

Impact of Plastic Money on Bank Customers

Dr. V. Vimala



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To
My Beloved Parents

Foreword

The rapid strides made in the banking technology products, services and information communication technology arena have tremendously impacted the way of banking is made worldwide. Nowadays, the bank customer's does not have to enter the brick-and-mortar structure of the bank in order to get serviced by the bank. He or she can get all the services right at his or her doorstep on his or her desktop. Such is the quintessential influence of banking products like Plastic money or polymer money, made out of plastic, is a new and easier way of paying for goods and services. Plastic Money was introduced in the 1950's and is now an essential form of ready money which reduces the risk of handling a huge amount of cash. It includes debit cards, credit cards, ATMs, smart cards, etc on banking that all major operations/decisions with respect to deposits, withdrawal and investment can be made at the click of a mouse on your computer or at an Automatic Teller Machine (ATM).

Technology as a confluence of several disparate disciplines such as Finance (including risk management), Information technology, Computer Science, Communication technology and marketing science. It presents the evolution of banking, the tremendous influence of information and communication technologies on banking and its products, the quintessential role played by computer science in fulfilling banks' marketing objective of servicing customers better at a less cost and thereby reap more profits. It also highlights the use of advanced statistics and computer science to measure, mitigate and manage various risks associated with banks' business with its customers and other banks and of particular significance is the set of latest trends this chapter presents in terms of impacts of plastic money on bank customers in Karnataka which this study specifically focused on the psychological impacts, economic and financial impacts and socio-cultural factors both in the long term and short term. The chapter concludes by predicting that the Banking Technology impacts on various confirmatory factors which is discussed in the study taking into the consideration of all discipline to set for rapid growth in future.

This book will explore issues critical for success in providing usages of Plastic Money. The aim is to assist bank customers in utilizing the opportunities offered by banks which relatively new set of technologies. This book largely restricts itself to the plastic Money impacts on the customers in view of the problem, and is therefore primarily focused on external factors, such as the socio-cultural, financial/ economical and psychological factors. It is not intended that the

book should replace texts on existing banking technology products/banking management practices in its focused field, but rather that it be used as a complement to them. The main target audiences include researchers involved in the banking field, undergraduate as well as postgraduate students of B.Com – Banking Technology, general management and technology management as well as practitioners of Banking technology products and services of e-banking. This book is of paramount importance can be seen by the fact that the academicians, researchers and professionals from all over the worldwide those interested in the utilization of Banking Technology products and its service.

The readings of this book will indisputably enrich the knowledge on phase of Impact of Plastic Money on bank customers in Karnataka. I wish to appreciate the relevance of the topics of this research work and wish this book would surely bring insights in these fields and act as an eye opener to the scholars in this field of inquiry. I am of firm opinion that students, research scholars and academicians will find this book very useful as a source of reference for their research and the decision making in the broad area of Plastic Money.

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Preface

India is emerging as one of the key players in the Banking Sector. In view of its large skilled workforce, growing banking technology, availability of banking services and the emergence of established banking products. India is advantageously positioned at the domestic and international banking front. The study of banking technology today is incomplete without the study of Plastic Money and its impact on the customers. There is no doubt that knowledge-based industries such as information technology offer India a smooth route to world Banking Services. Yet far greater potentials and opportunities exist in the Banking sector also. The study of Plastic Money (Debit and Credit Cards) helps in understanding the various uses and its influence such as socio-cultural factors, psychological factors, financial factors and economic development on the bankers as well as on bank customers in the current scenario. The subject is therefore very important for the students studying Commerce/Business subjects. This book is also useful to others who wish to understand the concept of Banking Technology products and its various services to them for their individual information.

Focus of the Book

The book focuses on the following objectives which remain unchanged in the present book:

01. To study the impact of Plastic Money, and economic (financial aspects) dimensions with the time duration of holdings; [short, medium and long term];
02. To analyze the level of satisfaction attained by the respondents in their socio-cultural, psychological transactions with different influential factors affecting them;
03. To identify the critical risks associated with the use of Plastic Money and its implications on the long term usages based on selected sample for the study; and
04. To analyze the service delivery (in terms of value addition) provided by the selected sample banks (Public and Private sector) to its customers.

This textbook is designed to provide the readers a basic understanding of Plastic Money usages, benefits, satisfaction level, its attitude, preferences, and various impacts [economic (financial aspects) dimensions with the time duration of holdings; short, medium and long term] on the customers and also help in understanding the impact on economic development of

the Banking sector by using the more and more banking technology products, critical risks associated with long term usages and its services. Banks have started to rely increasingly on the Direct Selling Agents (DSAs)/Direct Marketing Agents (DMAs) for marketing/ selling bank products. Debit Cards and Credit Cards is one of the most accepted products being marketed by banks. Therefore, it is critical for those involved in the business of selling debit cards and credit cards to be aware of the nature of the products; the rules governing the same and the issues that arise in the sale of credit cards. This book also includes sample illustrations and few statistical data for the reader to understand related topics. This book would be useful for every person as it is inevitable today to use the Plastic Money in various circumstances or in our routine transactions. The knowledge of Plastic Money (Debit Card and Credit Cards) makes a person appreciate the legal entanglement pertaining to their various banking transactions, avoid legal litigations and obtain timely benefits to the Plastic Money users.

With the intension of making the subject of Banking technology products and its services interesting and help the readers easy to understand the topic well. This book is an outcome of the research programme on The Impact of Plastic Money on Bank Customers in Karnataka – An Empirical Study. As such, this book has important points to the bank customers, bankers, general public, students, and the educational institutions.

