obtaining the list and information of our target population. Respondents aged less than 18 years old are excluded from the survey, as it is perceived they might have encountered difficulties interpreting the survey questions. Household residents are approached to participate in the research in front of the residential areas and the shopping malls around Shijiazhuang. We stress clearly "the voluntary participation" criteria before distributing the questionnaire to each participant to fill in.

3.6 Data Collection Method

This study selected both credit card users and non-credit card users as the sample. The survey questionnaires were distributed in front of four randomly selected residential areas and shopping malls in Shijiazhuang, the capital city of Hebei Province. The survey pack included a copy of the cover letter and the questionnaire. During the distribution time, the researcher stood around the residential areas and

the shopping malls to ask people to complete the survey questionnaire. A total of 500 questionnaires were distributed during a five-week period. The total final number of useable responses was 409, which yielded a response rate approximately 82 per cent .The non-respondents comprised of all unusable and incomplete survey.

3.7 Sample Size

The study sample size is determined by Cochran's (1963) formula:

$$n_o = \frac{z^2 pq}{e^2}$$

n_o is sample size

z^2 is the abscissa of the normal curve that cuts off an area at the tails

e is the desired level of precision

p is the estimated proportion of an attribute that is present in the population

q is $1-p$

Where:

This study chooses the level of confidence at 95% (or $\pm 5\%$ precision) and assumes $p = 0.5$, $q = 0.5$. Therefore, according to the above formula, total number of sample size will be 385 households.

The total number of survey distributed was 500 to overcome the unusable and

incomplete survey questionnaires and to ensure that 385 or more completed and usable survey are returned. The total final number of useable responses was 409. The response rate was approximately 82% of total number of survey questionnaire distributed and the non-response rate was about 18%. The non-respondents comprised of all refusals, unusable and incomplete survey.

3.8 Summary

Chapter Three discussed the data and methodology used in the research. The questionnaire design, data, sampling method, data collection method and sample response rate were presented as well. Chapter Four discusses the empirical findings, discussion and interpretation of the research findings.

CHAPTER FOUR RESEARCH FINDINGS

4. Introduction

Chapter Four presents the frequencies and statistics that were generated using SPSS (Version 21.0) and Stata (12.0) from the survey sample responses. The empirical results and the findings relating to each objective are also discussed.

4.1 Descriptive Frequencies of the Respondents

A frequency statistics was computed using SPSS (21.0) for the respondents who are credit card users and those who are non-credit card users. Table F.1 shows the descriptive statistics for both credit card user and non-credit card user. From the 409 respondents who have completed the structured survey questionnaires, approximately 65% (267) of the respondents were credit card users while 35% (142) were non-credit card users. The socio-economic characteristics of the respondents were established as follows. The sample respondents comprised of approximately 55.5% (227) females and 44.5% (182) males. The majority of the respondents were in the age group of 26-35 years old (34.5%) and 18-25 years old (19.1%) and most were from the group of working adults in the early years of establishing their careers and possibly married life. The survey results show 70.7% of the respondents was married and 27.9% were single or never married at the time of the survey. The majority of the respondents have either a two-year college degree (42.5%) or a bachelor degree (36.4%). In term of occupation, 42.8% of the respondents worked as

normal company staff, 14.7% engaged in professional jobs and 12.5% of the respondents worked as a company manager. The dominant level of monthly household income was between 5,001 – 7,000 RMB (21.8%) and 4,001- 5,000 RMB (16.4%). From the surveyed respondents, 40.1% of the respondents worked more than 10 years, 25.9% worked between 1 to 5 years and 24.4% worked between 5 to 10 years. The sample statistics also reported that 55.3% of the households comprised of a couple with children, the proportion of adult living alone and immediate and extended family members were 20.0% and 15.6%, respectively. Three people living in the household (including the respondent) with no dependents were considered as the most common current family composition in China.

A comparison of the socio-economic characteristics between credit card users and non-credit card users is presented in Table F.2. Most of the credit card users were female (54.3%) and married (76.8%) at the time of the survey. Similarly, majority of the non-credit card users were also female (57.7%) and married (59.2%) at the time of the survey. In the age category, 40.1% of the credit card users were from the age group of 26-35 years old, 27.3% from the age group of 36-45 years old and 15.4% were between 46-55 years old. For the non-credit card users, 28.9% were from the age group of 18-25 years old, 23.9% were from the age group of 26-35 years old and 18.3% were between 36-45 years old. In terms of education attainment, 44.2% of the credit card users had bachelor degree and 33.7% of the credit card users had Post

graduate, master or PhD degrees. In comparison with credit card users, 41.5% of the non-credit card users had Post graduate, master or PhD degrees, and 39.4% had bachelor degrees. Furthermore, the majority of the credit card users had a relatively higher household income than non-credit card users. In terms of income, 24.7% of the credit card users' income was between 5,001-7,000 RMB, followed by 16.5% with income higher than 10,000 RMB, while majority (17.6%) of non-credit card users had a monthly household income ranged between 4,001-5,000 RMB. With regards to the duration of employment, 41.6% of the credit card users have worked more than 10 years, compared to non-credit card users (37.3%). With regards to the household size, most of the credit card users have a three members living in their families, compared to the non-credit card users whose household size are greater than three members.

4.2 Assessment of the Data

The data was tested in order to verify the statistical assumptions of correlation coefficient of each model and logistic regression analysis have been met. The data comprised of two groups of respondents: credit card users and non-credit card users. There were some questions which were not answered by respondents, so they were treated as missing variables and coded as -9 in the data entry.

4.3 Correlation Coefficients of Explanatory Variables in Each Model

Besides generating the descriptive frequencies of the survey responses, the

correlation matrices were also generated from SPSS (Version 21.0) between the independent variables of the individual models in the research. The Pearson Correlation matrix was used to inspect the correlations between the independent variables. The correlation matrices showed all correlations were well below 0.80 (see Table F.7 and F8), hence, there was no strong correlation between the independent variables in each model.

4.4 Data Level

Due to the dichotomous nature of the dependent variable, such as credit card user versus non-credit card user, the binary logistic regression is used in the research. The socio-demographic characteristics were coded as dummy variables in the analysis.

4.5 Empirical Results and Findings of the Research

The estimates of logic model one and three via maximum likelihood estimates (MLE) have the large sample properties of consistency, efficiency, normality of parameter estimates and validity of the t-test of significance. The ordered logit model was used in model two, since there are more than two categories in the dependent variable, credit limit levels, and each category have a meaningful sequential order (Torres-Reyna, n.d.). The MLE coefficient estimates from the logic analysis have no direct interpretation with respect to the probability of the dependent variable other than indicating a direction of influence on probability. Greene (2000) and Koch (2007)

recommended measuring the change in probability of a particular choice made with respect to a unit change in an independent variable known as the marginal effects.

4.5.1 Results Pertaining to Research Objective One

Research Objective 1: What are the factors that influence consumers' decision to use credit cards?

Research objective one determines the factors that influence the consumers' decisions to use or not to use credit card. Such factors include convenience, interest rate, reward program, technology (acceptance point), credit limit, annual fee, ease in applying credit card, gender, age, marital status, educational level, occupation, working duration, size of household and monthly income. The empirical result and the percentage of the correct predictions are reported in the Table 4.1.

The dependent variable in the model is the consumers' decision to use the credit card and not use the credit card. The result shows approximately 65% of the respondents owned a credit card, while 35% were non-credit card user. The explanatory variables such as convenience and credit limit are measured as interval units. Age, marital status, annual household income, education level, occupation, size of household is dummy-coded variables. Age is divided into three groups: young age (below 36 years old), middle age (36 to 55 years old) and old age (above 55 years old). Similarly, marital status is divided into three groups: single, married and others (divorced or separated and De facto relationship). Monthly household income

includes three groups as well: low monthly income (4,000 RMB or lower), middle monthly income (4,001 RMB to 10,000 RMB) and high monthly income (10,000 RMB and above). Occupation is divided into four groups: professional jobs (lawyer, scientists, engineers, teachers, doctors, etc.), middle professional jobs (civil servant, company managerial staff and owners of private enterprise), normal company staff and others (unemployed and retired). The education level includes four groups such as high school education or lower, two-year College, bachelor degree and others (Post graduate, Master and PhD).

The estimated results in Table 4.1 show that the model fitted the data adequately. The chi squared test strongly rejected the hypothesis of no explanatory power. The percentage of observations that are correctly predicted by the model is 76.5%. At 5% significant level, most explanatory variables were found to be statistically significant to influence the probability of using credit card, except technology, annual fee, male, bachelor, middle profession, one to five working duration and low income.

Table 4.1 Empirical Result (Logit Model of Credit Card Users versus Non-Credit Card Users)

Number of observation= 409 Log likelihood= -197.07672 Wald chi2 (15)= 105.55 Prob > chi2= 0.0000 Degree of freedom= 1 Percentage of Right prediction= 76.5%					
Variables	Coefficient	Standard Error	t-statistics	p-value	Marginal Effects
Convenience	0.30927*	0.07071	4.37	0.000	0.06671
Interest rate	-0.30077*	0.06994	-4.30	0.000	-0.06488
Reward Program	0.12775**	0.06362	2.01	0.045	0.02756
Technology (accept point)	0.07283	0.06174	1.18	0.238	0.01571
Credit limit	0.10981***	0.64915	1.69	0.091	0.02369
Annual fee	-0.0275922	0.06157	-0.45	0.654	-0.00595
level of difficulty in applying credit card	-0.7193091*	0.10331	-6.96	0.000	-0.15517
Male	-0.10557	0.25583	-0.41	0.680	-0.02282
Young age	0.56339***	0.33903	1.66	0.097	0.12194
Single	-0.81130**	0.38674	-2.10	0.036	-0.18384
Education level: Bachelor	-0.34812	0.08681	-1.34	0.181	-0.07626
Occupation: middle professional	0.40042	0.14393	1.39	0.164	-0.04319
Working duration: 1 to 5 years	0.44119	0.16578	1.33	0.183	0.08403
Size of household: Three	0.24722*	0.08929	2.77	0.006	0.05333
Annual household income: Low income	-0.24460	0.29699	-0.82	0.410	-0.05355
*denotes statistical significant at the 0.01 level of significance **denotes statistically significant at the 0.05 level of significance *** denotes statistically significant at the 0.1 level of significance					

As hypothesized, convenience is statistically significant at 1% level in influencing the consumers' decision to use credit card or not to use credit card. The coefficient sign is positive implies that consumers who are concerned about convenience in using credit card are very likely to be a credit card user. The survey result shows

most respondents agreed that credit cards bring them convenience such as traveling or shopping online, and by using credit card, the consumers do not need to carry lots of cash. This is consistent with the findings of Worthington, Thompson & Stewart (2011), where they found young affluent Chinese cardholders believed using a credit card is more convenient than paying with cash. The young affluent Chinese cardholders strongly agreed that credit cards are more useful when travelling and shopping, and it is much easier than paying by cash.

