

P-1965

# ANALYTICAL STUDY ON THE USE OF CREDIT CARDS

By

M.MAHENDIREN  
71205631031

of

Department of management studies  
Kumaraguru College of technology  
Coimbatore

A PROJECT REPORT  
Submitted to the

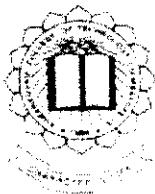
FACULTY OF MANAGEMENT SCIENCES

In partial fulfillment of the requirements  
for the award of the degree

of

**MASTER OF BUSINESS ADMINISTRATION**

**June, 2007**



Department of management studies,  
Kumaraguru College of Technology,  
(An ISO 9001:2000 Certified Institution)  
Coimbatore-641006

## BONAFIDE CERTIFICATE

Certified that this project titled 'Analytical study on the use of credit cards' is the bonafide work of Mr. M.Mahendiren (Reg No: 71205631031), who carried out this research under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

Prof. K. R. Ayyaswamy -  
Project guide

Director

Evaluated and Viva Voce conducted on 02.7.07

Examiner 1

Examiner 2

## DECLARATION

I hereby declare that this project entitled as "Analytical study on the use of credit cards" has been undertaken for academic purpose submitted to Anna University in partial fulfillment of the requirements for the award of the degree of Master of Business Administration. The project report is the record of the original work done by me under the guidance of Prof. K. R. Ayyaswamy during the academic year 2006-2007.

I also declare hereby, that the information given in this report is correct to best of my knowledge and belief.

Place: Coimbatore

  
[M.MAHENDIREN]

Date :

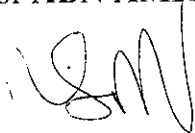
3<sup>rd</sup> May 2007

**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that **Mr M Mahendiren**, II Year MBA student of Kumaraguru College of Technology, Coimbatore has undergone 4 months project training on "**Analytical Study on Use of Credit Cards**" in our organization.

During the project his conduct was very good and we wish him success in all his future endeavours.

For **ABN AMRO Central Enterprises Services Pvt. Ltd.**,



**N Srinivasan**  
**Manager - Resourcing**

## ACKNOWLEDGEMENT

I express my sincere gratitude to our beloved Correspondent **Prof. Dr. K. Arumugam**, the prime guiding sprit of Kumaraguru College of Technology.

I extend my heartfelt thanks to Principal **Dr. Joseph V. Thanikal**, Kumaraguru College of Technology, Coimbatore for providing facilities to do this project.

I express my sincere gratitude and thanks to our Director **Dr.S.Ganesan** for permitting me to carry out the project.

I endeavor my sincere gratitude towards my guiding sprit **Prof. K. R. Ayyaswamy**, who has given me all the guidance throughout this project.

I would like to express my sincere thanks to **Mr.Parthiva Gowra** our organizational guide for the necessary inspiration that they provide when needed in the most.

## EXECUTIVE SUMMARY (ABSTRACT)

The Project study on “**Analytical study on the use of credit cards**” is carried out in Chennai City.

The main focus of the project is to identify the different features that attract and prompt the customers to avail and use credit cards.

The study attempts to find the key feature of the card that attracts the customer for getting of a particular Bank’s card and also to find out the purpose for which the customers use their cards. It also studies the preferences of the non holders of credit card .

The following statistical tools were used for the analysis viz Chi-Square test and Weighted Averages.

The key result of the study is that high income group , salaried class are frequent users of credit card. Male customers use frequently credit card ,than the female customers.

# TABLE OF CONTENTS

CHAPTER NO	TITLE	PAGE NO
	<b>EXECUTIVE SUMMARY</b>	iv
	<b>ACKNOWLEDGEMENT</b>	v
	<b>LIST OF TABLES</b>	vii
1	<b>INTRODUCTION</b>	1
	1.1 BACKGROUND OF THE STUDY	1
	1.2 REVIEW OF THE LITERATURE	1
	1.3 OBJECTIVES OF THE STUDY	2
	1.4 SCOPE OF THE STUDY	3
	1.5 METHODOLOGY	3
	1.6 QUESTIONNAIRE DESIGN	4
	1.7 LIMITATIONS OF THE STUDY	5
	1.8 CHAPTER SCHEME	
2	<b>ORGANIZATIONAL PROFILE</b>	
	2.1 HISTORY OF THE ORGANIZATION	6
	2.2 ABN AMRO BANK	6
	2.3 CITI BANK	7
	2.4 STATE BANK OF INDIA	8
	2.5 PRODUCTS PROFILE	9
3	<b>MACRO-MICRO ANALYSIS</b>	13
4	<b>ANALYSIS AND INTERPRETATION</b>	15
5	<b>CONCLUSION</b>	24
	5.1 FINDINGS	
	5.2 SUGESTIONS	
	5.3 CONCLUSIONS	
	<b>ANNEXURE</b>	26
	<b>BIBLIOGRAPHY</b>	46

**LIST OF TABLES**

<b>S.no</b>	<b>Table name</b>	<b>Page no.</b>
4.1	WEIGHTED AVERAGE FOR CREDIT CARD USERS BASED ON THE FEATURES	18
4.2	WEIGHTED AVERAGE FOR CREDIT CARD USERS BASED ON THE PURPOSE	21
4.3	WEIGHTED AVERAGE FOR CREDIT CARD USERS BASED ON THE SATISFACTION LEVEL	23



# CHAPTER – 1

## INTRODUCTION

### 1.1 BACKGROUND OF THE STUDY

The credit cards are now days , being started liked by most of the people. There are different kind of credit cards and each card serves certain specific purpose. Based on certain select criteria such as income level, age, sex, nature of employment etc credit cards are being introduced by banks to attract the customers. The objective of the study is to group customers of credit cards sets based upon their features such as job specifications, income level and other different criteria . It is also aimed to suggest to the bank to focus on which set and what strategies could be adopted to attract individuals.

### 1.2 REVIEW OF LITERATURE

Mr. A. Ravi Anil Kurubarxani (2004) did a study on Customer Satisfaction on credit cards provided by ICICI Bank . Chennai.He found that the customers are highly dissatisfied with the interest rates provided by the bank. He also suggested the bank to come out with new schemes according to the customer needs.

Mr. K.Kirubakaran (2006) did a study on General Awareness about usage of credit cards among the people in Salem. He found that most people are aware of the usage of the credit cards but they fail to avail it due to various charges levied by the banks.

### 1.3 OBJECTIVES OF THE STUDY

#### 1.3.1 Primary objective

- To identify the different features that attract and prompt the customers to avail a credit card of a bank.

#### 1.3.2 Secondary objectives

- To find the frequency of usage of select Credit Card.
- To find the satisfaction level of the select Credit Card usage.
- To find out who prompted the customers to select a particular issuer.
- To find the user prfile.

## **1.4 SCOPE OF THE STUDY**

The study undertaken for ABN AMRO Bank aims to find the reason of choice for selecting a particular Credit Card. This study is carried out with the help of a questionnaire that contains questions which probe into the details so as to find the reason of their choice. The study will help the bank to find the features that attract the customers. The study helps to know about the usage pattern of credit card. The study also helps to find the best possible way of reaching the customers in order to increase the sales. All these results will help Banks to create a product which suits the high profile customers and helps to adopt a particular method to reach the customers.