Audience of the Book

The Impact of Plastic Money on Bank Customers is designed for the use in banking fields (Bankers and Bank Customers) and those seek the information on the Banking technology products and its services for their benefits. It will also be useful for the Banking officials, banker customers and general public who want to update their knowledge about the recent thinking in the Plastic Money, the subject matter has been discussed in conceptual-cum-analytical manner. It is the aim of the book to help readers develop skill to understand, analyze and interpret the impact of Plastic Money on bank customers in Karnataka State and data to make good decisions in the utilizations of both Debit and Credit Cards transaction in their routine life.

Dr. V. Vimala

Abstract

The Plastic Money in the form of cards has been actively introduced by banks in India in 1990's. But, it was not very popular among Indian consumers at the time of its introduction. The change in demographic features of consumers in terms of their income, marital status, education level etc., and up – gradation of technology and its awareness has brought the relevant changes in consumers' preferences. These changing preferences have also modified their outlook and decision regarding the acceptance and non – acceptance of particular product and services in the market. Thus, the Plastic Cards (Plastic Money) are gaining popularity among bankers as well as customers and getting accepted in the market place. There has been a drastic change in the banking products and the services by use of new technology. Usage of Plastic Money such as Debit Cards and Credit Cards started increasing in India over a period of time. Most banks now issue Debit Cards, where they have already converted all their ATM Cards into Debit cards or ATM-cum–Debit Cards.

The present study intends to understand and analyses the current structure of the Plastic Money as well as its impact on three important dimensions covering economic (financial aspects), social–cultural and psychological. The scope of the study covers the factors affecting the passion towards the use of bank cards (Plastic Money) among the selected customers using both debit and credit cards, ATM services provided in selected public and private bank branches in Southern Zone of Karnataka, focusing on Bangalore division with 53 taluks. For the present study, two Public sector and two Private sector banks are selected based on the number of cards outstanding in issue as well as in their usage in India as per the statistics– December, 2010. (a) State Bank of India (SBI) and (b) Bank of India (BOI) are covered in Public Sector and (a) Industrial Credit and Investment Corporation of India (ICICI Bank) and (b) Housing Development Finance Corporation Limited, (HDFC) Bank are selected in private Sector. From these selected banks, the sample size of the study covers 600 individual cardholders or Plastic Money holders in selected districts of Karnataka State concentrating on two public sector banks and two private sector banks and these banks are selected based on the top card issues and users in the India as per the statistics provided by the Banks Credit Card Base, April 2011–12.

Multi–Stage Sampling was adopted for selection of respondents for the study. This study used suitable statistical tools such as Descriptive statistics, Chi–Square (X^2), Correlation and Logistic Regression, Confirmative Factor Analysis, Wilcoxon–Mann Walley Test, T–Test and different tools such as tables, diagrams/graphs are also used to analyze the collected data and

to make the presentation more effective. The present study has considered a period of ten years and the relevant data pertaining to the study covers from 2004 to 2013. The research work categorized in seven chapters which are detailed below:

- The First Chapter, *Research Design* deals with introduction followed by statement of problem and need for the study, objectives, scope, sample frame work, period of the study, hypotheses, statistical tools and techniques and methodology adopted in the study were included in this chapter.
- The second chapter, *Literature Review* provides related studies and researches undertaken in different states and countries across the globe on the Plastic Money. In this section, it helped the researcher to find the research gap, their by identified the research problem of the present study.
- The third chapter, *Plastic Money in India–A Conceptual Framework* makes an attempt to study and understand the concepts of the Plastic Money, its benefits, pros and cons, difference of usages among the customers in the Indian Banking Sector.
- The fourth chapter, *A Brief Profile of Selected Sample Banks* provides the details of selected banks (Both Public and Private Sector Banks) in Karnataka. It attempts to present the review of statistical data pertaining to Plastic Money, (Credit and Debit Cards), analyzing the Banking Development trends in India.
- The fifth chapter, *Debit, Credit Cards and ATM Services in Selected Banks* examines the best services provided by both public and private sector to the customer and their relationship in handling the banking technology products like Plastic Money in the selected area.
- The sixth chapter *The Empirical Evidences and Analysis of the Impact of Plastic Money on Bank Customers in Karnataka* makes an attempt to evaluate the usage, perception and satisfaction of bank transactions through Plastic Money, socio-cultural impact, psychological factors and other economic factors which influence the use of Plastic Money among the selected bank customers in Karnataka State.
- The seventh chapter *Summary of Major Findings, Suggestions and Conclusion* presents the major findings of the present study, suggestions offered to Customers and Banks followed by Conclusion.

This study presents valuable empirical evidences of the impact of Plastic Money (only debit and credit card holders) of the Selected Bank Customers of both public and private sector banks in the southern region of the Karnataka state. It also provides the ATM service

perception in Indian banking system, satisfaction level, and impact of plastic money from different dimensions such as socio-cultural, economical, financial and psychological factors. The private sector banks are providing more satisfactory usage of Plastic Money and the ATM service as compared to public sector banks in the study area. Therefore public sector banks viz SBI and BOI should concentrate more and to pay special attention to the card holders to provide better ATM services, quality to improve customers' satisfaction. However, Empirical evidences show that the impact of the Plastic Money towards the selected respondents and their perception about efficiency, security and responsiveness, cost effectiveness, problem handling and compensation and Contact service related to ATM service is low in both public and private sector banks. Hence, both public and private sector banks should to enhance customers' or cardholder's satisfaction and loyalty to their level best. Cost effectiveness is one of the most important service quality dimensions which is adversely affecting on customers' satisfaction. Therefore bank should reduce charges related ATM service and credit card usages to provide cost effective ATM service to their customers.