Interest rate is negative and statistically significant at the 1% level. This means the higher the interest rate, the less likely that the consumers will use credit cards. Canner & Lockett (1992) found that the credit card revolvers are more likely to be sensitive to the level of interest rate. This is because when credit card users cannot pay off their credit card bill before due day, they will end up paying higher interest rate to the bank.

Reward program is positive and statistically significant at the 5% level. Reward program means consumers can use the credit card points, where they earned when using credit card to make payment or to exchange for some household goods without spending extra money. The result implies that a good reward program will attract more consumers to apply for credit cards. In addition, most respondents strongly agreed that they can get some extra rewards by using credit card, such as

discount on purchase and gasoline reward. There are many other rewards, such as free accident insurance, medical insurance, trailer and car wash, bank or airport VIP lounge service, etc. (Xici, 2012).

Credit limit is positive and statistically significant at 10% level, which suggests that consumers who are concerned about the credit limit will be very likely to be a credit card user, especially for some people with higher expenditures, where lower credit limit card will be insufficient to meet their expenditures. Eunyoung Beak & Gong-Soog (2004) showed that the credit limit reflects the ability to borrow, consumers who have higher ability to borrow may prefer a higher credit limit card, as the higher credit limit allows them overdraft more money from the credit card.

The level of difficulty in applying a credit card is negative and statistically significant at the 1% level. This means less people will apply for a credit card if the application process is difficult. The easier the applying process the more consumers will apply for the credit card. This is supported by the finding by Sine (2006) where consumers only need to fill up a form in the bank and almost all consumers can get a credit card with different levels of credit limit, and this has attracted many customers to apply for a credit card.

The age of household head is statistically significant at the 10% level, and the

coefficient sign is correct as hypothesized. This suggests that the younger householders are more likely to use credit card than older householders. Base on the survey results, the largest proportion (54%) of credit card users is from the age group of 18 to 35 years old, this is consistent with Awh & Waters (1974)'s finding that older age reduces the likelihood of an individual being an active credit cardholder. This is also consistent with Kim & DeVaney (2001)'s finding, where they found people who are under 37 years old have the highest likelihood of being a revolving credit card user, and people who are older than 37 years old are less likely to be a revolving credit card user.

The marital status coefficient is also significant at the 5% level and has the correct sign. The negative relationship suggests that single respondents are less likely to have a credit card. Kinsey (1981) and Steifle (1994) find that consumers who are married have higher expenditures, which are more likely to spend more in their daily life or even borrowing money, and the credit card is one of the easiest ways to borrow to purchase goods.

The size of the household coefficient is positive and statistically significant at 1% level. In China, most families have three members in the household, two parents with a child. A household with three members implies the daily spending will be higher than other household size, such as a married couple or a single adult living

alone. Thus, it is necessary for them to use credit cards. This is consistent with Chien & Devaney's (2001) study where household with a large household size are more likely to have specific attitudes toward using credit card and having higher outstanding credit card balances. Bertaout & Haliassos (2001) also found, among the households that have a credit card, the households with more children are more likely to revolve credit card debts because more children result in higher expenditure in their daily life.

Other explanatory variables such as technology, annual fee, male, educational level, occupation, working duration and household monthly income are insignificant but with the correct signs in explaining the consumers' decision to use or not to use credit cards.

In summary, the results of the logit analysis suggest the factors such as convenience, interest rate, reward program, credit limit, ease of applying credit card, age, marital status and size of household influence consumers' decision to use credit card (see Table 4.2).

Table 4.2 Result for Research Objective One

Variables	Supported	Not Supported
Convenience	✓	
Interest rate	✓	
Reward program	✓	
Technology (accept point)		✓
Credit limit	✓	
Annual fee		✓
level of difficulty in applying credit card	✓	
Male is negative related		✓
Young age is positive related	✓	
Single is negative related	✓	
Educational level is negative related		✓
Occupation is positive related		✓
Working duration is positive related		✓
Size of household is positive related	✓	
Lower monthly income is negative related		✓

Additional analysis of the data was carried out by ranking the means in descending order of importance (see Table 4.3) towards how the credit card attributes are important to the consumers. For example, the mean figures which are close to 8 indicate that the factors are very important; the figures which are close to 4 indicate that the factor are moderately important; and the figures which are close to 1 indicate that the factors are not important at all.

**Table 4.3 Mean Values of Credit Card Attributes Measurement
(All Respondent)**

Attribute Variables	Mean
Convenience	7.05
Credit limit	5.99
Annual fee	5.66
Interest rate	5.42
Technology (accept point)	4.87
Reward program	4.43

Table 4.3 presents the results of the relative importance of each predetermined attitude factor, ranking in descending order of its influence on the decision to use credit card.

According to data in Table 4.5, convenience is the most important attributes which influences the respondents' decision to use credit cards. This is followed by other factors such as credit limit, annual fee, and interest rate. Technology (acceptance point) and reward program factors have marginal influence of the respondents' credit card use decision.

Table 4.4 Characteristics for Not Using Credit Card

Variable		Frequency (no. of Respondents per option)	Percent (%)
Inconvenient	Yes	22	15.5
	No	120	84.5
	Total	142	100.0
Application fee is too high	Yes	12	8.5
	No	130	91.5
	Total	142	100.0
Annual fee is too high	Yes	16	11.3
	No	126	88.7
	Total	142	100.0
Service fee is too high	Yes	14	9.9
	No	128	90.1
	Total	142	100.0
Risk of accumulating	Yes	39	27.5
	No	103	72.5
	Total	142	100.0
Unable to quality	Yes	10	7.0
	No	132	93.0
	Total	142	100.0
Security concerns	Yes	41	28.9
	No	101	71.1
	Total	142	100.0
Privacy concerns	Yes	23	16.2
	No	119	83.8
	Total	142	100.0
Difficulty record keeping	Yes	4	2.8
	No	138	97.2
	Total	142	100.0
Don't need a credit card	Yes	57	40.1
	No	85	59.9
	Total	142	100.0

Table 4.4 shows for most of the non-credit card users, the main reason why they choose not to use a credit card is that they do not need a credit card. This is because

they are still used to cash payment. For examples, the survey result shows 61.1% of the respondents still use cash to make payment when shopping. Previous studies show some consumers have higher savings, and their incomes are enough to pay for their daily expenditures, so they do not need credit cards to supplement their daily expenditures (Ma, 2006). A major reason why consumers do not use credit cards is because they may not have the ability to pay off the credit card bill with their low incomes (Wenku, 2008).

In summary, the result of objective one showed apart from the socio-economic factors, convenience, reward program, credit limit and the level of difficulty in applying credit card are the other factors which significantly impact the respondents' decision to use credit cards.

4.5.2 Results Pertaining to Research Objective Two

Research Objective 2: To determine the factors that impact credit card users' choice of different levels of a credit card limit.

Research objective two investigates whether there are differences in choosing different level of credit card limits based on the credit card users' characteristics such as gender, age, marital status, education level, occupation, and duration of employment, household size, monthly household income, and number of credit card, credit card using duration, monthly spending, annual fee, and interest rate.

The dependent variable in the model is the credit limit which has 7 ordinal levels. The explanatory variables such as number of credit card, monthly spending are measured as interval units, and the demographic variables such as female and age is dummy coded. Age is divided into three groups: young age (below 36 years old), middle age (36 to 55 years old) and old age (above 55 years old). Similarly, marital status is divided into three groups: single, married and others (divorced or separated and De facto relationship). Annual household income is estimated by monthly household income times twelve includes low monthly income (4,000 RMB or lower), middle monthly income (4,001 RMB to 10,000 RMB) and high monthly income (10,000 RMB and above). Occupation is divided into four groups: professional jobs (lawyer, scientists, engineers, teachers, doctors, etc.), middle professional jobs (civil servant, company managerial staff and owners of private enterprise), normal company staff and others (unemployed and retired). Education level includes four groups such as high school education or lower, two-year College, bachelor degree and others (Postgraduate, Master and PhD).

The estimated result in Table 4.5 shows the model fitted the data well. The likelihood ratio chi-square of 111.24 with a p-value of 0.0000 exhibit that the model as a whole is statistically significant. The percentage of observations that are correctly predicted by the model is 35.6%. The result of the ordered logit analysis for the credit card users suggests that the number of credit cards, credit card duration,

monthly spending, interest rate, bachelor and normal staff are statistically significant at the 10% level. Table 4.6 shows the marginal effect of each of the credit limit level from outcome 1, the lowest credit limit, to outcome 7, the highest credit limit.