## **1.5 METHODOLOGY:**

### **1.5.1 TYPE OF RESEARCH DESIGN**

A research design is a detailed blue print used to guide a research study toward its objective. The process of designing a research study involves many interrelated decisions. The most significant decision is the choice of research approach, because it determines how the information will be obtained. The choice of the research approach depends on the nature of the research that one wants to do.

The research design adopted for this study is Descriptive Research. Descriptive method was adopted because it deals with description of the state of affairs as it exist at present

### **1.5.2 SAMPLING TECHNIQUE**

Random sampling approach was followed to select the respondents who use credit card. Random numbers were generated using computer system and the corresponding respondents were met to get the responses. The population under study consists of credit card holders of:

- ABN AMRO Bank
- Citi Bank
- State Bank of India

who resides in Chennai city.

Systematic Random Sampling was followed to select the respondents of non-users of credit card. A particular day in a week was randomly selected and non-users of credit card were approached based on random sampling technique to select the respondents.

### **1.5.3 DATA COLLECTION**

#### **Primary Data Source**

The study requires a systematic gathering of information, a survey using a structured questionnaire is used. Some respondents were reluctant to answer some questions, which might be confidential to them. So there were non-response error. Time was another constraint, which led to few non-responses.

#### **Secondary Data source**

- Credit card holders list of various banks.
- Brouchers of various banks.

### **1.5.4 Tools of Analysis**

The following statistical tools were used for the analysis:

- Chi-square analysis
- Weighted Averages

## **1.6 QUESTIONNAIRE DESIGN**

### **1.6.1 The questionnaire design process have the following stages:**

1. Preliminary Decision regarding the exact information that is required.
2. Revise each question in order to know whether such question is valid though a pilot study.
3. Decision concerning question phrasing word are put in such a way that they can be understood by the respondents.
4. Response format are designed so that it is easy for the respondents to answer multiple choices and dichotomous questions.
5. All questions are arranged in a logical order.
6. The final questionnaire is being subjected to through pre-test using a pilot study.

## **1.6.2 Questionnaire Development**

The questionnaire design process described by Kinner & Taylor was followed. Single questionnaire was developed for all premium credit card users. Fundamentals of the design such as avoiding biased words & leading questions were adhered to.

## **1.6.3 Pre-testing**

A pre-test pilot study was conducted personally with 5 credit card users of different banks to identify and eliminate the potential problems in the questionnaire. Different aspects of questionnaire including question content, wording, sequence, form and lay out questions and instruction were tested. The feedback resulted in following changes.

The model questionnaire is appended in the annexure.

## **1.6.4 Field Work**

The questionnaire was administered to the respondents personally. Substantial effort was taken to ensure that there was no loss of response. Prior appointments were taken depending upon the time available and geographical location of the respondents.

## **1.7 LIMITATIONS OF THE STUDY**

- The geographical area of study is limited to Chennai city only .so the result may have limited applicability to other centres.
- In some cases the respondents does not remember the exact usage pattern which leads certain undetectable bias in the final results.
- As a random sample was selected for obtaining the data, few of the selected users of credit cards were not available during the study period. They were omitted for the purpose of study.

## **1.8 CHAPTER SCHEME:**

### **CHAPTER 1:**

This chapter describes the background of the study, review of literature, objective of the study, and methodology used for the study.

### **CHAPTER 2:**

This chapter describes the history of the organization, the objective of the organization, its vision, mission, product profile, company profile, along with the core business of the organization.

### **CHAPTER 3:**

This chapter describes the credit card industry in a whole and in India.

### **CHAPTER 4:**

This chapter describes methodology of collecting data and use of various statistical tools that were used for the analysis.

### **CHAPTER 5:**

This chapter deals with the conclusion and suggestions of the study.

## CHAPTER – 2

### ORGANIZATIONAL PROFILE

#### 2.1 HISTORY OF THE ORGANIZATION:

#### 2.2 ABN AMRO BANK

ABN AMRO is one of the largest banks in Europe and has operations all over the world. With its history going back to 1824, ABN AMRO is the result of the merger in 1991 of Algemene Bank Nederland (ABN) and the Amsterdamsche-Rotterdamsche Bank (AMRO).

ABN AMRO Holding N.V. is the name of the holding company, which is listed on Euronext Amsterdam as part of the AEX index and the New York Stock Exchange, among other exchanges. Its main subsidiary is ABN AMRO Bank N.V.

On April 23, 2007, Barclays announced an agreement to buy ABN AMRO in an all-share €67 billion deal,[1] according to Barclays' John Varley "the largest merger ever in the global financial services and the biggest cross-border transaction". In the Barclays offer, ABN AMRO would also sell its US division, Chicago-based LaSalle Bank, to Bank of America in a €16 billion deal, giving the largest bank of the US a heightened presence in the Upper Midwest of that country. However three other banks, Royal Bank of Scotland, Fortis and Banco Santander, acting as a consortium had put forth a competing offer of €74 billion for the bank.[2]

#### **Build up to Acquisition**

ABN AMRO had come to a crossroads in the beginning of 2007. The bank had still not come close to their own target of being in the top 5 of their peer group measured on ROE, a target that was set in 2000 by the then just appointed CEO Rijkman Groenink. From 2000 till 2006, the ABN AMRO stock price had remained more or less stagnant.

The financial results for the FY 06 added to concerns about the bank's future. Operating expenses increased at a greater rate than operating revenue reflecting greater

operating results difficulties. The efficiency ratio deteriorated further to 69.9%. Non performing loans increased considerably year on year by 192%. Net profits were only boosted by sustained asset sales.

ABN AMRO ranks eighth in Europe and 13th in the world based on total assets, with more than 4,500 branches in 53 countries, a staff of over 110,000 full-time equivalents and total assets of €999 billion (as of September 30, 2006).

## **2.3 Citibank**

Founded in 1812 as the City Bank of New York by a group of New York merchants, the bank's first head was Samuel Osgood, who had been the U.S.'s first Postmaster General. Subsequently, ownership and management of the bank was taken over by Moses Taylor, a protégé of John Jacob Astor and one of the giants of the business world in the 19th century. During Taylor's ascendancy, the bank functioned largely as a treasury and finance center for Taylor's own extensive business empire.

In 1865 the bank joined the U.S.'s new national banking system and became The National City Bank of New York. By 1894, it was considered one of the largest banks in the United States, and in 1897, it became the first major U.S. bank to establish a foreign department. In 1913 it was the first contributor to the Federal Reserve Bank of New York.

In the 1960s the bank entered into the credit card business. In 1965, First National City Bank bought Carte Blanche from Hilton Hotels. However after three years, the bank (under pressure from the U.S. government) was forced to sell this division. By 1968, the company created its own credit card. The card, known as "The Everything Card," was promoted as a kind of East Coast version of the BankAmericard. By 1969, First National City Bank decided that the Everything Card was too costly to promote as an independent brand and joined Master Charge (now MasterCard). Citibank unsuccessfully tried again in 1977-1987 to create a separate credit card brand, the Choice Card.