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Chapter –I

CHAPTER - I

Research Design

Introduction

The Plastic Money is one of those rare moments in history when that agreement shifts and one payment form overtakes another as the preferred way to pay. Plastic money has become the order of the day. Plastic Money or Polymer Money, made out of plastic, is a new and easier way of paying for goods and services. Plastic Money is undergoing tremendous changes across the globe. The first such change came sometime between the 10th and 6th centuries B.C. when Greece and India introduced metal coins, which surpassed barter or the shell currencies of earlier times. Coins dominated trade up to 2000 years, until the introduction of cheque, by Italian merchants in the middle Ages. In 1690, Massachusetts became the first of the colonies to introduce paper money. Cash took decades to gain broad acceptance, but eventually became the standard of payment for the next three centuries. *Australia* was the first country to develop the plastic notes which have longer life but after wore they are recycled for further utilizing.

Plastic Money is a term that is used predominantly in reference to the hard Plastic Cards which is used every day in place of actual bank notes. They can come in many different forms such as cash cards, credit cards, debit cards, pre – paid cash cards and store cards. Cash Cards – A card that will allow you to withdraw money directly from your bank via an authorized Automatic Teller Machine (ATM) but it will not allow the holder to purchase anything directly with it. Credit Cards – Again in this card will permit the card holder to withdraw cash from an ATM, and a credit card will allow the user to purchase goods and services directly, but unlike a Cash Card the money is basically a high interest loan to the card holder, although the card holder can avoid any interest charges by paying the balance off in full each month. Debit Cards – This type of card will directly debit money from your bank account, and can directly be used to purchase goods and services. While there is no official credit facility with debit cards per se, as it is linked to the bank account the limit is the limit of what is in the account, for instance if an overdraft facility is available then the limit will be the extent of the overdraft.

The *Plastic* portion of this term refers to the plastic construction of credit cards, as opposed to paper and metal of currency. The *Money* portion is an erroneous reference to Credit Cards as a form of money, which they are not. Although credit cards do facilitate transactions, because they are a liability rather than an asset, they are not money and not part

of the economy's money supply. Plastic Money is an essential form of money which reduces the risk of handling huge amount of cash. It includes Debit Cards, ATMs, Smart Cards etc., Plastic Money offers free use of fund and provides a convenient payment method for purchases made on the internet and over phone. Banks issue Plastic Cards with a magnetic stripe that holds machine readable identification code. Bank cards are used for Electronic – Commerce (with magnetic stripe readers or via Internet) and for banking transactions through Automatic Teller Machines (ATMs). Two main types of bank cards are *Credit Cards* (which allow drawing of funds up to an approved credit limit) and *Debit Cards* (which allow withdrawing of funds up to the available balance in cardholder's account) The unprecedented growth in the number of *Credit Card* users has stimulated the Indian economy to a significant extent.

Plastic Money in India: An Overview

The Plastic Money in the form of cards has been actively introduced by banks in India in 1990's. But, it was not very popular among Indian consumers at the time of its introduction. The change in demographic features of consumers in terms of their income, marital status, education level etc., and up – gradation of technology and its awareness has brought the relevant changes in consumers' preferences. These changing preferences have also modified their outlook and decision regarding the acceptance and non - acceptance of particular product and services in the market. Thus, the Plastic Cards are gaining popularity among bankers as well as customers and getting accepted in the market place. It can be well imagined that the Plastic Cards market is growing at a large pace in India yet, it has long way to go if compared to the usage trends of other countries. Hence, it has become important that the payment system in India has to be modernized enough to be at par with the systems prevalent in other countries, since our domestic financial markets are increasingly getting integrated with markets abroad. (Survey of India, 2005)

Reserve Bank of India (RBI) is taking important steps to enhance Plastic Card's usage and popularity through initiatives like regulating card market to maintain the security levels and to build up confidence of bankers and customers. Despite the strong advances in E – Payments, an estimated 90 percent of personal consumption expenditure in India is still made with cash (Country Survey – India, 2005) which indicates the tremendous growth potential of this business. So, this can be considered as mere beginning which indicates the bright future prospects of Plastic Card market in India. It clearly indicates that the Indian banking sector is accepting the challenge of information technology as all the groups of bankers have now recognized it as essential requirement for their survival and growth in future.

Statement of the Problem and Need for the Study

There has been a drastic change in the banking products and the services by use of new technology. Usage of Plastic Money such as Debit Cards and Credit Cards started increasing in India over a period of time. Most banks now issue Debit Cards, where they have already converted all their ATM Cards into Debit cards or ATM – cum – Debit Cards. The reason banks are so eager to push debit cards that it helps them to cut costs significantly. But, this has created lot of confusions among the customers regarding their usage and benefits. Such cards have overcome the delayed payment process of cheques, due to which sometimes merchants have to suffer.

Still, there are lot of technical problems involved in transactions, PIN and other operational aspects. It is used as a convenient mode of carrying money and also to supplement the Paper Money. Apart from the benefits to individuals, the business as a whole gains advantages from accepting of Plastic Money as a medium of payment. It has enormous impact on bank customers, changing the buying habits of customers by making it much easier for them to finance purchases of goods and services.

Research studies among a broad range of countries show the wide spread adoption of Plastic Money and its greater impact on consumer spending, savings habits, psychological aspects, economic changes, socio – cultural changes and financial perspectives.