Table 4.5 Empirical Results (Ordered Model of Credit Card Users)

Log likelihood= -406.32058 Number of observations= 267 likelihood ratio chi-square= 111.24 Probability > chi-square= 0.0000 pseudo-R-squared= 0.1204 Percentage of Right prediction= 35.6%				
Credit limit	Coefficient	Standard Error	t-statistics	p-value
Number of credit card	0.491744*	0.1404191	3.50	0.000
Credit card use duration	0.4053372*	0.1320661	3.07	0.002
Monthly spending	0.7872934*	0.1423028	5.53	0.000
Annual fee	0.0751981	0.063485	1.08	0.236
Interest rate	-0.4432509*	0.142405	-3.11	0.002
Female	0.2531265	0.2310961	1.10	0.273
Young	0.3450977	0.2710085	1.27	0.203
Single	-0.2521366	0.3650115	-0.69	0.490
Bachelor	0.465596***	0.24168	1.93	0.054
Normal staff	-0.473073***	0.251116	-1.88	0.060
1 to 5 working duration	-0.515839	0.31868	-1.62	0.106
Household size (Three)	-0.0162363	0.0836358	-0.19	0.846
Low income	-0.1721339	0.2870242	-0.60	0.549
*denotes statistical significant at the 0.01 level of significance **denotes statistically significant at the 0.05 level of significance *** denotes statistically significant at the 0.1 level of significance				

Table 4.6 Marginal Effect of Each Outcome of Ordered Logit

	Marginal Effect						
Variables	Outcome1	Outcome2	Outcome3	Outcome4	Outcome5	Outcome6	Outcome7
Number of credit card	-0.01902	-0.05596	-0.04582	0.04475	0.05209	0.01957	0.00439
Credit card use duration	-0.01567	-0.04613	-0.03777	0.03688	0.04293	0.01613	0.00361
Monthly spending	-0.03044	-0.08961	-0.07335	0.07164	0.08339	0.03133	0.00702
Annual fee	-0.00291	-0.00856	-0.00701	0.00684	0.00796	0.00299	0.00067
Interest rate	0.01714	0.05045	0.04129	-0.04033	-0.04695	-0.01764	-0.00396
Female	-0.00991	-0.02896	-0.02332	0.02329	0.02665	0.00999	0.00224
Young	-0.01356	-0.03953	-0.03163	0.03178	0.03627	0.01361	0.00305
Single	0.01042	0.02973	0.02221	-0.02504	-0.02576	-0.00945	-0.00211
Bachelor	-0.016906	-0.05082	-0.04488	0.03721	0.05098	0.01991	0.00451
Normal staff	0.01895	0.05462	0.04256	-0.04432	-0.04926	-0.01843	-0.00413
1to5 work duration	0.02265	0.06245	0.04257	-0.05414	-0.05101	-0.01843	-0.00409
household size(Three)	0.00063	0.00185	0.00151	-0.00148	-0.00172	-0.00065	-0.00014
Low income	0.00690	0.01998	0.01558	-0.0165	-0.01789	-0.00663	-0.00148

The results in Table 4.5 show the number of credit cards, credit card duration and monthly spending are positive and statistically significant at 1% level and the variable bachelor is positive and statistically significant at 10% level. The variable interest rate and normal staff are negative and statistically significant at 1% and 10% level, respectively. However, Table 4.6 shows outcomes 1, 2 and 3, which represent the lower credit limit level and credit limit range is from less than 1,000 RMB to 10,000 RMB, the factors of number of credit cards, credit card use duration, monthly spending and bachelor exhibit negative signs, while the interest rate and normal staff variables exhibit positive signs. For example in outcome 3, where the

credit limit is from the 5,001 to 10,000 RMB, a unit increase in the variables of number of credit card, credit using duration, monthly spending and bachelor will result in a 4.6%, 3.8%, 7.3% and 0.7% decrease in the marginal probability, respectively, that the credit card users' credit limit will be in the range of 5,000 to 10,000 RMB. In contrast, a one unit increase in interest rate and normal staff will result in a 4% and 1% increase in the marginal probability of the credit card user's credit limit will be in this range of credit limit, respectively.

However, from outcome 4 to 7, the higher credit limit level and the credit limit ranges is from 10,001 RMB to above 100,000 RMB. The number of credit card, credit card use duration, monthly spending, bachelor degree, interest rate and normal staff exhibit the same signs in both Table 4.5 and 4.6. For example in outcome 4, where the credit limit is from 10,001 to 20,000 RMB, a unit increase in the number of credit card, credit use duration, monthly spending and bachelor will result in a 4.4%, 3.7%, 7.2% and 1.4% increase in the marginal probability that the credit card users' credit limit will be in the range of 10,001 to 20,000 RMB, respectively. In contrast, a unit increase in interest rate and normal staff will result in a 4.0% and 1.4% decrease in the marginal probability of the credit card users' credit limit will be in the similar range, respectively.

A unit increase in the number of credit card, credit card use duration and monthly

spending will result a decrease in the probability that the consumers will use a lower credit limit card but increase the probability that consumers will use a higher credit limit card. This means with more credit cards in hands or higher monthly spending and longer credit card use duration, the respondents with higher expenditures, which can be met by higher credit limits. This is similar to Baek & Hong's (2004) study, where they found consumers with a large number of credit cards have higher ability to borrow, which imply they have higher credit card limit. Abdul-Muhmin & Umar (2007) and Baek & Hong (2004) found consumer who own more than one credit cards tend to have higher debt, where higher debt reflect they have higher credit limit on their credit cards. Further according to the finding reported by Bertaout & Haliassos (2001), Chien & Devaney (2001) and Kinsey (1981), household who have higher spending are more likely to have a credit card, and higher credit limit credit card will be needed to meet their higher spending.

A unit increase in the interest rate will result in an increase in the probability that the consumers will hold a lower credit limit card but decreasing the probability that the consumers will hold a higher credit limit card. This is because a higher interest rate implies the credit card user will need to pay more if they cannot pay the credit card bill on time. Further, higher credit limit means consumers can overdraft more money from their credit cards, but will need more money to pay off when the credit card bill is overdue. This is consistent with Canner & Lockett's (1992) study where credit

card revolvers are more likely to be sensitive to the level of interest rate when credit card users cannot pay off their credit card bills before due day. They end up paying higher interest rate to the bank.

A unit increase in the respondent having a bachelor degree will result in a decrease in the probability that the respondent will hold a lower credit limit card but increase the probability he or she will hold a higher credit limit card. Consumers with higher education imply that they have a good job and higher incomes in the future, which will probably increase their consumption. Thus, a higher credit card limit will need to meet their increased consumption. This is similar to Delener & Katzenstein's (1994) result, where they found respondents with a high school degree are more likely to use credit cards. Since higher education level means higher income in the future, and the higher income is likely to increase the demand for consumption and borrowing in the present (Kim & DeVaney, 2001). Higher credit card limit will meet their increasing demand for consumption and borrowings.

In contrast, a unit increase in the normal staff will increase the probability that the consumers will be holding a lower credit limit card but reduces the probability that consumers will be holding a higher credit limit card. This is because a normal staff in China does not command high income, which will reduce their ability to borrow money from credit card, so they may prefer to use a lower credit limit credit card as

they cannot afford the higher credit limit. This is similar to Zhu & Meeks's (1994) study, where they found people who are employed full time had larger amounts of credit card outstanding balances compare to those who were not employed.

Other explanatory variables such as annual fee, female, young, single, one to five years working duration, three people household size and low income are insignificant but have the correct signs.

In summary, the result and findings of the ordered logit analysis suggest there are differences in choosing credit card limits based on the discriminatory factors such as number of credit card, credit card use duration, monthly spending, interest rate and education level, (see Table 4.7).

Table 4.7 Result of Research Objective Two

	Supported	Not supported
Number of credit card positive related	✓	
Credit card use duration positive related	✓	
Monthly spending positive related	✓	
Annual fee positive related		✓
Interest rate negative related	✓	
Female positive related		✓
Young positive related		✓
Single negative related		✓
Bachelor positive related	✓	
Normal staff negative related	✓	
One to five year working duration negative related		✓
Three people household size negative related		✓
Low income negative related		✓

4.5.3 Results Pertaining to Research Objective Three

Research Objective 3: Whether different demographic characteristics impact credit card users?

Objective three determines whether different demographic characteristics have impact on the consumers' decisions to use credit card. The demographic characteristics include male, young age, single, bachelor degree, middle professional, one to five years working duration, three people household size and low income, (see Table 4.1).

The estimated coefficients of young age, single and three people household size are statistically significant at the 10% level and have the correct signs, where young age and three people household size are positive related to credit card users while single is negative related. The result shows 65.3% of the respondents are credit card users and 34.7% are non-credit card users. For the credit card users, most of them are in the young age group (18 to 35 years old). The single factor is negatively related to credit card use, where single person is less likely to use a credit card than married people, since they have less daily spending than the married people. The survey result shows amount the credit card users, 76.8% of the respondents are married. Further, the size of household is positive related to the use of credit card, where most families in China have three members, a household with a large family size will probably increase their daily spending, and also will increase their likelihood of

using credit card.

Other explanatory variables such as male, bachelor, middle professional, one to five years working duration and low monthly income are statistically insignificant, but have the correct signs. In summary, the results of the logit analysis suggest the factors such as young age, single and size of household impact consumers' credit card use (see Table 4.8).

Table 4.8 Result for Research Objective Three

Variables	Support	Not support
Male is negative related		✓
Young age is positive related	✓	
Single is negative related	✓	
Educational level is negative related		✓
Occupation is positive related		✓
Working duration is positive related		✓
Size of household is positive related	✓	
Lower annual income is negative related		✓

4.6 Marginal Effect Analysis

Maddala (1991) and Liao (1994) recommended calculating changes in probabilities to show the magnitude of the marginal effect. This refers to the partial derivatives of the non-linear probability function evaluated at each variable's sample mean (Liao, 1994; Pindyck & Rubinfeld, 1991).

For example, in order to identify the most and least important variables influencing the respondent's decision whether to use a credit card or not to use credit card, the

marginal effect for each of the estimated coefficients in the empirical model were calculated. The marginal effect reveals the marginal change in the dependent variable given a unit change in a selected independent variable, holding other variables constant (Liao,1994). The marginal effect indicated the level of importance for the estimated coefficients in the empirical model.