In August of 2004, Citibank entered the Texas market with the purchase of First American Bank of Bryan, Texas. The deal established Citigroup's retail banking presence in Texas, giving Citibank over 100 branches, \$3.5 billion in assets and approximately

120,000 new customers in the state. First American Bank was renamed Citibank Texas after the take-over was completed on March 31, 2005.

It is hoped that with both California and Texas markets, Citibank can appeal to both states' Latino population, and offer products on both sides of the border through Citibank in the U.S., and Banamex (Citigroup's Mexican division) in Mexico. Citibank has operations in more than 100 countries and territories around the world. More than half of its 1,400 offices are in the United States, mostly in the New York City, Chicago, Miami, and Washington DC metropolitan areas, as well as in California. In addition to the standard banking transactions, Citibank offers insurance, credit card and investment products. Their online services division is among the most successful in the field, claiming about 15 million users.

## 2.4 State Bank of India

**State Bank of India** is the largest bank in India. If one measures by the number of branch offices and employees, SBI is the largest bank in the world. Established in 1806 as Bank of Bengal, it is the oldest commercial bank in the Indian Subcontinent. SBI provides various domestic, international and NRI products and services, through its vast network in India and overseas. With an asset base of Rs 5040 cr and its reach, it is a regional banking behemoth. The government nationalized the bank in 1955, with the Reserve Bank of India taking a 60% ownership stake. In recent years the bank has focused on two priorities, 1), reducing its huge staff through Golden handshake schemes known as the Voluntary Retirement Scheme, which saw many of its best and brightest defect to the private sector, and 2), computerizing its operations.

The State Bank of India traces its roots to the first decade of 19th century, when the Bank of Calcutta, later renamed the Bank of Bengal, was established on 2 June 1806. The government amalgamated Bank of Bengal and two other Presidency banks, namely, the Bank of Bombay (incorporated on 15 April 1840) and the Bank of Madras on 27 January 1921, and named the reorganized banking entity the Imperial Bank of India. All these Presidency banks were incorporated as joint stock companies, and were the result of the royal charters. The Imperial Bank of India continued to remain a joint stock



company. Until the establishment of a central bank in India the Imperial Bank and its early predecessors served as the nation's central bank printing currency.

The State Bank of India Act 1955, enacted by the Parliament of India, authorized the Reserve Bank of India, which is the central banking organization of India, to acquire a controlling interest in the Imperial Bank of India, which was renamed the State Bank of India on 30 April 1955 . With more than 9400 branches and a further 4000+ associate bank branches, the SBI has extensive coverage. Following its arch-rival ICICI Bank, State Bank of India has electronically networked most of its metropolitan, urban and semi-urban branches under its Core Banking System(CBS), with over 4500 branches being incorporated so far. The bank has the largest ATM network in the country having more than 5600 ATMs.

State Bank of India launched a project in 2002 to network more than 14,000 domestic and 70 foreign offices and branches. The first and the second phases of the project have already been completed and the third phase is still in progress. As of December 2006, over 10,000 branches have been covered.

## **2.5 PRODUCTS PROFILE : Types Of Cards**

### **2.5.1 MasterCard**

MasterCard is a product of MasterCard International and along with VISA are distributed by financial institutions around the world. Cardholders borrow money against a line of credit and pay it back with interest if the balance is carried over from month to month. Its products are issued by 23,000 financial institutions in 220 countries and territories. In 1998, it had almost 700 million cards in circulation, whose users spent \$650 billion in more than 16.2 million locations.

### **2.5.2 VISA Card**

VISA cards is a product of VISA USA and along with MasterCard is distributed by financial institutions around the world. A VISA cardholder borrows money against a credit line and repays the money with interest if the balance is carried over from month to month in a revolving line of credit. Nearly 600 million cards carry one of the VISA brands and more than 14 million locations accept VISA cards.

### **2.5.3 Affinity Cards**

A card offered by two organizations, one a lending institution, the other a non-financial group. Schools, non-profit groups, pro wrestlers, popular singers and airlines are among those featured on affinity cards. Usually, use of the card entitles holders to special discounts or deals from the non-financial group.

### **2.5.4 Standard Card**

It is the most basic card (sans all frills) offered by issuers.

### **2.5.5 Classic Card**

Brand name for the standard card issued by VISA.

### **2.5.6 Gold Card/Executive Card**

A credit card that offers a higher line of credit than a standard card. Income eligibility is also higher. In addition, issuers provide extra perks or incentives to cardholders.

### **2.5.7 Platinum Card**

A credit card with a higher limit and additional perks than a gold card.

### **2.5.8 Titanium Card**

A card with an even higher limit than a platinum card.

### **2.5.9 Secured Card**

A credit card that a cardholder secures with a savings deposit to ensure payment of the outstanding balance if the cardholder defaults on payments. It is used by people new to credit, or people trying to rebuild their poor credit ratings.

### 2.5.10 Smart Card

Smart cards, sometimes called chip cards, contain a computer chip embedded in the plastic. Where a typical credit card's magnetic stripe can hold only a few dozen characters, smart cards are now available with 16K of memory. When read by a special terminals, the cards can perform a number of functions or access data stored in the chip. These cards can be used as cash cards or as credit cards with a preset credit limit. or used as ID cards with stored-in passwords.

### 2.5.11 Charge Card

Falls between a debit and credit card. Works like the latter and you don't have to be an accountholder. Just pay up in full when the bill arrives with the mail. No outstanding are allowed, in other words, no revolving credit facility either. American Express and Diners are providers.

### 2.5.12 Rebate Card

This is a card that allows the customer to accumulate cash, merchandise or services based on card usage.

### 2.5.13 Cash Card

Cash cards, similar to pre-paid phone cards, contain a set amount of value, which can be read by a special cash card reader. Participating retailers will use the reader to debit the card in increments until the value is gone. The cards are like cash -- they have no built-in security, so if lost or stolen, they can be used by anyone.

### 2.5.14 Travel Card

These work mostly as debit cards for the limited purpose of travel. Citibank Dollar Card, American Express, Bobcard Global and Hongbank Bank Thomas Cook International Card are among the players in this section.



P-1965

### **2.5.15 Debit Card**

It is the accountholder's mobile ATM. Open an account with a bank that offers a debit card, and payments for purchases are deducted from your bank account. The retailer swipes the card over an electronic terminal at his outlet, you enter the personal identification number on a PIN pad and the money is immediately debited at the bank. Citibank and a few domestic banks like Times Bank offer this.

### **2.5.16 Global Card**

The latest innovation is the "global card" – a card that can be used anywhere in the world, not just in India and Nepal. People who travel abroad frequently will obviously find this a great convenience. As India is part of the globe, the global card can be used here as well and it can be used in India for making foreign currency payments through the net, to import books etc.

## CHAPTER – 3

### MACRO AND MICRO ECONOMIC ANALYSIS:

#### MACRO:

The concept of credit was first used in Assyria, Babylon and Egypt 3000 years ago. Plastic money first came into being in 1950 when Diners Club and American Express launched their charge cards in USA. In 1951, Diners Club issued the first credit card to 200 customers. With the magnetic strip used in credit cards coming in 1970, credit card became more popular.