From psychological standpoint, human need for money is proportional to what each specific person is interested in buying and what they think is within range. Therefore in some people, Credit Card dependency can breed an overestimation of what they can afford. The result of this state is an increase in the demand for money to either repay the borrowed credit or supplement credit purchases with additional funds.

During the past five years (2005 – 2010) of Credit Card debt signals a deep economic trouble that goes far beyond consumer irresponsibility. Since Credit Card transactions carry a higher risk, it is necessary to encourage the use of Debit Cards, RBI said. Credit Card fraud is a wide – ranging term for theft and fraud committed using a Credit Card or any similar payment mechanism as a fraudulent source of funds in a transaction. ATM frauds and bank card fraudulent activities are increasing resulting in crime rates and affecting the society very badly in the state.

Increased consumer spending ultimately leads to business growth. It serves as an important driving force and facilitator for economic and business growth through capital accumulation, increased consumer spending, enhanced tax revenues, preventing money laundering and black money. Traditionally, Indian business transactions are mostly carried out

by using liquid cash. But, with the emergence of information technology, growth of internet, improved payment structure, E – Commerce (Electronic Commerce) and E–Banking development, entry of foreign banks and new generation banks, high level of competition, easy availability of credit, increase in affluence levels and income of middle group, greater amount of consumerism, fast changes with regard to life style etc., the Indian economy witnessed the growth of Plastic Money – credit cards and debit cards –in terms of usage by customers and acceptance by merchant establishments. In this background, present research aims to understand the Impact of Plastic Money focusing on different dimensions among the selected bank customers. *The Impact of Plastic Money on the Bank Customers in Karnataka State* tries to make analysis of the Impact from three dimensions viz, economic dimension (financial aspects), socio – cultural dimension and psychological dimensions.

It is observed that very little work is carried out in the area of Credit and Debit cards covering Public and Private sector banks in Karnataka state focusing on the Southern Zone (selected sample area). The present study focuses on to understand how the Plastic Money affect the life style, standard of living, saving habits, spending trends among the selected bank customers, tries to analyse the impact on the socio–cultural changes, passion towards usage of credit cards, economic influences such as disposal of income by use of Plastic Money, increase in the purchasing power, use of updated technology by bank customers and their influential factors, such as psychological factors which is affecting the healthy relationship between the family members and spouses. It also makes an attempt to make a comparative study between the public and private sector banking services specifically towards credit and Debit Cards.

Objectives of the Study

The primary objective of the present study is to understand the impact of Plastic Money on the selected bank customers in Karnataka and its effectiveness towards the use and the effective utilization of the services by the selected sample. In this background, objectives of the study are presented as under:

01. To study the impact of Plastic Money, and economic (financial aspects) dimensions with the time duration of holdings; [short, medium and long term];
02. To analyze the level of satisfaction attained by the respondents in their from socio – cultural, psychological transactions with different influential factors affecting them;
03. To identify the critical risks associated with the use of Plastic Money and its implications on the long term usages based on selected sample for the study; and
04. To analyze the service delivery (in terms of value addition) provided by the selected sample banks (Public and Private sector) to its customers.

Scope of the Study

The present study intends to understand and analyses the current structure of the Plastic Money as well as its impact on three important dimensions covering economic (financial aspects), social – cultural and psychological. The scope of the study covers the factors affecting the passion towards the use of bank cards (Plastic Money) among the selected customers using both debit and credit cards, ATM services provided in selected public and private bank branches in Southern Zone of Karnataka, focusing on Bangalore division with 53 taluks [Bangalore Urban (05), Bangalore Rural (04), Chikkaballapur (06), Chitradurga (06), Davanagere (06), Kolar (05), Ramanagara (04), Shimoga (07), Tumkur (10)]. (*Numbers mentioned in the paranthesis indicates the taluks*). For the present study, two Public sector and two Private sector banks are selected based on the number of cards outstanding in issue as well as in their usage in India as per the statistics – December, 2010. (a) *State Bank of India (SBI)* and (b) *Bank of India (BOI)* are covered in Public Sector and (a) *Industrial Credit and Investment Corporation of India (ICICI Bank)* and (b) *Housing Development Finance Corporation Limited, (HDFC) Bank* are selected in private Sector.

Hypotheses for the Study

To achieve objectives of the study, the researcher was able to formulate certain hypotheses for the empirical verification of the present study.

They are as follows:

- H₁:** The changes in the duration of holdings of plastic money are significantly influenced by economic (financial aspects), socio – cultural and psychological.
- H₂:** The intensity of Plastic Money holders' satisfaction with their transactions is different in terms of aforesaid three dimensions in the study.
- H₃:** The use of Plastic Money is not risky with the influential factors of socio-cultural, economic, psychological and financial in the selected sample study.
- H₄:** The priority and preferences of the plastic money strongly influence the bank customers and the value addition – measured in terms of security features provided on plastic money differs with type of bank.

The above hypotheses are tested with the help of the data obtained from the primary sources applicable for the analysis of the present study.