Table 4.9 Marginal Effects of Credit Card Users and Non-Credit Card Users

Factor	Marginal effect	Ranking
Convenience	0.0667168	4
Interest rate	-0.064882	5
Reward program	0.0275585	7
Credit limit	0.0236895	8
level of difficulty in apply credit card	-0.1551708	2
Young	0.1219376	3
Single	-0.1838373	1
Three people household size	0.0533299	6

Table 4.9 shows the marginal effects of the variables of objective one, ranking from the maximum impact to the minimum impact, the single factor has the maximum impact on the consumers' decision to credit card use. Also in the table shows, a unit increase in the importance of convenience and reward program will result in an estimated 7% and 3% increase in the probability of consumers to use credit card, respectively. A unit increase in the importance of interest rate will result in an estimated 6% decrease in the probability of consumers to use credit card. In contract, a unit increase in the importance of credit limit will cause a 2% increase in the probability of consumers to use credit card. The difficult process in apply for a credit card will result in a 16% decrease in the probability of consumers to use credit card.

In terms of the demographic characteristic, if a consumer is in the young age group the probability the consumer will use credit card will increase by 12%. Similarly, a consumer who is single will result an 18% decrease in the probability that he or she will use credit card. In contrast, a household with three people will result in a 5% increase in the probability the household will use a credit card.

Table 4.10 Marginal Effect of Factors Impact Consumers Decision to Use Credit Card

	Marginal Effect							
Variables	Outcome1	Rank	Outcome2	Rank	Outcome3	Rank		
Number of credit card	-0.01902	5	-0.05596	5	-0.04582	5		
Credit card use duration	-0.01567	3	-0.04613	3	-0.03777	3		
Monthly spending	-0.03044	6	-0.08961	6	-0.07335	6		
Interest rate	0.01714	2	0.05045	2	0.04129	2		
Bachelor	-0.01619	4	-0.05082	4	-0.04488	4		
Normal staff	0.01895	1	0.05462	1	0.04256	1		
Variables	Outcome4	Rank	Outcome5	Rank	Outcome6	Rank	Outcome7	Rank
Number of credit card	0.04475	2	0.05209	2	0.01957	3	0.00439	3
Credit card use duration	0.03688	4	0.04293	4	0.01613	4	0.00361	4
Monthly spending	0.07164	1	0.08339	1	0.03133	1	0.00702	1
Interest rate	-0.04033	5	-0.04695	5	-0.01764	5	-0.00396	5
Bachelor	0.03721	3	0.05098	3	0.01991	2	0.00451	2
Normal staff	-0.04432	6	-0.04925	6	-0.01843	6	-0.00413	6

Table 4.10 shows the marginal effect variables in the seven outcomes of the credit limit level, from the credit limit with less than 1,000 RMB to above 100,000 RMB.

In the first three outcomes, where the credit limit is from less than 1,000 RMB to

10,000 RMB, which represent lower credit limit level, interest rate has the maximum impact on their decisions in choosing a lower level of credit limit card.

For outcome 4 to outcome 7, where the credit limits are from 10,001 RMB to 100,000 RMB and above, which represent higher credit limit level, monthly spending has the maximum impact on their decisions in choosing a higher level of credit limit card. Thus our results show that “monthly spending” is most important for both high and low credit limits. However, the impact was different. It reduces the probability of having a credit card in the “low credit limits” group, but increases the probability of having a credit card in the “high credit limits” group.

Table 4.11 Marginal Effect of Demographic Factors of Credit Card Users and Non-Credit Card Users

Factors	Marginal Effect	Ranking
Young	0.1219376	2
Single	-0.1838373	1
Three people household size	0.0533299	3

Table 4.11 shows the calculated marginal effect of the significant demographics variables in objective three. If a consumer is single there is an 18% decrease in the probability that he or she will be a credit card user. In contrast, if a consumer is in the young age group there is a 12% increase in the probability he or she to be a credit card user. If a household has three people there is a 5% increase in the probability the household will be a credit card user.

4.7 Summary

Chapter Four discussed the descriptive statistic results generated from the surveyed respondents. The empirical findings of the three models used to answer the three research objectives were discussed. The following chapter presents the conclusions and summaries of the research findings including limitations and recommendations for future research.

CHAPTER FIVE

RESEARCH CONCLUSIONS

5. Introduction

This chapter provides a summary of the research, reviews the findings, and provides several conclusions based on the results and discussions presented in Chapter Four.

The research limitations and avenues for future research are also discussed.

5.1 Overview and Summary

The rapid development of credit card in China can be seen in many areas, such as the increasing number of cards issued and the increasing number of acceptance point among the retailers. However, credit card usage in China did not increase significantly; hence the analysis of what has impact Chinese consumers on their decisions of credit card use is important. However, consumers' exhibit different socio-economic characteristics, and different socio-economic characteristics have different impact on the use of credit card. This research investigates the factor that influence consumers' use of credit card in China, and more importantly, this study identifies why Chinese consumers use or do not use credit card.

There are three objectives addressed in the research:

- 1) To identify the factors that influence consumers' decision to use credit cards.
- 2) To determine the factors that impact credit card users' choice of different levels of a credit card limit.

- 3) To examine whether different demographic characteristics impact credit card users versus non-credit card users.

5.2 Conclusions Pertaining to Research Objective One

Research Objective One: To identify the factors that influence consumers' decision to use credit cards.

Research objective one was satisfied as the factors affecting the consumers' decision to use credit card in urban China were identified. The results show that the consumers' are concern about convenience, interest rate, reward program, credit limit and the level of difficulty in applying credit card in their decision to use credit card. The result also shows consumers feel the use of credit card is more convenience, especially travelling overseas and shopping online. The result supports the findings of Worthington, Thompson & Stewart (2011), where they found young affluent Chinese cardholders believed that credit card is more convenient and easier than paying with cash, particularly when shopping online and traveling overseas. In addition the young affluent Chinese are strongly agreed that there are more advantages to paying by credit card than cash, since they accumulate credit card points to redeem gifts in the future.

In terms of demographic characteristic, the results show there is a significant negative relationship between the respondents' decisions in using credit card and the

“Single” marital status. Most of the credit card users are married. The results are similar to the findings of Kinsey (1981) and Steifle (1994) who report that married people are likely to have higher expenditures than non-married people. Thus, it becomes a necessity for the married people to have a credit card to borrow to finance their large living expenses.

There is a significant positive relationship between the respondents’ decision in using credit card and the demographic factors such as young age and three people household size. The results are similar to the findings of Awh & Waters (1974), White (1975), Choi & DeVaney(1995), Steidle (1994) and Wasberg, Hira & Fanslow(1992), Bei (1993), Canner & Cynak (1985), Kim & DeVaney (2001), Bertaout & Haliassos (2001). For example, Awh & Waters (1974) also find that older individuals are less likely of being an active credit cardholder. This is because as people get old their spending patterns reduced and they do not need a significant amount of credit thus reduces the use of credit cards. There is a positive relationship between three people household and credit card use. In China, most families have three members in the household that exhibit have higher expenditures than families with less than three people. This is similar to Bertaout & Haliassos’s (2001) finding, where they found that consumers with a larger household size will increase their likelihood in using credit card than the consumer living in a smaller household size.

5.3 Conclusions Pertaining to Research Objective Two

Research Objective Two: To determine the factors that impact credit card users' choice of different level of credit card limit.

Research objective two was satisfied, the ordered logit regression result shows that the number of credit card, credit card use duration, monthly spending, and bachelor are statistically significant and positively in relating to the credit card user in choosing different level of credit limit. The factors of interest rate and normal staff are statistically significant and negatively related to the credit card user in choosing different level of credit limit.

A unit increase in the number of credit card, credit card use duration and monthly spending will increase the probability that the credit card user will be holding a higher credit limit card. In contrast, a unit increase in the interest rate will result in a decrease in the probability that the credit card user will be holding a higher credit limit card.

In terms of demographic factors, a unit increase in the bachelor factor will cause an increase in the probability that the credit card user will be holding a higher credit limit card. In contrast, a unit increase in the normal staff factor will cause a decrease in the probability that the credit card user will be holding a higher level of credit

limit card.

5.4 Conclusions Pertaining to Research Objective Three

Research Objective Three: To examine whether different demographic characteristics impact credit card users versus non-credit card users.

Research objective three was satisfied, where young, single and three people household size are statistically significant factors in distinguishing between the credit card users and non-credit card users.

Young respondents are more likely to use credit card, since young consumers see credit card as more convenience to use when making purchase and traveling (Thompson, Worthington & Stewart, 2009). Single people are less likely to use credit cards because their expenditures are lower than married people, so they feel not necessary to have a credit card. In China, most families are three members. A three member household size is the most common household size in China due to the one child policy. A large household size will have higher daily expenditures, this will increase their likelihood to use credit card as a borrowing instrument to pay their daily expenditures.

5.5 Implications

This research makes a number of contributions to the credit card market and banks in China. First, the research findings provide to the banks with a better understanding of the factors that influence a consumer's decision to use credit cards. With a better understanding of the factors that influence a consumer's decision to use credit cards, banks can strategically promote their credit cards and can improve the usage of credit card. Consumers will consider whether they can afford the credit card or not, so banks should reconcile affordability to borrowers, especially the young and low income borrowers. The results shows the young consumers are more likely to use credit card, but they may have short working duration and low income and savings, this makes the young consumers have less ability to repay the credit card bill. For this reason, banks should reconsider the repayment grace-period and make the credit card payoff more affordable to the young consumers in order to increase the credit card usage. In addition, Chinese consumers should be encouraged to save since savings serve as a step in building their credit worthiness, where they can easily apply for the credit card and the usage of credit card in China will be increased as well.

Secondly, the research also provides banks with a better understanding of credit card users' characteristics that influence their choice of different level of credit limit, since the credit limit is a significant factor in influencing the consumers' decision on

credit card use. Banks can use the background information that consumers provide when applying the credit card to analyse what level of credit limit the consumers qualify. For example, a consumer who has higher monthly spending, have more than one credit card with higher education and higher job level, may prefer a higher level of credit limit. In contrast, when consumers show they have less monthly spending and lower job level, they may be more likely to have a lower credit limit card.