Credit cards are gaining ground in India too. More and more banks are encouraging their people to go in for credit cards. Besides the various freebies and rewards doled out, customers feel it very convenient to carry a plastic card rather than bundles of currency. The expected growth rate of credit card business in India is 25-30%. With the advent of globalization and privatization, the concept of credit cards is gaining popularity. Customers no longer have to carry huge sums in their wallet. Most of the bill payments including utility payments can be taken care by credit cards. Further, in India at least, people perceive the card as a status symbol.

In India, Citibank, Stanchart and HSBC are the main players. However, various Indian banks, both public and private, are entering into Joint Ventures with international names like MasterCard and Visa. Recently, BOBCARDS has launched a credit card, PARAS, in association with the MasterCard International. Citibank is still the largest card issuer in the country with the total of 1.5mn cards issued. As the corporate banking margins are falling, the banks are focusing more on the retail segment. SBI and ICICI are capturing the market at a very fast pace.

Customers can sure trust to receive their purchases on time but banks cannot be very sure of getting their money back always. The major problem in the credit card segment is the percentage of defaulters. Despite initial screening and large-scale rejections by card issuers, there is a large number of defaulters. This hits profitability in a big way. Another problem is the low average spending per card. Moreover, many cardholders tend to settle their dues just before the deadline thereby not making use of the rollover facility. This does not augur well for the banks, as only higher incidence of

rollover will be profitable for the banks. With recession at its worst, very few banks can make profits in the situation.

To add to the issuer's woes, the government has included credit card holders in the economic criteria for filing the income tax returns. This is a major setback for the banks issuing the cards. Also, the credit card industry has come in the service tax net that will mar the growth of the credit cards in India.

While banks are getting innovative in pushing their cards to customers, cardholders too are getting smarter and taking care of their expenses. The low entry levels and impressive rewards schemes do draw many people to possess credit cards and make purchases. The smart ones repay on time depriving the card issuer from making significant gains. Some others spend a lot and then default and shift to another credit card.

## **MICRO:**

### **Credit card industry in India**

Contrary to Middle-eastern economies, credit card industry in India is still at a nascent stage with only 14 per cent of Indian respondents owning a card, a Mastercard International survey has said. This is in sharp contrast to UAE and Kuwait where 63 per cent and 50 per cent of those surveyed had a payment card, the MasterCard Consumer Lifestyle survey said. The credit card spend by Indians was also low with 73 per cent of Indians spending on an average less than \$35 each month, compared to only 6 per cent in UAE.

Similarly, only 2 per cent Indians spend over \$300 per month as against 58 per cent of the cardholders in the UAE. The frequency of use in the country was way below with only 6-10 per cent using their cards compared to 31 per cent in UAE during a month.

A majority 72 per cent of Indians use their cards less than twice a month compared to only 15 per cent in the middle-eastern country, the survey said. The survey, which was also conducted simultaneously in Egypt, Lebanon and Saudi Arabia, also showed differences in consumer spend with most Indians using their cards on clothing while the majority of cardholders in other countries used it on grocery shopping.

## CHAPTER 4

### ANANLYSIS AND INTERPRETATION

#### 4.1 CHI-SQUARE ANALYSIS

The chi-square distribution is one of the most widely used theoretical probability distributions in inferential statistics. i.e. in statistical significance tests. It is useful because, under reasonable assumptions, easily calculated quantities can be proved to have distributions that approximate to the chi-square distribution if the null hypothesis is true. If  $X_i$  are  $k$  independent, normally distributed random variables with mean 0 and variance 1, then the random variable

$$Q = \sum_{i=1}^k X_i^2$$

is distributed according to the chi-square distribution. The chi-square distribution has one parameter:  $k$  - the number of degrees of freedom .

The best-known situations in which the chi-square distribution is used are the common chi-square tests for goodness of fit of an observed distribution to a theoretical one, and of the independence of two criteria of classification of qualitative and quantitative data .

#### 4.1.1 Chi Square Analysis for credit card users:

##### Test 1

H<sub>0</sub>: The sex of the customers and option for a bank is unrelated

Level of significance: 5%

Testing:

The data is grouped according to the customers sex and bank as shown below

SEX \ BANKS	ABN AMRO	CITIBANK	STATE BANK OF INDIA	TOTAL
MALE	60	62	64	186
FEMALE	40	38	36	114
TOTAL	100	100	100	300

Expected frequency of a cell: ( Column total\*Row total) /Grand total

Accordingly cell frequencies are calculated as:

SEX \ BANKS	ABN AMRO	CITIBANK	STATE BANK OF INDIA
MALE	62	62	62
FEMALE	38	38	38

The Chi-Square Statistics is calculated as

$$\begin{aligned}
 \text{Chi-Square} &= \sum [ (O_i - E_i)^2 / E_i ] \\
 &= [(60-62)^2/62 + (62-62)^2/62 + (64-62)^2/62 + (40-38)^2/38 + (38-38)^2/38 + (36-38)^2/38] \\
 &= 0.3396
 \end{aligned}$$

The chi-square table value for 3 degrees of freedom for 5% level of significance is 5.991

As the calculated chi-square is less than the table value, we accept null hypothesis and infer that there is no relation between selecting a bank and sex of the customer



In similar way chi-square analysis is done for the following variables and attributes and the calculations are shown in Annexure I

1. The sex of the credit card users and nationality of bank is unrelated.
2. The age of the credit card users and option for a bank is unrelated.
3. The nature of employment of credit card users and option for a bank is unrelated.
4. Sex and nature of employment of credit card users is unrelated.
5. Sex and number of cards hold by credit card users is unrelated.
6. The introducrers to the banks and option for a bank is unrelated.
7. Sex and introducers to the bank is unrelated
8. Credit limit and income level of credit card users is unrelated.
9. Sex and income level of credit card users is unrelated.
10. The Income level of credit card users and option for a bank is unrelated.
11. The number of cards hold by credit card users and option for a bank is unrelated.

#### **4.1.2 Chi-Square Analysis for non-users of credit card:**

Chi-square analysis is done for the non-users of credit card for folowing variables and attributes and the calculations are shown in Annexure II

1. Marital status and sex of the non-users of credit card is unrelated.
2. Income and sex of the non-users of credit card is unrelated.
3. Age and sex of the non-users of credit card is unrelated.

## 4.2 WEIGHTED AVERAGE ANALYSIS

The **weighted mean**, or **weighted average**, of a list of data

$$[x_1, x_2, \dots, x_n],$$

with corresponding weights

$$[w_1, w_2, \dots, w_n],$$

$$\bar{x} = \frac{w_1x_1 + w_2x_2 + \dots + w_nx_n}{w_1 + w_2 + \dots + w_n}.$$

So, data elements with a high weight contribute more to the weighted mean than do elements with a low weight.