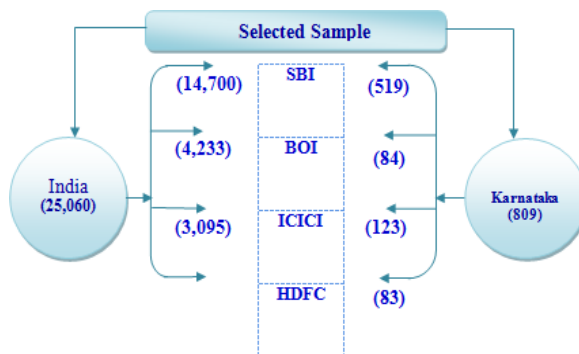
Methodology and Sources of Data

The present study is based on systematic investigation and exploration. Accordingly, the use of data has been taken from both primary as well as the secondary data. The relevant reports viz., RBI monthly bulletins, magazines, news papers, business dailies, books and journals, e – media and other literature available in this field constitute secondary sources for the present study. The survey work was carried out with the help of structured, pre – tested questionnaire for selected Card Holders was used to collect the data from debit and credit card holders located in Bangalore division of Karnataka, selected from public and private sector banks giving equal representation to both the categories

Sample Design and Framework

As on 11/08/2012, one central bank, 26 nationalized banks, 15 old public sector banks/societies, 08 new private sector banks and 43 foreign banks in India are operating. 30 districts in Karnataka are broadly categorized into four divisions viz., Bangalore Division, Belgaum Division, Gulbarga Division and Mysore Division for Banking purposes. For the purpose of study, Out of 175 taluks of the state, only 53 taluks of Southern Zone are included in the sample covering public and private sector banks.

Figure 1.1: Selected Bank Statistics (March 31, 2013)



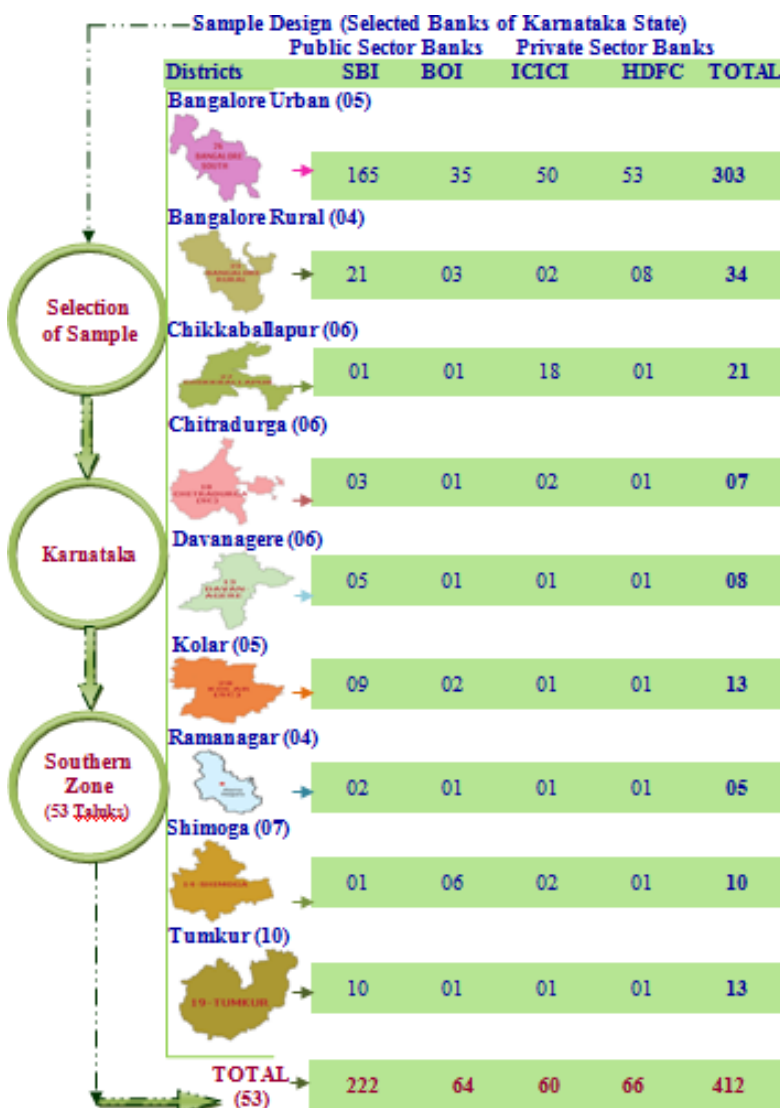
Sources: www.rbi.org.in

www.idianbankbranches.com

Note: Numbers mentioned in parenthesis represents No. of selected bank branches

In India, the selected bank branches-public sector (SBI) and (BOI)] and private sector (ICICI) and (HDFC)] are 25,060 whereas the selected bank branches in Karnataka is 809, of which 603 (SBI and BOI)-public sector and 206 (ICICI and HDFC) private sector bank branches. Out of 809 branches, 412 are considered for the present study and are shown in figure 1.2.

Figure 1.2



Note: Numbers mentioned in Parenthesis represents the taluks/tashils.

Sources: <http://www.indiabankbranches.com/state-bank-of-india-bank-branches-list-62-in-karnataka-state-19.htm>

From these selected banks, the sample size of the study covers 600 individual cardholders or Plastic Money holders in selected districts of Karnataka State concentrating on two public sector banks and two private sector banks and these banks are selected based on the top card issues and users in the India as per the statistics provided by the Banks Credit Card Base, April 2011 – 12.

Multi–Stage Sampling was adopted for selection of respondents for the study. In the first stage, the Bank Customers of Karnataka were divided into two groups Public Sector Banks and Private Sector Banks.

In the Second stage area wise division is made, where only the Southern zone of Karnataka consisting nine districts including Bangalore Urban and Rural, Chikkaballapur, Chitradurga, Davanagere, Kolar, Ramanagara, Shimoga, and Tumkur were considered for the study and of which 600 customers who possess Plastic Money are selected randomly in each selected districts consisting of only 53 taluks.