Furthermore, convenience and reward program were found to be significant factors in influence consumers' decision on credit card use. In order to attract more consumers to use credit card, the credit card market and banks should make it easier and more convenient for the consumers to use their credit cards. In addition, banks should also improve the credit card reward program system, to make it more rewarding and efficient. This will increase the consumers' likelihood in using credit card. Therefore, banks should cooperate with more merchants, increase the number of merchants that accept credit card payment, including in supermarket and vegetable markets where consumers visit frequently. Such implication supports by the centre government, that it encourages the merchants to accept the credit card payment in order to increase the credit card usage and transactions (KPMG International, 2009). Also in China especially the young consumer group is more likely to enjoy life and spend more money on dining out and entertainment, therefore, the young consumer group can be targeted.

5.6 Limitation and Recommendation for Future Research

The data was collected in Shijiazhuang City, Hebei Province of China. The research was limited by a small sample size, and credit card characteristics vary across different regions and cities. Moreover, the sample respondents could be biased because the surveyed participants were from certain selected residential areas. Furthermore, the sample probability in a different geographic area may appear different in regards to the consumers' characteristics towards the decision to use credit card.

The second limitation of this research is that this study identifies some significant factors that influenced the consumers' decision to use a credit card. However, there may be other factors that could possibly affect consumers' decision to use a credit card, such as lifestyles and locations. For example, location might influence a consumer's decision to use a credit card because if the consumer lives in a village or a town, there is no need for a credit card. Moreover, the consumer may choose not to use a credit card when there is no need to use a credit card in their lifestyle.

This research assesses only the influence of some consumers' characteristics which affect their decision to use credit cards. Future research could address more characteristics or factors such as personal savings, type of credit card and knowledge of credit card. Moreover, a larger sample size should be used, and the respondents

can be selected from different cities across the country, this could effectively increase the accuracy of the research results and findings.

5.7 Conclusions

The objective of this research is to investigate the factors influencing the consumers' decision to credit card use in urban Shijiazhuang. The research findings showed that convenience, reward program, interest rate, credit limit, young age, single and household size factors significantly affect the consumers' credit card use decision in Shijiazhuang. Our survey results show that consumers were more concerned about convenience (such as ease in using credit card) and reward program of credit card when deciding whether to use credit card or not. With regards to demographic characteristics, the consumers who are married and in the age group of 18 to 35 years old are the major credit card users. Most of the families in China have three members and they are more likely to use credit cards.

With regards to credit limit levels among credit card users, our research shows that users of higher credit card limits have higher monthly spending, longer credit card use duration and large number of credit cards with higher education level and higher position level.

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Appendix One: Tables

Table F.1: Descriptive Statistics of Socio-Economic Characteristics of All Respondents

Variables		Total Respondents	
		Frequency (no. of Respondents per option)	Percent (%)
Gender	Male	182	44.5
	Female	227	55.5
	Total	409	100.0
Age	18-25	78	19.1
	26-35	141	34.5
	36-45	99	24.2
	46-55	60	14.7
	56-65	24	5.9
	66 above	7	1.7
	Total	409	100.0
Marital status	Single/Never married	114	27.9
	Married	289	70.7
	De facto relation	4	1.0
	Divorced/Separated	2	0.5
	Total	409	100.0
Education level	No education	2	0.5
	Primary school	1	0.2
	Middle school	7	1.7
	High school	48	11.7
	Two-years college	174	42.5
	Bachelor degree	149	36.4
	Postgraduate, Master or PHD	28	6.8
	Others	0	0
	Total	409	100.0
Occupation	Professional	60	14.7
	Self-employer	19	4.6
	Civil Servant	39	9.5
	Company Managerial staff	51	12.5
	Owner of private enterprise	27	6.6
	Normal company staff	175	42.8
	Unemployed	11	2.7
	Retired	21	5.1
	Others	6	1.5
	Total	409	100.0

Variables		Total Respondents	
		Frequency (no. of Respondents per option)	Percent (%)
Duration of employment	Less than a year	39	9.5
	1 to 5 years	106	25.9
	5 to 10 years	100	24.4
	Above 10 years	164	40.1
	Total	409	100.0
Composition of household	Adult living along	82	20.0
	Couple, with child(ren)	226	55.3
	Couple, with no child(ren)	28	6.8
	Single parent with child(ren)	5	1.2
	Immediate and extended family members	64	15.6
	Others	4	1.0
	Total	409	100.0
Size of household	One person	30	7.3
	Two persons	26	6.4
	Three persons	208	50.9
	Four persons	79	19.3
	Five persons	50	12.2
	Six persons or above	16	3.9
	Total	409	100.0
Household monthly income	1000 RMB or less	6	1.5
	1001 to 2000 RMB	38	9.3
	2001 to 3000 RMB	47	11.5
	3001 to 4000 RMB	41	10.0
	4001 to 5000 RMB	67	16.4
	5001 to 7000 RMB	89	21.8
	7001 to 10,000 RMB	59	14.4
	10,000 RMB or above	62	15.2
	Total	409	100.0

Table F.1.1: Profile of Surveyed Respondents

	Variables		Frequency (No. of Respondents per option)	Percent (%)
Age	Young age group	Yes	219	53.6
		No	190	46.4
		Total	409	100.0
	Middle age group	Yes	159	38.9
		No	250	61.1
		Total	409	100.0
	Old age group	Yes	31	7.6
		No	378	92.4
		Total	409	100.0
Marital Status	Single	Yes	114	27.9
		No	295	72.1
		Total	409	100.0
	Married	Yes	289	70.7
		No	120	29.3
		Total	409	100.0
	Others	Yes	6	1.5
		No	403	98.5
		Total	409	100.0
Education level	High school or lower	Yes	58	14.1
		No	351	85.9
		Total	409	100.0
	Two-years college	Yes	174	42.5
		No	235	57.5
		Total	409	100.0
	Bachelor degree	Yes	149	36.4
		No	260	63.6
		Total	409	100.0
	Others	Yes	28	6.8
		No	381	93.2
		Total	409	100.0
Occupation	Professional	Yes	60	14.7
		No	349	85.3
		Total	409	100.0
	Middle professional	Yes	136	33.2
		No	273	66.8
		Total	409	100.0

	Variables		Frequency (No. of Respondents per option)	Percent (%)
	Normal company staff	Yes	175	42.8
		No	234	57.2
		Total	409	100.0
	Others	Yes	38	9.3
		No	371	90.7
		Total	409	100.0
Duration of employment	Less than a year	Yes	39	9.5
		No	370	90.5
		Total	409	100.0
	1 to 5 years	Yes	106	25.9
		No	303	74.1
		Total	409	100.0
	5 to 10 years	Yes	100	24.4
		No	309	75.6
		Total	409	100.0
	More than 10 years	Yes	164	40.1
		No	245	59.9
		Total	409	100.0
Composition of household	Adult living alone	Yes	82	20.0
		No	327	80.0
		Total	409	100.0
	Couple, with child(ren)	Yes	226	55.3
		No	183	44.7
		Total	409	100.0
	Couple, no child(ren)	Yes	28	6.8
		No	381	93.2
		Total	409	100.0
	Single parent with child(ren)	Yes	5	1.2
		No	404	98.8
		Total	409	100.0
	Immediate and extended family members	Yes	64	15.6
		No	345	84.4
		Total	409	100.0

	Variables		Frequency (No. of Respondents per option)	Percent (%)
	Others	Yes	4	1.0
		No	405	99.0
		Total	409	100.0
Size of household	One person	Yes	30	7.3
		No	379	92.7
		Total	409	100.0
	Two people	Yes	26	6.4
		No	383	93.6
		Total	409	100.0
	Three people	Yes	208	50.9
		No	201	49.1
		Total	409	100.0
	Four and above	Yes	145	35.4
		No	264	64.6
		Total	409	100.0
Monthly household income	Low income range	Yes	132	32.3
		No	277	67.7
		Total	409	100.0
	Middle income range	Yes	215	52.6
		No	194	47.4
		Total	409	100.0
	High income range	Yes	62	15.2
		No	347	84.8
		Total	409	100.0

Table F.2: Descriptive Statistics of the Respondents (Credit card user versus Non-credit card user)

Variables		Credit card users		Non-credit card users	
		Frequency (No. of Respondents per option)	Percent (%)	Frequency (No. of Respondents per option)	Percent (%)
Gender	Male	122	45.7	60	42.3
	Female	145	54.3	82	57.7
	Total	267	100.0	142	100.0
Age	18-25	37	13.9	41	28.9
	26-35	107	40.1	34	23.9
	36-45	73	27.3	26	18.3
	46-55	41	39.2	19	13.4
	56-65	9	3.4	15	10.6
	66 above	0	0.0	7	4.9
	Total	267	100.0	142	100.0
Marital status	Single/Never married	59	22.1	55	38.7
	Married	205	76.8	84	59.2
	De facto relation	2	0.7	2	1.4
	Divorced/Separated	1	0.4	1	0.7
	Total	267	100.0	142	100.0
Education level	No education	1	1.3	1	0.7
	Primary school	0	0.0	1	0.7
	Middle school	5	1.9	2	1.4
	High school	30	11.2	18	12.7
	Two-years college	118	44.2	56	39.4
	Bachelor degree	90	33.7	59	41.5
	Postgraduate, Master or PHD	23	8.6	5	3.5
	Others	0	0.0	0	0.0
	Total	267	100.0	142	100.0
Occupation	Professional	39	14.6	21	14.8
	Self-employer	12	4.5	7	4.9
	Civil Servant	29	10.9	10	7.0
	Company Managerial staff	41	15.4	10	7.0
	Owner of private enterprise	20	7.5	7	4.9
	Normal company staff	116	43.4	59	41.5
	Unemployed	4	1.5	7	4.9
	Retired	3	1.1	18	12.7
	Others	3	1.1	3	2.1
	Total	267	100.0	142	100.0