### 4.2.1 WEIGHTED AVERAGE ANALYSIS FOR THE FEATURES OF SELECTED BANKS

The following weights are assigned for 5 different level of answering

Highly attractive – 5

Attractive – 4

Neutral – 3

Unattractive – 2

Highly unattractive – 1

#### MASTER CHART - WEIGHTED AVERAGE FOR CREDIT CARD USERS BASED ON THE FEATURES

Table 4.1

FEATURES	ABN AMRO BANK	CITIBANK	STATE BANK OF INDIA
Credit Limit	25.1	24.4	24.2
Interest	17.2	17.2	20.3
Mile Points	19.3	19.3	15.0
Gift Vouchers	18.6	19.3	17.4
Easy Pay Scheme	21.9	19.6	16.8

Avail of ATM's	21.2	19.2	28.3
Customer Service	22.1	19.6	19.5
Insurance	21.3	19.1	24.0
Reward Points	21.4	18.8	17.3
Fee due course time	19.5	19.5	23.9
Annual Fee	19.1	19.1	21.9
Add on Card	18.2	19.3	28.1

Example: Calculation for ABN AMRO Bank Features

1. Credit Limit:

$$\frac{\{(18*5)+(53*4)+(18*3)+(9*2)+(2*1)\}}{(5+4+3+2+1)}$$

$$=25.1$$

2. Interest:

$$\frac{\{(0*5)+(23*4)+(29*3)+(31*2)+(17*1)\}}{(5+4+3+2+1)}$$

$$= 17.2$$

3. Mile Points:

$$\frac{\{(5*5)+(20*4)+(42*3)+(26*2)+(7*1)\}}{(5+4+3+2+1)}$$

$$= 19.3$$

4. Gift Vouchers:

$$\frac{\{(2*5)+(18*4)+(45*3)+(27*2)+(8*1)\}}{(5+4+3+2+1)}$$

$$= 18.6$$

5. Easy Pay Scheme:

$$\{(5*5)+(41*4)+(37*3)+(12*2)+(5*1)\}/(5+4+3+2+1)$$

$$= 21.9$$

6. Avail of ATM's:

$$\{(2*5)+(42*4)+(37*3)+(12*2)+(5*1)\}/(5+4+3+2+1)$$

$$= 21.2$$

7. Customer Service:

$$\{(5*5)+(41*4)+(37*3)+(14*2)+(3*1)\}/(5+4+3+2+1)$$

$$= 22.1$$

8. Insurance:

$$\{(4*5)+(39*4)+(35*3)+(17*2)+(5*1)\}/(5+4+3+2+1)$$

$$= 21.3$$

9. Reward Points:

$$\{(4*5)+(40*4)+(34*3)+(17*2)+(5*1)\}/(5+4+3+2+1)$$

$$= 21.4$$

10. Fee due course time:

$$\{(2*5)+(23*4)+(46*3)+(23*2)+(7*1)\}/(5+4+3+2+1)$$

$$= 19.5$$

11. Annual Fee:

$$\{(0*5)+(19*4)+(54*3)+(22*2)+(5*1)\}/(5+4+3+2+1)$$

$$= 19.1$$

12. Add on Card:

$$\{(0*5)+(7*4)+(65*3)+(22*2)+(6*1)\}/(5+4+3+2+1)$$

$$= 18.2$$

#### 4.2.2 WEIGHTED AVERAGE CALCULATION FOR THE PURPOSES OF THE SELECTED BANKS

The following weights are assigned for 5 different level of answering:

- More than once in one week – 5
- Once in a week – 4
- More than once in one month – 3
- Once in a month – 2
- Rarely – 1

#### MASTER CHART - WEIGHTED AVERAGE FOR CREDIT CARD USERS BASED ON THE PURPOSE

Table 4.2

PURPOSE	ABN AMRO BANK	CITIBANK	STATE BANK OF INDIA
Fuel Purchase	23.1	22.67	19.67
Shopping	16.6	16.1	16.3
Traveling	13.9	15.1	14.7
Cash Withdrawal	9.67	20.6	13.3
Entertainment	18.0	10.4	15.1
Hotels	18.6	18.1	17.5

Example: calculation for the purposes of the ABN AMRO Bank

1. Fuel Purchase:

$$\begin{aligned} & \{(19*5)+(29*4)+(36*3)+(11*2)+(5*1)\}/(5+4+3+2+1) \\ & = 23.1 \end{aligned}$$

2. Shopping:

$$\begin{aligned} & \{(4*5)+(18*4)+(23*3)+(33*2)+(22*1)\}/(5+4+3+2+1) \\ & = 16.6 \end{aligned}$$

3. Traveling:

$$\begin{aligned} & \{(3*5)+(10*4)+(18*3)+(31*2)+(38*1)\}/(5+4+3+2+1) \\ & = 13.9 \end{aligned}$$

4. Cash Withdrawal:

$$\begin{aligned} & \{(0*5)+(2*4)+(10*3)+(19*2)+(69*1)\}/(5+4+3+2+1) \\ & = 9.67 \end{aligned}$$

5. Entertainment:

$$\begin{aligned} & \{(4*5)+(23*4)+(31*3)+(23*2)+(19*1)\}/(5+4+3+2+1) \\ & = 18.0 \end{aligned}$$

6. Hotels:

$$\begin{aligned} & \{(8*5)+(20*4)+(34*3)+(19*2)+(19*1)\}/(5+4+3+2+1) \\ & = 18.6 \end{aligned}$$

### 4.2.3 WEIGHTED AVERAGE CALCULATION FOR THE SATISFACTION LEVEL OF THE SELECTED BANKS

The following weights are assigned for 5 different level of answering:

Extremely Satisfied – 5

Satisfied – 4

Neutral – 3

Dissatisfied – 2

Extremely Dissatisfied – 1

#### MASTER CHART - WEIGHTED AVERAGE FOR CREDIT CARD USERS BASED ON THE SATISFACTION LEVEL

Table 4.3

ABN AMRO BANK	CITIBANK	STATE BANK OF INDIA
21.5	22.4	25.0

Example: Calculation

1. ABN AMRO Bank:

$$\{(13*5)+(25*4)+(39*3)+(18*2)+(5*1)\}/(5+4+3+2+1)$$

$$= 21.5$$

2. CITIBANK:

$$\{(21*5)+(23*4)+(32*3)+(19*2)+(5*1)\}/(5+4+3+2+1)$$

$$= 22.4$$

3. STATE BANK OF INDIA:

$$\{(30*5)+(29*4)+(27*3)+(14*2)+0\}/(5+4+3+2+1)$$

$$= 25.0$$

## CHAPTER 5

### CONCLUSION

#### 5.1 FINDINGS

1. Sex do not have influence over the selection of Nationality of Bank. Nature of employment, number of cards hold by the customer and introducer to the bank.
2. Banks have influence over the selection of age of the customers, income level of the customer and introducer to the bank.
3. Credit limit is highly related to the income level.
4. Banks do not have the influence over the selection of number of cards hold by the Customers
5. Credit limit and customer service provided by the banks are the best features.
6. Fuel purchase and Hotel visits are some of the main purposes of the credit card users.
7. Based on the customer satisfaction SBI Bank is being preferred

#### 5.2 SUGGESTION:

1. Non holders of the age group 20-30 can be focused more in promoting credit card business as they are the frequent users of credit card
2. High income group can also be focused more to enhance credit card business as they prefer cards for frequent use..
3. Eventhough the holding percentage of credit card do not differ between either male or female .the usage of credit cards is more frequent by male customers. So. banks can concentrate on male customers to boost their business due to usage of cards.
4. More advertising strategies could be followed to increase the promoting credit card business attract high income section. For example this segment patronize satellite channels like NDTV , CNN, etc . The Banks can think of using these sources to promote their business.
5. Frequent male users of credit cards can be given incentives like reward points for financial concessions, gift vouchers, etc.