Data Base of the Study

Data pertaining to the study were collected by using the research instrument (Structured Questionnaire) consisted of questions relating to the socio – economic profile of the debit and credit card holders in the selected banks, the factors that motivated the customers to use Plastic Money, the benefits of Plastic Money, problems faced by using the bank cards, level of satisfaction, attitudes, perceptions and misuses attained through operation the banking technology products by taking into consideration three dimensions such as socio – culture, economic (financial aspects) and psychological. The framed research instrument was pre – tested with the help of pilot study and based on their responses the questions were reformulated.

Statistical Tools and Techniques

To analyze the collected data, various statistical techniques and tools have been used as per the requirement. The information collected was analyzed and presented in a logical way to arrive at meaningful interpretation.

This study used suitable statistical tools such as Descriptive statistics, Chi – Square (χ^2), Correlation and Logistic Regression, Confirmative Factor Analysis, Wilcoxon – Mann Walley Test, T – Test and different tools such as tables, diagrams/graphs are also used to analyze the collected data and to make the presentation more effective.

Period of the Study

The present study has considered a period of ten years and the relevant data pertaining to the study covers from 2004 to 2013.

Limitations of the Study

This study provides better insight about the impact of Plastic Money on the Customers of Selected Banks including Public Sector Banks and Private Sector Banks in the Karnataka State covering only the Southern Region. It also provides indications about service threats which are identified in the survey. However, the present work is not free from few limitations. An attempt has been made in the following paragraphs to present the same.

Firstly, the study asked the selected bank customers on some personal financial matters. Bank Customers may not have been honest about their credit card payment practices and usage of Debit Cards. Bank Card holders who feel uncomfortable about financial issues may not have participated, or they may have participated less than candidly, thereby distorting the results. Some customers do not understand the basic rules of their credit cards and Usage of Debit cards. If a customer's did not understand the meaning of Plastic Money for the purpose of the study, it might have responded appropriately to the items on the survey.

Secondly, the sampling design may have excluded participation by only with the Bank customers with very good, or very bad Plastic Money Users histories. Customers who had experienced severe Debit and credit card trouble may have purposely avoided a setting where prizes for participation were offered. The sample consisted entirely of volunteers, always a limitation in a research design.

Thirdly, this is a self – designed instrument. Although the researcher conducted a pilot study using the instrument, and the researcher found at least one item when administering the survey that was clearly misunderstood by respondents. Despite these limitations, the study provided useful information to academic administrators. Little is known about Bank Customers attitudes, satisfaction, usage patter, passion towards handling the Banks cards and credit card payment practices. Bankers as an administrators allow Debit and credit card solicitors on their Banks without much thought to the implications of such activities for customers. Perhaps by better understanding the card holders' practices of customers, Bankers can make more informed choices when handling the cards.

One more limitation is with related to the primary sources of data collection on which the present study is based on. It is a known fact that primary data has its own limitations. To have accuracy in the data collected, cross checking was carried out. In this way, though inaccuracy in the given data was minimized, the data could not be considered as 100 percent correct. The present study relies only on the information gathered through survey, observation and personal interviews, which may subject to bias.

Again, as with the most empirical studies, the sample size and spectrum of respondents is a limitation. Even though a concerted effort was made to include a range of different individual representing different social groups of Plastic Money users, the sample was limited to certain geographical area in the southern region of Karnataka state. Moreover, the survey is not representative of the whole Karnataka State. The sample was collected only from the selected banks and areas in the southern region, Karnataka. Therefore, caution need to be taken generalizing these research results to users groups in other geographical areas and environment.

Further, the findings and conclusion could only be applicable to similar set of socio – economic situation. These limitations in no way negate the findings of the study and scope for further research.

Chapter Scheme

Chapter Number	Name of the Chapter
I	Research Design
II	Literature Review
III	Plastic Money in India – A Conceptual Framework
IV	A Brief Profile of Selected Sample Banks
V	Debit, Credit Cards and ATM Services in Selected Banks
VI	The Empirical Evidences and Analysis of the Impact of Plastic Money on Bank Customers in Karnataka Evaluation
VII	Summary of Major Findings, Suggestions and Conclusion
-	Annexure

The entire research work is presented in the following chapters.

The First Chapter, **Research Design** deals with introduction followed by statement of problem and need for the study, objectives, scope, sample frame work, period of the study, hypotheses, statistical tools and techniques and methodology adopted in the study were included in this chapter.

The second chapter, **Literature Review** provides related studies and researches undertaken in different states and countries across the globe on the Plastic Money. In this section, it helped the researcher to find the research gap, their by identified the research problem of the present study.

The third chapter, **Plastic Money in India–A Conceptual Framework** makes an attempt to study and understand the concepts of the Plastic Money, its benefits, pros and cons, difference of usages among the customers in the Indian Banking Sector.

The fourth chapter, *A Brief Profile of Selected Sample Banks* provides the details of selected banks (Both Public and Private Sector Banks) in Karnataka. It also provides the Cardholders statistics of State Bank of India, Bank of India, ICICI and HDFC banks in the Karnataka. It attempts to present the review of statistical data pertaining to Plastic Money, (Credit and Debit Cards), analyzing the Banking Development trends in India.

The fifth chapter, *Debit, Credit Cards and ATM Services in Selected Banks* examines the best services provided by both public and private sector to the customer and their relationship in handling the banking technology products like Plastic Money in the selected area.

The sixth chapter *The Empirical Evidences and Analysis of the Impact of Plastic Money on Bank Customers in Karnataka* makes an attempt to evaluate the usage, perception and satisfaction of bank transactions through Plastic Money, socio – cultural impact, psychological factors and other economic factors which influence the use of Plastic Money among the selected bank customers in Karnataka State.