Variables		Credit card users		Non-credit card users	
		Frequency (No. of Respondents per option)	Percent (%)	Frequency (No. of Respondents per option)	Percent (%)
Duration of employment	Less than a year	12	4.5	27	19.0
	1 to 5 years	66	24.7	40	28.2
	5 to 10 years	78	29.2	22	15.5
	Above 10 years	111	41.6	53	37.3
	Total	267	100.0	142	100.0
Composition of household	Adult living along	47	17.6	35	24.6
	Couple, with child(ren)	166	62.2	60	42.3
	Couple, with no child(ren)	16	6.0	12	8.5
	Single parent with child(ren)	3	1.1	2	1.4
	Immediate and extended family members	34	12.7	30	21.1
	Others	1	0.4	3	2.1
	Total	267	100.0	142	100.0
Size of household	One person	22	8.2	8	5.6
	Two persons	14	5.2	12	9.0
	Three persons	157	58.8	51	35.9
	Four persons	42	15.7	37	26.1
	Five persons	24	9.0	26	18.3
	Six persons or above	8	3.0	8	5.6
	Total	267	100.0	142	100.0
Household monthly income	1000 RMB or less	5	1.9	1	2.1
	1001 to 2000 RMB	17	6.4	21	14.8
	2001 to 3000 RMB	24	9.0	23	16.2
	3001 to 4000 RMB	28	10.5	13	9.2
	4001 to 5000 RMB	42	15.7	25	17.6
	5001 to 7000 RMB	66	24.7	23	16.2
	7001 to 10,000 RMB	41	15.4	18	12.7
	10,000 RMB or above	44	16.5	18	12.7
	Total	267	100.0	142	100.0

Table F.3: Descriptive Statistic of the Respondents' Socio-Economic Factors

Variables	N	Minimum	Maximum	Mean	SD	Variance
Gender	409	0	1	0.56	0.498	0.248
Age	409	1	6	2.59	1.216	1.478
Marital Status	409	1	4	1.74	0.491	0.241
Education level	409	1	7	5.32	0.907	0.822
Occupation	409	1	9	4.65	2.096	4.394
Duration of employment	409	1	4	2.95	1.021	1.042
Composition of household	409	1	6	2.40	1.314	1.726
Size of household	409	1	12	3.37	1.230	1.513
Monthly household income	409	1	8	5.29	1.927	3.713

Table F.4: Statements Pertaining to the Respondents' Attitude toward Credit Cards

			Frequency	Percent (%)
I can withdraw cash from my credit card at any ATM	Valid	Strongly disagree	58	14.2
		Disagree	13	3.2
		Little disagree	32	7.8
		Neutral	127	31.1
		Little agree	28	6.8
		Agree	44	10.8
		Strongly agree	107	26.2
		Total	409	100.0
Using credit cards, I can make a purchase in any part of the world without worrying about currency exchange rates or foreign currency notes	Valid	Strongly disagree	41	10.0
		Disagree	12	2.9
		Little disagree	22	5.4
		Neutral	121	29.6
		Little agree	37	9.0
		Agree	36	8.8
		Strongly agree	140	34.2
		Total	409	100.0
Credit card offers an efficient payment solution especially for online purchases	Valid	Strongly disagree	21	5.1
		Disagree	10	2.4
		Little disagree	31	7.6
		Neutral	93	22.7
		Little agree	47	11.5
		Agree	59	14.4
		Strongly agree	148	36.2
		Total	409	100.0

			Frequency	Percent (%)
Using a credit card can help me track my expenses and avoid fraud	Valid	Strongly disagree	20	4.9
		Disagree	15	3.7
		Little disagree	21	5.1
		Neutral	108	26.4
		Little agree	55	13.4
		Agree	69	16.9
		Strongly agree	121	29.6
		Total	409	100.0
Using credit cards can make my purchases easier, such as booking a trip, shopping online, or over the phone	Valid	Strongly disagree	12	2.9
		Disagree	8	2.0
		Little disagree	20	4.9
		Neutral	80	19.6
		Little agree	42	10.3
		Agree	71	17.4
		Strongly agree	176	43.0
		Total	409	100.0
It is necessary to have a credit card with you when you travel overseas	Valid	Strongly disagree	16	3.9
		Disagree	5	1.2
		Little disagree	18	4.4
		Neutral	92	22.5
		Little agree	44	10.8
		Agree	57	13.9
		Strongly agree	177	43.3
		Total	409	100.0
Most credit cards offer 24-hour service for lost or stolen cards	Valid	Strongly disagree	15	3.7
		Disagree	7	1.7
		Little disagree	29	7.1
		Neutral	81	19.8
		Little agree	52	12.7
		Agree	64	15.6
		Strongly agree	161	39.4
		Total	409	100.0
Credit card PIN number ensure that only I have access	Valid	Strongly disagree	21	5.1
		Disagree	20	4.9
		Little disagree	25	6.1
		Neutral	93	22.7
		Little agree	54	13.2
		Agree	53	13.0
		Strongly agree	143	35.0
		Total	409	100.0

			Frequency	Percent (%)
Credit card cannot be used to make purchases at any stores without my signature and/or PIN number	Valid	Strongly disagree	32	7.8
		Disagree	15	3.7
		Little disagree	31	7.6
		Neutral	73	17.8
		Little agree	37	9.0
		Agree	63	15.4
		Strongly agree	158	38.6
		Total	409	100.0
I don't need to carry a lot of cash if I have a credit card	Valid	Strongly disagree	14	3.4
		Disagree	6	1.5
		Little disagree	18	4.4
		Neutral	75	18.3
		Little agree	48	11.7
		Agree	51	12.5
		Strongly agree	197	48.2
		Total	409	100.0
I do not have to worry about my money being snatched by thieves	Valid	Strongly disagree	26	6.4
		Disagree	7	1.7
		Little disagree	25	6.1
		Neutral	80	19.6
		Little agree	51	12.5
		Agree	43	10.5
		Strongly agree	177	43.3
		Total	409	100.0
Credit cards offer consumer 24 hours protections that cash doesn't	Valid	Strongly disagree	16	3.9
		Disagree	8	2.0
		Little disagree	26	6.4
		Neutral	97	23.7
		Little agree	43	10.5
		Agree	63	15.4
		Strongly agree	156	38.1
		Total	409	100.0
Credit cards often come with special offers, such as cash rebates, airline miles for frequent fliers and "points" systems that give free products after a certain amount is spend	Valid	Strongly disagree	17	4.2
		Disagree	18	4.4
		Little disagree	29	7.1
		Neutral	100	24.4
		Little agree	62	15.2
		Agree	63	15.4
		Strongly agree	120	29.3
		Total	409	100.0

			Frequency	Percent (%)
Credit cards rewards include cash back rewards, discounts at various merchants, and gasoline rewards	Valid	Strongly disagree	16	3.9
		Disagree	16	3.9
		Little disagree	24	5.9
		Neutral	98	24.0
		Little agree	61	14.9
		Agree	68	16.6
		Strongly agree	126	30.8
		Total	409	100.0
Credit cards offer all kinds of extras/rewards that cash doesn't	Valid	Strongly disagree	15	3.7
		Disagree	11	2.7
		Little disagree	24	5.9
		Neutral	94	23.0
		Little agree	59	14.4
		Agree	68	16.6
		Strongly agree	138	33.7
		Total	409	100.0
Credit card offers discounts on purchases with retail partners	Valid	Strongly disagree	14	3.4
		Disagree	8	2.0
		Little disagree	25	6.1
		Neutral	83	20.3
		Little agree	65	15.9
		Agree	73	17.8
		Strongly agree	141	34.5
		Total	409	100.0
Most credit cards offer some form of cash back or other loyalty rewards to encourage you to use their credit card over a competitor's card	Valid	Strongly disagree	15	3.7
		Disagree	16	3.9
		Little disagree	29	7.1
		Neutral	115	28.1
		Little agree	44	10.8
		Agree	55	13.4
		Strongly agree	135	33.0
		Total	409	100.0
Most cards offer a free travel assistance program such as travel accident insurance, purchase protection, and car rental loss or damage protection	Valid	Strongly disagree	21	5.1
		Disagree	14	3.4
		Little disagree	24	5.9
		Neutral	121	29.6
		Little agree	46	11.2
		Agree	56	13.7
		Strongly agree	127	31.1
		Total	409	100.0

Table F.5: Important Factor for Respondent to own a Credit Card with 1 (least important) to 8 (most important)

			Frequency	Percent (%)
Convenience	Valid	1	4	1.0
		2	3	0.7
		3	5	1.2
		4	22	5.4
		5	18	4.4
		6	41	10.0
		7	94	23.0
		8	222	54.3
		Total	409	100.0
Trust (safety)	Valid	1	2	0.5
		2	2	0.5
		3	8	2.0
		4	21	5.1
		5	24	5.9
		6	58	14.2
		7	47	11.5
		8	247	60.4
		Total	409	100.0
Interest rate	Valid	1	39	9.5
		2	25	6.1
		3	26	6.4
		4	47	11.5
		5	41	10.0
		6	65	15.9
		7	63	15.4
		8	103	25.2
		Total	409	100.0
Reward program	Valid	1	79	19.3
		2	35	8.6
		3	27	6.6
		4	69	16.9
		5	47	11.5
		6	53	13.0
		7	40	9.8
		8	59	14.4
		Total	409	100.0

			Frequency	Percent (%)
Technology	Valid	1	58	14.2
		2	36	8.8
		3	27	6.6
		4	60	14.7
		5	55	13.4
		6	36	8.8
		7	47	11.5
		8	90	22.0
		Total	409	100.0
Credit limit	Valid	1	17	4.2
		2	13	3.2
		3	27	6.6
		4	42	10.3
		5	60	14.7
		6	41	10.0
		7	61	14.9
		8	148	36.2
		Total	409	100.0
Annual fee	Valid	1	37	9.0
		2	26	6.4
		3	21	5.1
		4	40	9.8
		5	40	9.8
		6	48	11.7
		7	60	14.7
		8	137	33.5
		Total	409	100.0
Grace payment period	Valid	1	23	5.6
		2	18	4.4
		3	16	3.9
		4	29	7.1
		5	32	7.8
		6	49	12.0
		7	57	13.9
		8	185	45.2
		Total	409	100.0