### 5.3 CONCLUSION:

From the above analysis it can be concluded that:

1. High income people are the frequent users of credit card.
2. Salaried class also use credit cards frequently.
3. Male customers are frequent users of credit card, than female users.
4. Existing credit card holders are influencing non holders towards the utility of credit card.

### Chi Square Analysis for credit card users:

#### Test 2:

$H_{02}$ : The sex of the credit card users and nationality of bank is unrelated.

Level of significance: 5%

#### Testing:

The data is grouped according to the customers sex and nationality of bank as shown below

SEX \ BANKS	FOREIGN BANK	NATIONAL BANK	TOTAL
MALE	122	64	186
FEMALE	78	36	114
TOTAL	200	100	300

Expected frequency of a cell: ( Column total\*Row total) /Grand total

Accordingly cell frequencies are calculated as:

SEX \ BANKS	FOREIGN BANK	NATIONAL BANK
MALE	124	62
FEMALE	76	38

The Chi-Square Statistics is calculated as

$$\text{Chi-Square} = \sum [(O_i - E_i)^2 / E_i]$$

$$= 0.254$$

The chi-square table value for 1 degree of freedom for 5% level of significance is 3.841

As the calculated chi-square is less than the table value, we accept null hypothesis and infer that there is no relation between nationality of bank and sex of the customer

**Test 3:**

$H_{03}$ : The age of the credit card users and option for a bank is unrelated

Level of significance: 5%

Testing:

The data is grouped according to the customers age and bank as shown below

AGE \ BANKS	ABN AMRO	CITIBANK	STATE BANK OF INDIA	TOTAL
<23 Years	20	17	9	46
23-32 Years	49	52	32	133
33-42 Years	18	18	39	75
43-53 Years	9	9	15	33
>53 Years	4	4	5	13
TOTAL	100	100	100	300

Expected frequency of a cell: ( Column total\*Row total) /Grand total

Accordingly cell frequencies are calculated as:

AGE \ BANKS	ABN AMRO	CITIBANK	STATE BANK OF INDIA
<23 Years	16	16	15
23-32 Years	44	45	44
33-42 Years	25	25	25
43-53 Years	11	11	11
>53 Years	4	4	5

The Chi-Square Statistics is calculated as

$$\begin{aligned} \text{Chi-Square} &= \sum (O_i - E_i)^2 / E_i \\ &= 22.605 \end{aligned}$$

The chi-square table value for 8 degrees of freedom for 5% level of significance is 15.507

As the calculated chi-square is more than the table value, we reject null hypothesis and infer that there is relation between selecting a bank and age of the customer

**Test 4:**

$H_{04}$ : The nature of employment of credit card users and option for a bank is unrelated.

Level of significance: 5%

Testing:

The data is grouped according to the employment of credit card users and bank as shown below

NATURE OF EMP. BANKS	ABN AMRO	CITIBANK	STATE BANK OF INDIA	TOTAL
SALARIED	69	73	54	196
SELF-EMPLOYED	14	12	18	44
BUSINESS	17	15	28	60
TOTAL	100	100	100	300

Expected frequency of a cell: ( Column total\*Row total) /Grand total

Accordingly cell frequencies are calculated as:

NATURE OF EMP. BANKS	ABN AMRO	CITIBANK	STATE BANK OF INDIA
SALARIED	66	65	65
SELF-EMPLOYED	14	15	15
BUSINESS	22	22	22

The Chi-Square Statistics is calculated as

$$\text{Chi-Square} = \sum (O_i - E_i)^2 / E_i$$

$$= 8.567$$

The chi-square table value for 4 degrees of freedom for 5% level of significance is 9.488

As the calculated chi-square is less than the table value, we accept null hypothesis and infer that there is no relation between selecting a bank and nature of employment of credit card users

**Test 5:**

$H_{05}$ : Sex and nature of employment of credit card users is unrelated.

Level of significance: 5%

Testing:

The data is grouped according to the customers sex and nature of employment of credit card users as shown below

SEX \ NATURE OF EMP.	SALARIED	SELF-EMPLOYED	BUSINESS	TOTAL
MALE	118	28	40	186
FEMALE	78	16	20	114
TOTAL	196	44	60	300

Expected frequency of a cell: ( Column total\*Row total) /Grand total

Accordingly cell frequencies are calculated as:

SEX \ NATURE OF EMP.	SALARIED	SELF-EMPLOYED	BUSINESS
MALE	122	27	37
FEMALE	74	17	23

The Chi-Square Statistics is calculated as

$$\text{Chi-Square} = \sum (O_i - E_i)^2 / E_i$$

$$= 1.078$$

The chi-square table value for 2 degrees of freedom for 5% level of significance is 5.991

As the calculated chi-square is less than the table value, we accept null hypothesis and infer that there is no relation between selecting sex of the customer and nature of employment

**Test 6:**

$H_{06}$ : Sex and number of cards hold by credit card users is unrelated.

Level of significance: 5%

Testing:

The data is grouped according to the customers sex and number of cards hold by credit card users as shown below

SEX NUMBER OF CARDS.	TWO	THREE	FOUR	>FOUR	TOTAL
MALE	119	33	21	13	186
FEMALE	71	26	11	6	114
TOTAL	190	59	32	19	300

Expected frequency of a cell: ( Column total\*Row total) /Grand total

Accordingly cell frequencies are calculated as:

SEX NUMBER OF CARDS.	TWO	THREE	FOUR	>FOUR
MALE	118	36	20	12
FEMALE	72	23	12	7

The Chi-Square Statistics is calculated as

$$\text{Chi-Square} = \sum (O_i - E_i)^2 / E_i$$

$$= 1.023$$

The chi-square table value for 3 degrees of freedom for 5% level of significance is 7.815

As the calculated chi-square is less than the table value, we accept null hypothesis and infer that there is no relation between selecting sex of the customer and number of cards hold by them

**Test 7:**

$H_{07}$ : The introducers to the banks and option for a bank is unrelated.