The seventh chapter *Summary of Major Findings, Suggestions and Conclusion* presents the major findings of the present study, suggestions offered to Customers and Banks followed by Conclusion.

Conclusion

To sum up, the beginning chapter entitled *Research Design* provides an insight to the reader about the outline of the research work carried out by the researcher on the selected topic in the selected region of Karnataka state. In this section, it covers an introductory part of the research study covering Indian and Global perspectives. The researcher has identified the research gap after many reviews in the related areas presented the statement of the problem of the study and the need for the study followed by objectives of the study. It also provided the methodology of the study, sample design and the statistical tools and techniques which are applied to prove the formulated hypotheses and data base of the study and tries to identify a few limitations of the study along with chapter scheme of the report at the end of this chapter.

Chapter - II

CHAPTER - II

Literature Review

Introduction

The literature in the area of Plastic Money or Polymer Money/Cards is enormous and the studies vary from simple case studies to different state studies/cross – country studies to sector – wise comparison studies. Since it is difficult to review all the works carried out in the area of Plastic Money, this review is limited to only those studies which are relevant to the objectives of the present study. With this background, review of a few important works is made in the following paragraphs with an important objective to identify the research gap that exists at present. The review for the study has been divided into eight categories, and is presented as follows:

Plastic Money (Debit and Credit Cards) Awareness, Usages, Attitudes, Behaviour and Perception

Achim Hartmann (2000)¹ in his dissertation work ***Credit/Debit/Cash Card Fraud and Abuse – An Outlook on Prevention and Possible Value Added*** found that Plastic Money fraud has become a global business and he made an attempt to track down fraudulent and crime activities involved in the usages of the Debit and credit card, but it is found difficult because the development differs from country to country and moves on fast. Robert et.al, (2001)² in their study, ***Money Attitudes and Intentions towards Credit Card Use and Compulsive Buying among American College Students*** used a casual modeling approach to investigate the role of money attitudes and credit card use in the campus buying within a sample of American college students. It was found in the study that the money attitudes, power, prestige, distrust and anxiety are closely related to compulsive buying and that Credit card often moderates these relationships. Kaynak and Harcar (2001)³ in their study, ***Consumers Attitudes and Intentions towards Credit Card Usage in an Advanced Developing Country***, made an attempt to investigate consumer attitudes and intentions towards credit card ownerships and usage in an advanced, and developing countries. In particular, knowledge structure, beliefs, likes and dislikes as well as attitudes of credit card owners in the possession and the use of credit cards are investigated.

Caron et.al, (2002)⁴ in their work, ***Plastic Choices: Consumer Usage of Bank Cards v/s Proprietary Credit Cards***, examined the substitution of general purpose (bank) cards for proprietary cards and how issuers can predict which consumers are most likely to substitute

convenience and rebates are the primary reasons for using a bank card. However, it was revealed during the work that consumers use their proprietary retail cards to obtain better service. These results in the study helped to explain the growth in popularity of *co – branded cards*.

Ramayah et.al, (2002)⁵ in their research study *Cardholders Attitude and Bank Credit Card Usage in Malaysia: An Exploratory Study* identified, examined and validating attributes that influence the differences in attitudes among active and inactive cardholders. It is believed that banks issuing credit cards can position themselves effectively via their marketing strategies to activate the usage rate of their existing cardholders and as well as to attract new, active cardholders. Thirteen important attributes were used to measure the attitude of a credit cardholder in this study . These attributes include acceptance level, credit limit, interest free payment period, annual fees, application approval period, ancillary functions, handling of card holder’s complaints, issuing bank image, gift/bonus to new applicants, card design, leaflet to describe the card and advertising by the issuing bank.

Angela Lyons (2002)⁶ in their work *Credit Usage of College Students: Evidence from the University of Illinois*, studied the greater insight into the credit usage of college students at the University of Illinois and to encourage the University of Illinois, other campuses, and community as well as state organizations to identify ways in which they can help students to better manage their credit usage and avoid future misuse of credit down the road. In his work, it provided some intriguing findings, especially with respect to those students who are most at risk financially. Tej Paul Bhatla et.al, (2003)⁷ in their work *Understanding Credit Card Frauds*, stated that as the card business transactions increase, so too do frauds. So it is clear that, global networking presents as many new opportunities for criminals as it does for businesses. While offering numerous advantages and opening up new channels for transaction business, the internet has also brought in increased probability of fraud in credit card transactions. The good news is that technology for preventing credit card frauds is also improving many folds with passage of time. The study was concluded by stating that educing cost of computing is helping in introducing complex systems, which can analyse a fraudulent transaction in a matter of fraction of a second.

Gupta Promod (2004)⁸ in his article *The Future of Plastic Money*, discussed the use of Plastic Money and its growth in India in recent years. He identified that the Use of Plastic Money is growing at an unprecedented rate in India. Lesser number of installed Points – of – Sale (PoS) terminals is the major obstacle in the growth of debt cards. Smart Card has many innovative features which may spurt the use of cards in India. Smart Card is safer to use in

electronic form than the present form of cards. Metwally and Prasad (2004)⁹ in their research paper *Factors Restricting the Use of Credit Cards in GCC Countries*, examined the factors determining probability of using credit cards more frequently in domestic transactions in the members of the GCC (Gulf Corporation Council) which includes: Baharain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE. The state of Qatar is used as a case study where a sample of 385 consumers was surveyed. Respondents, who hold credit cards, were asked to indicate their degree of agreement using a five – point scale, with 23 statements relating to their reluctance to use credit cards frequently in domestic transactions.