Table F.6: Importance of the Loss of Financial Control When Choosing Credit Card

			Frequency	Percent (%)
Using cash would help avoid getting into debt	Valid	Very Unimportant	44	10.8
		Unimportant	35	8.6
		Neutral	134	32.8
		Important	63	15.4
		Very important	133	32.5
		Total	409	100.0
When I have cash I know how much I have before I go shopping and how much I have afterwards	Valid	Very Unimportant	36	8.8
		Unimportant	32	7.8
		Neutral	119	29.1
		Important	73	17.8
		Very important	149	36.4
		Total	409	100.0
Using cash I can see what I have spent but with a credit card I don't know	Valid	Very Unimportant	84	20.5
		Unimportant	37	9.0
		Neutral	149	36.4
		Important	62	15.2
		Very important	77	18.8
		Total	409	100.0
I feel a loss of control over expenditure when using credit cards	Valid	Very Unimportant	79	19.3
		Unimportant	47	11.5
		Neutral	134	32.8
		Important	66	16.1
		Very important	83	20.3
		Total	409	100.0
With credit cards, I spend too much and didn't save anything	Valid	Very Unimportant	74	18.1
		Unimportant	59	14.4
		Neutral	115	28.1
		Important	66	16.1
		Very important	95	23.2
		Total	409	100.0
I have a credit card and I never owe the bank money	Valid	Very Unimportant	37	9.0
		Unimportant	23	5.6
		Neutral	100	24.4
		Important	65	15.9
		Very important	184	45.0
		Total	409	100.0

Table F.7: Correlation Coefficient of Objective One and Three

		Convenience	Interest rate	Reward program	Technology	Credit limit	Annual fee	Applying process	Male	Young age	Single	Bachelor	Middle professional	One to five year working duration	Size of household: Three	Lower income
Convenience	Pearson Correlation	1.000														
Interest rate	Pearson Correlation	0.179	1.000													
Reward program	Pearson Correlation	0.061	0.369	1.000												
Technology	Pearson Correlation	0.131	0.350	0.437	1.000											
Credit limit	Pearson Correlation	0.231	0.123	0.128	0.202	1.000										
Annual fee	Pearson Correlation	0.081	0.306	0.266	0.247	0.320	1.000									
Applying process	Pearson Correlation	-0.189	-0.061	-0.001	-0.064	-0.129	0.036	1.000								
Male	Pearson Correlation	0.010	-0.016	-0.026	-0.064	0.005	-0.096	-0.083	1.000							
Young age	Pearson Correlation	-0.002	0.102	0.241	0.200	0.070	0.103	-0.012	-0.113	1.000						
Single	Pearson Correlation	-0.009	-0.003	0.061	0.100	-0.012	0.010	0.139	-0.096	0.546	1.000					

Bachelor	Pearson Correlation	-0.004	-0.028	-0.041	-0.040	-0.054	-0.040	-0.009	-0.034	0.114	0.130	1.000				
Middle professional	Pearson Correlation	0.034	-0.003	-0.099	-0.061	0.114	0.063	-0.178	0.161	-0.248	-0.218	-0.038	1.000			
One to five working duration	Pearson Correlation	-0.035	0.058	0.101	0.018	-0.015	0.063	0.061	-0.092	0.428	0.441	0.039	-0.145	1.000		
Size of household: three	Pearson Correlation	0.006	0.054	-0.073	-0.047	0.088	0.000	-0.203	0.073	-0.151	-0.348	-0.038	0.123	-0.211	1.000	
Lower income	Pearson Correlation	-0.049	0.009	0.136	0.155	0.017	0.014	0.113	-0.092	0.266	0.411	0.043	-0.221	0.248	-0.232	1.000

Table F.8: Correlation Coefficient of Objective Two

		No. of credit card	Credit card using duration	Monthly spending	Annual fee	Interest rate	Female	Young	Single	Bachelor	Normal staff	One to five working duration	Size of household: Three	Lower income
No. of credit card	Pearson Correlation	1.000												
Credit card using duration	Pearson Correlation	0.244	1.000											
Monthly spending	Pearson Correlation	0.278	0.196	1.000										
Annual fee	Pearson Correlation	-0.0421	-0.007	-0.011	1.000									
Interest rate	Pearson Correlation	0.134	0.044	-0.024	0.047	1.000								
Female	Pearson Correlation	0.033	-0.077	-0.0416	0.021	-0.051	1.000							
Young	Pearson Correlation	-0.043	-0.215	-0.189	-0.117	0.030	0.117	1.000						
Single	Pearson Correlation	-0.104	-0.294	-0.184	-0.099	0.067	0.072	0.474	1.000					
Bachelor	Pearson Correlation	-0.043	-0.022	0.088	-0.082	-0.127	0.002	0.103	0.098	1.000				

Normal staff	Pearson Correlation	-0.057	-0.147	-0.203	-0.029	0.003	0.182	0.309	0.207	0.030	1.000			
One to five year working duration	Pearson Correlation	-0.089	-0.320	-0.093	-0.079	0.059	0.125	0.390	0.511	0.032	0.216	1.000		
Size of household: Three	Pearson Correlation	-0.001	0.182	0.003	-0.008	0.008	-0.111	-0.132	-0.398	-0.063	-0.172	-0.261	1.000	
Lower income	Pearson Correlation	-0.091	-0.368	-0.080	0.019	-0.017	0.131	0.253	0.416	0.089	0.251	0.285	-0.246	1.000

Appendix Two: SURVEY QUESTIONNAIRE COVER LETTER

To Whom It May Concern

Dear Sir/Madam:

If you are aged 18 years or above, you are invited to participate in a survey that constitutes part of my Master of Commerce and Management thesis at Lincoln University, New Zealand. This is a part of my research project titled “An Empirical Investigation of Credit Card Users in China”. The purpose of this research is to investigate the factors influencing consumers’ use of credit card in China.

This research is completely voluntary in nature and you are free to decide not to participate at any time during the process of completing the questionnaire and without prejudice, including withdrawal of any information you have provided. However, if you complete the questionnaire and return it to me, it will be understood that you are 18 years of age or older and have consented to participate in this survey and consent to publication of the results of this research with the understanding the anonymity will be preserved.

Your participation is of great assistance to this research. This survey will take maximum 25 minutes to complete. I would be grateful if you would complete the questionnaire and return it to me once you have finished.

Complete anonymity is assured in this survey, as the questionnaire is anonymous. No questions are asked which would identify you as an individual. All responses will be aggregated for analysis only, and no personal details will be reported in the thesis or any resulting publications.

If you have any question about this survey, feel free to contact me on 0221776099 or by email at dongwk1112@live.com. You can also contact my supervisors Dr. Christopher Gan and Dr. Baiding Hu. Dr. Christopher Gan can be contacted at (03) 4230227 or Christopher.Gan@lincoln.ac.nz; and Dr. Baiding Hu can be contacted at (03) 4230231 or Baiding.Hu@lincoln.ac.nz.

Thank you for your kind co-operation and assistance.

Yours sincerely,

Weikang Dong

Master student of Commerce and Management

Research Supervisors:

Dr. Christopher Gan

Professor

Faculty of Commerce

Lincoln University

Dr. Baiding Hu

Senior Lecturer

Faculty of Commerce

Lincoln University

This project has been reviewed and approved by the Lincoln University Human Ethics Committee.

SURVEY QUESTIONNAIRE:

Code No. _____

Household Credit Card

Instructions: For each question with brackets provided, please tick your answer(s); otherwise, please follow the instructions given to answer the questions. Only summary measures and conclusions from this survey will be reported. Your participation is voluntary and all of your answers will be kept confidential.

Section 1. General Information about credit cards

1. When you shop in person at a grocery store, supermarket, retail store, or online that accept different payment methods, which payment method do you most often choose to pay for your purchases?
 - a. Cash []
 - b. Check []
 - c. Credit card []
 - d. Other (please specify) _____ []

2. If you have to choose just **one**, which of the following characteristics is the **MOST** important to you when you decide which payment methods to use.
 - a. Security []
 - b. Control over payment timing []
 - c. Cost []
 - d. Track spending []
 - e. Acceptance for Payment []
 - f. Ease of Use []
 - g. Speed []

3. If you have to choose just **one**, which of the following characteristics is the **LEAST** important to you when you decide which payment methods to use.
 - h. Security []
 - i. Control over payment timing []
 - j. Cost []
 - k. Track spending []
 - l. Acceptance for Payment []
 - m. Ease of Use []
 - n. Speed []

4. Below is a series of statements pertaining to your attitude toward credit cards. Please CIRCLE how strongly you agree or disagree with each of the following statements on a scale of 7 to 1. **1-you strongly disagree (SD), 7-you strongly agree (SA).**

	SD			Neutral			SA
1. I can withdraw cash from my credit card at any ATM	1	2	3	4	5	6	7
2. Using credit cards, I can make a purchase in any part of the world without worrying about currency exchange rates or foreign currency notes	1	2	3	4	5	6	7
3. Credit card offers an efficient payment solution especially for online purchases	1	2	3	4	5	6	7
4. Using a credit card can help me track my expenses and avoid fraud	1	2	3	4	5	6	7
5. Using credit cards can make my purchases easier, such as booking a trip, shopping online, or over the phone	1	2	3	4	5	6	7
6. It is necessary to have a credit card with you when you travel overseas	1	2	3	4	5	6	7
7. Most credit cards offer 24-hour service for lost or stolen cards	1	2	3	4	5	6	7
8. Credit card PIN number ensure that only I have access	1	2	3	4	5	6	7
9. Credit card cannot be used to make purchases at any stores without my signature and/or PIN number	1	2	3	4	5	6	7
10. I don't need to carry a lot of cash if I have a credit card	1	2	3	4	5	6	7
11. I do not have to worry about my money being snatched by thieves	1	2	3	4	5	6	7
12. Credit cards offer consumer 24 hours protections that cash doesn't	1	2	3	4	5	6	7
13. Credit cards often come with special offers, such as cash rebates, airline miles for frequent fliers and "points" systems that give free products after a certain amount is spent	1	2	3	4	5	6	7
14. Credit cards rewards include cash back rewards, discounts at various merchants, and gasoline rewards	1	2	3	4	5	6	7
15. Credit cards offer all kinds of extras/rewards that cash doesn't	1	2	3	4	5	6	7

16. Credit card offers discounts on purchases with retail partners	1	2	3	4	5	6	7
17. Most credit cards offer some form of cash back or other loyalty rewards to encourage you to use their credit card over a competitor's card	1	2	3	4	5	6	7
18. Most cards offer a free travel assistance program such as travel accident insurance, purchase protection, and car rental loss or damage protection	1	2	3	4	5	6	7

5. Below is a series of credit card attributes. Please rank them on how important they are to your decision to own a credit card with 1 (least important) to 8 (most important).