Level of significance: 5%

Testing:

The data is grouped according to the introducers to the banks and bank as shown below

INTRODUCER. BANKS	ABN AMRO	CITIBANK	STATE BANK OF INDIA	TOTAL
Friends	24	27	13	64
Sales officers	14	13	7	34
Family Members	7	2	20	29
Tele-callers	43	49	42	134
Advertisement	9	7	7	23
Users of other cards	3	2	9	14
TOTAL.	100	100	100	300

Expected frequency of a cell: ( Column total\*Row total ) /Grand total

Accordingly cell frequencies are calculated as:

INTRODUCER. BANKS	ABN AMRO	CITIBANK	STATE BANK OF INDIA
Friends	21	22	21
Sales officers	12	11	11
Family Members	10	9	10
Tele-callers	45	45	44
Advertisement	8	8	7
Users of other cards	4	5	5

The Chi-Square Statistics is calculated as

$$\text{Chi-Square} = \sum (O_i - E_i)^2 / E_i$$

$$= 52.994$$

The chi-square table value for 10 degrees of freedom for 5% level of significance is 18.307

As the calculated chi-square is more than the table value, we reject null hypothesis and infer that there is relation between selecting a bank and introducer to the banks

**Test 8:**

$H_{08}$ : Sex and introducers to the bank is unrelated.

Level of significance: 5%

Testing:

The data is grouped according to the customers sex and introducers to the bank as shown below

INTRODUCER. SEX	MALE	FEMALE	TOTAL
Friends	41	23	64
Sales officers	19	15	34
Family Members	18	11	29
Tele-callers	80	54	134
Advertisement	18	5	23
Users of other cards	10	4	14
TOTAL	186	114	300

Expected frequency of a cell: ( Column total\*Row total) /Grand total

Accordingly cell frequencies are calculated as:

INTRODUCER. SEX	MALE	FEMALE
Friends	40	24
Sales officers	21	13
Family Members	18	11
Tele-callers	83	51
Advertisement	14	9
Users of other cards	9	5

The Chi-Square Statistics is calculated as

$$\begin{aligned} \text{Chi-Square} &= \sum (O_i - E_i)^2 / E_i \\ &= 4.058 \end{aligned}$$

The chi-square table value for 5 degrees of freedom for 5% level of significance is 11.070

As the calculated chi-square is less than the table value, we accept null hypothesis and infer that there is no relation between selecting sex of the customer introducers to the bank



**Test 9:**

$H_{09}$ : Credit limit and income level of credit card users is unrelated.

Level of significance: 5%

Testing:

The data is grouped according to the Credit limit and income level of credit card users as shown below

INCOME CREDIT LIMIT	<50000	50000-1 Lakh	>1 Lakh	TOTAL
<1 Lakh	10	0	0	10
1-2 Lakhs	102	7	0	109
2-3 Lakhs	105	12	0	117
>3 Lakhs	42	19	3	64
TOTAL	100	100	100	300

Expected frequency of a cell: ( Column total\*Row total) /Grand total

Accordingly cell frequencies are calculated as:

INCOME CREDIT LIMIT	<50000	50000-1 Lakh	>1 Lakh
<1 Lakh	9	1	0
1-2 Lakhs	94	14	1
2-3 Lakhs	101	15	1
>3 Lakhs	55	8	1

The Chi-Square Statistics is calculated as

$$\text{Chi-Square} = \sum (O_i - E_i)^2 / E_i$$

$$= 30.248$$

The chi-square table value for 6 degrees of freedom for 5% level of significance is 12.592

As the calculated chi-square is more than the table value, we reject null hypothesis and infer that there is relation between selecting Credit limit and income level of credit card users

**Test 10:**

$H_{10}$ : Sex and income level of credit card users is unrelated.

Level of significance: 5%

Testing:

The data is grouped according to the customers Sex and income level of credit card users as shown below

INCOME \ SEX	MALE	FEMALE	TOTAL
<1 Lakh	9	1	10
1-2 Lakhs	60	49	109
2-3 Lakhs	72	45	117
>3 Lakhs	45	19	64
TOTAL	186	114	300

Expected frequency of a cell: ( Column total\*Row total) /Grand total

Accordingly cell frequencies are calculated as:

INCOME \ SEX	MALE	FEMALE
<1 Lakh	6	4
1-2 Lakhs	68	41
2-3 Lakhs	73	44
>3 Lakhs	40	24

The Chi-Square Statistics is calculated as

$$\text{Chi-Square} = \sum (O_i - E_i)^2 / E_i$$

$$= 7.955$$

The chi-square table value for 3 degrees of freedom for 5% level of significance is 7.815

As the calculated chi-square is more than the table value, we reject null hypothesis and infer that there is relation between selecting sex and income level of credit card users

**Test 11:**

$H_{11}$ : The Income level of credit card users and option for a bank is unrelated

Level of significance: 5%

Testing:

The data is grouped according to the Income level of credit card users and bank as shown below

INCOME BANKS	ABN AMRO	CITI BANK	STATEBANK OF INDIA	TOTAL
<1 Lakh	2	13	5	20
1-2 Lakhs	41	38	30	109
2-3 Lakhs	36	37	44	117
>3 Lakhs	21	22	21	64
TOTAL	100	100	100	300

Expected frequency of a cell: ( Column total\*Row total) /Grand total

Accordingly cell frequencies are calculated as:

INCOME BANKS	ABN AMRO	CITI BANK	STATEBANK OF INDIA
<1 Lakh	6	7	7
1-2 Lakhs	36	36	37
2-3 Lakhs	39	39	39
>3 Lakhs	21	22	21

The Chi-Square Statistics is calculated as

$$\begin{aligned} \text{Chi-Square} &= \sum (O_i - E_i)^2 / E_i \\ &= 11.560 \end{aligned}$$

The chi-square table value for 6 degrees of freedom for 5% level of significance is 11.070

As the calculated chi-square is more than the table value, we reject null hypothesis and infer that there is relation between selecting a bank and Income level of credit card users

**Test 12 :**

$H_{012}$  :The number of cards hold by credit card users and option for a bank is unrelated.

Level of significance: 5%

Testing:

The data is grouped according to the number of cards hold by credit card users and bank as shown below

NO OF CARDS BANKS	ABN AMRO	CITIBANK	STATE BANK OF INDIA	TOTAL
TWO	51	61	68	180
THREE	20	21	18	59
FOUR	13	12	7	32
> FOUR	6	6	7	19
TOTAL	100	100	100	300

Expected frequency of a cell: ( Column total\*Row total) /Grand total

Accordingly cell frequencies are calculated as:

NATURE OF CARDS BANKS	ABN AMRO	CITIBANK	STATE BANK OF INDIA
TWO	60	60	60
THREE	20	20	19
FOUR	11	11	10
> FOUR	6	6	7

The Chi-Square Statistics is calculated as

$$\text{Chi-Square} = \sum (O_i - E_i)^2 / E_i$$

$$= 3.890$$

The chi-square table value for 6 degrees of freedom for 5% level of significance is 11.070

As the calculated chi-square is less than the table value, we accept null hypothesis and infer that there is no relation between selecting a bank and number of cards hold by credit card users

### Chi-Square Analysis for non-users of credit card:

#### Test 1:

$H_{01}$ : Marital status and sex of the non-users of credit card is unrelated.

Level of significance: 5%

Testing:

The data is grouped according to the marital status and sex of the non-users of credit card as shown below

MARITAL STATUS \ SEX	MALE	FEMALE	TOTAL
MARRIED	41	17	58
SINGLE	28	14	42
TOTAL	69	31	100

Expected frequency of a cell: ( Column total\*Row total) /Grand total

Accordingly cell frequencies are calculated as:

MARITAL STATUS \ SEX	MALE	FEMALE
MARRIED	40	18
SINGLE	29	13

The Chi-Square Statistics is calculated as

$$\begin{aligned} \text{Chi-Square} &= \sum (O_i - E_i)^2 / E_i \\ &= 0.192 \end{aligned}$$

The chi-square table value for 1 degree of freedom for 5% level of significance is 3.841

As the calculated chi-square is less than the table value, we accept null hypothesis and infer that there is no relation between selecting Marital status and sex of the non-users of credit card

**Test 2:**

$H_{02}$ : Income level and sex of the non-users of credit card is unrelated.

Level of significance: 5%

Testing:

The data is grouped according to the Income level and sex of the non-users of credit card as shown below

AGE \ SEX	MALE	FEMALE	TOTAL
<23 Years	6	3	9
23-32 Years	14	3	17
33-42 Years	13	7	20
43-53 Years	21	13	34
>53 Years	15	5	20
TOTAL	69	31	100

Expected frequency of a cell: ( Column total\*Row total) /Grand total  
Accordingly cell frequencies are calculated as:

AGE \ BANKS	MALE	FEMALE
<23 Years	6	3
23-32 Years	12	5
33-42 Years	14	6
43-53 Years	23	11
>53 Years	14	6

The Chi-Square Statistics is calculated as

$$\text{Chi-Square} = \sum (O_i - E_i)^2 / E_i$$

$$= 2.147$$

The chi-square table value for 4 degrees of freedom for 5% level of significance is 9.488

As the calculated chi-square is less than the table value, we accept null hypothesis and infer that there is no relation between selecting Income level and sex of the non-users of credit card

**Test 3:**

$H_{03}$ : Age and sex of the non-users of credit card is unrelated.

Level of significance: 5%

Testing:

The data is grouped according to the age and sex of the non-users of credit card as shown below

INCOME \ SEX	MALE	FEMALE	TOTAL
< 1 Lakh	8	2	10
1-2 Lakhs	43	23	66
> 3 Lakhs	18	6	24
TOTAL	69	31	100

Expected frequency of a cell: ( Column total\*Row total) /Grand total

Accordingly cell frequencies are calculated as:

INCOME \ SEX	MALE	FEMALE
< 1 Lakh	7	3
1-2 Lakhs	46	20
> 3 Lakhs	17	7

The Chi-Square Statistics is calculated as

$$\text{Chi-Square} = \sum (O_i - E_i)^2 / E_i$$

$$= 1.324$$

The chi-square table value for 3 degrees of freedom for 5% level of significance is 5.991

As the calculated chi-square is less than the table value, we accept null hypothesis and infer that there is no relation between selecting age and sex of the non-users of credit card





11. Are you credit card user?

Yes  No

If yes,

Are you a multi credit card user?

Yes  No

How many?

2	3	4	More than 4

12. Tick the Credit Card that you use. Please indicate the credit limit by a tick mark

BANK NAME	Card	< 50000	50000 - 100000	>100000
ABN AMRO Bank Credit Card				
Standard Chartered Bank credit card				
HSBC Bank Credit Card				
HDFC Bank Credit Card				
SBI Bank Credit Card				
American Express Bank Credit Card				
CITI Bank Credit Card				
ICICI Bank Credit Card				

13. How often do you use the card for the following purpose ?

PURPOSE	More than once in a week	Once in a week	More than once in a month	Once in a month	Rarely
Fuel Purchase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shopping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Traveling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cash withdrawals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Entertainment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hotels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. What feature of the card attracted you?

FEATURE	Highly attractive	Attractive	Neutral	Unattractive	Highly unattractive
Credit limit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mile Points	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gift Voucher	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easy Pay Scheme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Availability of ATM's	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Customer Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insurance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reward Points	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fee due Course of time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annual Fee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Add on card	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. Are you satisfied with the features of your credit card?

Extremely Satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. Who introduced you to apply for the card?

Friends       Sales officers       Family members   
 Tele callers       Advertisement       Users of other cards

17. Do you know about the features of ABN AMRO Credit Cards?

Yes       No

18. If you are not holding an ABN AMRO credit card, will you desire to hold?

Yes       No

***Thank you for your kind co operation***

## ANALYTICAL STUDY OF NON CREDIT CARD USERS FOR THEIR PREFERENCE AND TO CREATE A CUSTOMER PROFILE FOR FUTURE PROMOTIONS

### QUESTIONNAIRE

9. Name :
10. Address :
11. Sex : Male  Female
12. Age :  
 < 23 years     23 – 33 years     33 – 43 years   
 43-53 years     >53 years
- Date of birth (optional)                   
 DD    MM    YYYY
13. Telephone no :
14. e-mail id :
15. Marital Status : single     married
16. Nature of employment  
 Salaried     self –employed professional     Business
9. Total annual income ?  
 < 1lakh     1 – 2 lakhs     > 3 lakhs

12. Do you wish to have a credit card?

Yes  No

If yes,

Tick the Credit Card that you wish to use.

BANK NAME	Card
ABN AMRO Bank Credit Card	<input type="checkbox"/>
Standard Chartered Bank credit card	<input type="checkbox"/>
HSBC Bank Credit Card	<input type="checkbox"/>
HDFC Bank Credit Card	<input type="checkbox"/>
SBI Bank Credit Card	<input type="checkbox"/>
American Express Bank Credit Card	<input type="checkbox"/>
CITI Bank Credit Card	<input type="checkbox"/>
ICICI Bank Credit Card	<input type="checkbox"/>

11. How often do you wish to use the card for the following purpose ?

PURPOSE	More than once in a week	Once in a week	More than once in a month	Once in a month	Rarely
Fuel Purchase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shopping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Traveling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cash withdrawals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Entertainment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hotels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. What feature of the card attracts you?

FEATURE	Highly attractive	Attractive	Neutral	Unattractive	Highly unattractive
Credit limit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mile Points	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gift Voucher	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easy Pay Scheme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Availability of ATM's	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Customer Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insurance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reward Points	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fee due Course of time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annual Fee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Add on card	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. Do you know about the features of ABN AMRO Credit Cards?

Yes  No

If yes,

DO you wish to have one

Yes  No

*Thank you for your kind co operation*

## BIBLIOGRAPHY

1. Susan.M.Broniarczyk et al, Consumers' Perception of the Assorted Carried in a Grocery Category", Journal of Marketing Research, 35, May 1998, 166-176.
2. Kothari C.R (2002), Research Methodology, Wishwa Prakasan, New Delhi, Second Edition.
3. Umasekaran (2002), Research Method for Business, John Wiley & Sons, Inc. 4<sup>th</sup> Edition.
4. Richard.I.Levin & David.S.Rubin (2005), Statistics for Management, Prentice Hall of India Private Limited, New Delhi, 7<sup>th</sup> Edition.

## WEB SITES

1. [www.wikipedia.com](http://www.wikipedia.com)
2. [www.abnamro.com](http://www.abnamro.com)
3. [www.citibank.com](http://www.citibank.com)
4. [www.statebank.com](http://www.statebank.com)