- a. Convenience _____
- b. Trust (safety) _____
- c. Interest rate _____
- d. Reward program _____
- e. Technology _____
- f. Credit limit _____
- g. Annual fee _____
- h. Grace payment period (20 – 25 days) _____

6. How important is the **loss of financial control** to you when choosing a credit card? Please circle the number which most accurately reflects how important or unimportant each factor on a scale of 1 to 5, where 1 means “Very unimportant” and 5 means “Very important”.

	Very Unimportant		Neutral		Very Important
1. Using cash would help avoid getting into debt	1	2	3	4	5
2. When I have cash I know how much I have before I go shopping and how much I have afterwards	1	2	3	4	5
3. Using cash I can see what I have spent but with a credit card I don't know	1	2	3	4	5
4. I feel a loss of control over expenditure when using credit cards	1	2	3	4	5
5. With credit cards, I spend too much and didn't save anything	1	2	3	4	5
6. I have a credit card and I never owe the bank money	1	2	3	4	5

7. How easy is it to apply for a credit card?
- a. Very easy []
 - b. Fairly easy []
 - c. Somewhat easy []
 - d. Not easy at all []
 - e. Do not know []
8. Do you own a credit card (e.g., Unionpay, Visa, MasterCard, etc.)?
- a. Yes [] b. No []

If **YES** please go to **SECTION 2 and 4**; if **NO** please go to **SECTION 3 and 4**

Section 2. Credit Card Holders

1. How many credit cards do you have? _____ (cards)
2. Where did you obtain your credit card? (Check all that apply)
- a. Bank []
 - b. Work unit []
 - c. Shopping center []
 - d. Supermarkets []
 - e. Other (please specify) _____ []
3. Which of the following credit cards do you have? (Check all that apply)
- a. Visa []
 - b. Mastercard []
 - c. Unionpay []
 - d. America Express []
 - e. Visa Electron []
 - f. Other (please specify) _____ []
4. Which card do you use the most often (**primary card**)?
- a. Visa []
 - b. Mastercard []
 - c. Unionpay []
 - d. America Express []
 - e. Visa Electron []
 - f. Other (please specify) _____ []
5. What is the current credit line (limit) on your **primary card**?
- a. RMB less than 1,000 []

- b. RMB 1,001 to 5,000 []
 - c. RMB 5,001 to 10,000 []
 - d. RMB 10,001 to 20,000 []
 - e. RMB 20,001 to 50,000 []
 - f. RMB 50,001 to 100,000 []
 - g. More than 100,000 []
6. How long did you have your **primary credit card**?
- a. Less than 1 year []
 - b. 1 – 2 years []
 - c. 3 – 4 years []
 - d. More than 4 years []
7. What is your monthly spending with your **primary credit card**?
- a. Below RMB1000 []
 - b. RMB1001 to 5000 []
 - c. RMB5001 to 10000 []
 - d. RMB10001 to 20000 []
 - e. Above RMB20001 []
8. What is **average annual fee** on your **primary credit card**?
- a. Less than RMB 200 []
 - b. RMB201 – 300 []
 - c. RMB 301 – 400 []
 - d. More than RMB401 []
 - e. Don't Know []
9. What are the major activities for your **primary credit card** uses? (check all that apply)
- a. Shopping []
 - b. Online payment []
 - c. Entertainment []
 - d. Hotel Accommodation []
 - e. Dining out []
 - f. Travelling []
 - g. Transfer accounts []
 - h. Facilitate the use of secondary card holder
and to control the expense of secondary card holder []
 - i. Other (please specific) _____ []
10. What is the interest rate on the balances that you carry on your **primary credit card**?
- a. 0% []
 - b. Less than 5% []

- c. 6 to 10% []
- d. More than 10% []
11. Is the card you use most often (**primary**) a Gold Card?
- a. Yes [] b. No []
12. How often do you use your credit cards for purchases?
- a. rarely (few times a year) []
- b. occasionally (at least once a month) []
- c. frequently (at least once a week) []
- d. very frequently (almost daily) []
13. When you use your credit card, do you almost always pay the total balance each month to avoid a finance charge?
- a. Pay full amount []
- b. Sometimes pay full amount []
- c. Hardly ever pay full amount []
14. What is the **main reason** you do not pay the full amount of the total balance on your monthly credit card bill?
- a. Lack of fund to pay back at once []
- b. Bank allows installment payment []
- c.. There is no fees or interest occurred with installment payment []
- d. Other (please specify) _____ []
15. How long will it take you to pay off your credit cards balances? I carry
- a. no balance []
- b. 1-3 months []
- c. 4-6 months []
- d. 7-12 months []
- d. more than 1 year []
16. Do you use your credit cards to make online payments?
- a. Yes [] b. No []
17. How often do you use your **primary** credit card for Internet (on-line) purchases?
- a. rarely (few times a year) []
- b. occasionally (at least once a month) []
- c. frequently (at least once a week) []
- d. very frequently (almost daily) []

Section 3. Non Credit Card Holders

1. Why don't you have a credit card? (Check all that apply)
 - a. Inconvenient []
 - b. Application fee charges are too high []
 - c. Annual fee charges are too high []
 - d. The fees and service charges are too high []
 - e. I worry the risk of accumulating debts []
 - f. I am unable to qualify []
 - g. I have security concerns []
 - h. I have privacy concerns []
 - i. I have difficulty record keeping []
 - j. I don't need a credit card []
 - k. Other (please specify) _____ []

2. If a bank or credit card company offered you a credit card, at no cost to you, would you be more likely to use the credit card or cash?
 - a. Cash [] b. Credit card []

3. Do you intend to have a credit card?
 - a. Yes [] b. No [] c. Not sure []

4. What feature(s) would a credit card need to have to convince you to obtain it? (check all that apply)
 - a. No annual fee []
 - b. Preapproved []
 - c. Rebate/cash back/free offers []
 - d. Business/corporate card []
 - e. Gold Card []
 - f. High credit limit []
 - g. Wide acceptance (include online shopping) []
 - h. Lower interest rate []
 - i. Reward points program []
 - j. Billing cycle/grace period []
 - k. Lower monthly payment []
 - l. Other (please specify) _____ []

Section 4. Demographic and Socio-economic Characteristics of Respondents (for All Respondents)

1. What is your gender?
 - a. Male [] b. Female []

2. Which age group do you belong to?
- a. 18 – 25 years old []
 - b. 26 – 35 years old []
 - c. 36 – 45 years old []
 - d. 46 – 55 years old []
 - e. 56 – 65 years old []
 - f. Over 66 years old []
3. What is your marital status?
- a. Single/Never Married []
 - b. Married []
 - c. De factor relationship []
 - d. Divorced/Separated []
4. What is your highest educational or professional qualification?
- a. No education []
 - b. Primary school []
 - c. Middle school []
 - d. High school []
 - e. Three-year college []
 - f. Bachelor degree []
 - g. Postgraduate degree (Postgraduate Diploma/ Masters/PhD) []
 - h. Other (please specify) _____ []
5. Which of the following best describes your employment situation?
(If a or b, please go to Q6, if c, d, e, f, or g, please go to Q7)
- a. Full time []
 - b. Part time []
 - c. Unemployed []
 - d. Self-employed []
 - e. Retired []
 - f. Migrant worker []
 - g. Other (please specify) _____ []
6. If you work as permanent staff or casual worker, which of the following best describes your employer?
- a. Government office []
 - b. State-owned enterprise []
 - c. Private enterprise []
 - d. Foreign enterprise []
 - e. Joint venture []
 - f. Public institution []

- g. Non-governmental organisation []
- h. Other (please specify) _____ []
7. How long have you been working (total working period: past and/or current job)?
- a. Less than 1 year []
- b. 1 to 5 years []
- c. 5 to 10 years []
- d. 10 years and above []
8. Which of the following best describes the structure of your household?
- a. Single adult living alone []
- b. Couple, with child (or children) []
- c. Couple, without child []
- d. Single parent, with child (or children) []
- e. Immediate and extended family members []
- f. Other(s) please specify _____ []
9. The number of people living in your household is (please state):
_____ persons
10. The number of income earners in your household is (please state):
_____ persons
11. What is your household monthly income? (Chinese RMB in the last month)
- a. 1,000 RMB or less []
- b. 1,001 to 2,000 RMB []
- c. 2,001 to 3,000 RMB []
- d. 3,001 to 4,000 RMB []
- e. 4,001 to 5,000 RMB []
- f. 5,001 to 7,000 RMB []
- g. 7,001 to 10,000 RMB []
- h. Above 10,000 RMB []

*Your participation in this survey is greatly appreciated. Thank you for your time and if you have further comments about credit card, please feel free to comment in the space provided below. Once again, we assure you that your identity will remain **STRICTLY CONFIDENTIAL**.*