Rao and Durga (2004)¹⁰ in their study *Marketing Strategies: Study of Bank Credit Cards* studied and aimed at comparing the marketing strategies of two commercial banks – Citi Bank and Andhra Bank. The study also evaluated the customer satisfaction with respect to their credit cards and suggested necessary steps for promoting credit card business by considering its benefits and scope in the business.

Jonathan Zinman (2004)¹¹ in his research article *Why Use Debit instead of Credit? Consumer Choice in a Trillion – Dollar Market*, identified that the debit cards are overtaking credit cards as the most prevalent form of electronic payment at the point of sale, yet the determinants of a ubiquitous consumer choice is *Debit or Credit*. Several stylized facts suggest that debit card use is driven by behavioral factors. Rysman Mare (2004)¹² in his paper *An Empirical Analysis of Payment Card Usage*, exploited a unique data set on the payment card industry to study the issues associated with network effects and two sided – markets. The study showed that the consumers concentrate their spending on a single payment network (Single – Homing), although many maintain unused cards that allow the ability to use multiple networks (Multi – Homing).

Master Card International Incorporated (2004)¹³ in its report *Attitudes and Trends toward Credit and Debit Card Use for Healthcare Services* revealed the usage habits, preferences and opinions of both patients and healthcare providers regarding the use of various payment card types as payment options for office visits and treatments. The information was obtained from two market research studies, commissioned by Master Card and referenced in this report, from an independent research organization in the spring of 2003. Jin et.al, (2005)¹⁴ in their study *Determinants of Debit Card Use: A Study from the Consumers Perspective Services* investigated the Debit Card use from the perspective of the demand side i.e. the consumer. The impact of consumer's demographic, socio – economic and credit related characteristics on Debit Card use were examined by using data from the 2001 Survey of Consumer Finances (SCF).

Mann Ronald (2005)¹⁵ in their paper *Credit Cards, Consumer Credit and Bankruptcy*, analyzed the effects of credit card use on broader economic indicators, specifically consumer credit. Using aggregate national level data from Australia, Japan, the UK and the US, it is found that credit card spending, lagged by 1 – 2 years has a strong positive effect on consumer credit. In the study, it is found that there is no significant relation between credit card usage and savings was observed. Vivek (2005)¹⁶ in his article *A Gentle Swipe*, showed the growth of credit cards, the spending patterns at restaurant, jewelry etc. and demand the need for issuing fresh guidelines by RBI connected with payment cards to prevent frauds.

Mann Ronald (2005)¹⁷ in their paper *Global Credit Card Use and Debt: Policy Issues and Regulatory Responses*, dealt with global use of the credit card connected policy questions. The pressures of globalizations are rapidly driving convergence in card usage except in those countries that have dropped substantial *Speed Bumps* to slow the growth of cards. The study mainly focused to devise policies that will be useful to confine the problems related to credit cards without creating undue inefficiencies in retail payment systems.

Adrain and Rodriguez (2005)¹⁸ in their article *Endogenous Credit Card Acceptance of Precautionary Demand for Money*, pointed out with a model, how the use of credit cards can differ so widely across countries. It was also discussed as to how Retailer's propensity to accept cards reduce the need for buyers to hold cash as the chance of a stock-out (of cash) is reduced. Goyal and Anitha (2006)¹⁹ in their study *Consumer Perception towards the Purchase of Credit Cards*, focused on understanding how consumers perceive and consider service product features (core benefit, facilitating services and supplementing services) in pre-purchase evaluation and to understand the position of supplementary services at product levels.

Ron Borzekowski and Elizabeth (2006)²⁰ in their article *Consumers' Use of Debit Cards: Patterns, Preferences and Price Response* studied that the Debit Card use at the point of sale has grown dramatically in recent years in the U.S. and now exceeds the number of Credit Card transactions. However, the study identified that many questions remain regarding patterns of Debit Card use, consumer preferences when using Debit, and how consumers might respond to explicit pricing of card transactions. Using a new national representative consumer survey, this research paper describes the current use of debit cards by U.S. consumers, including how demographics affect use.

Chetsada Noknoi et.al, (2009)²¹ in their article *Have Debit Cards Changed Thai Consumer Shopping Behavior?* studied the behavior of using debit card and the quality perceiving on using debit card of the consumers in Thailand. The research found that the demographic characters of the consumers were females between 21–30 years old, and held bachelor degree. Two – third of the consumers were students, government and company officers. By studying their demographic details, it tried to assists the issuing bank to pay the attention or define strategy to the right target group and expand the market to the new target group such as males. Ramalingam (2009)²² in his research paper *Usage Pattern of Credit Card Holders*, analysed the purpose and use of credit card, behavioural changes of credit card holders and their consumption pattern. In the study, it appreciated the role played by the credit cards in the current day financial system. It will be equally instructive and informal to explore the credit card business in India to identify the factor underlying credit card usage.

Tufan Ekici and Lucia Dunn (2009)²³ in their work *Credit Card Debt and Consumption: Evidence from Household – Level Data*, investigated the relationship between Credit Card debt and consumption using household level data. This is a departure from previous studies which have used aggregate measures of consumption and general debt such as the Debt Service Ratio or total revolving credit. Rajani (2009)²⁴ in her thesis *An Evaluation of Business Deals Using Plastic Money in Kerala*, studied the various aspects of debit cards and credit cards from the point of view in both the cardholders and merchant establishments. Volume of business transactions using Plastic Money in Kerala has shown an increasing trend in recent years. In her study, it is expected that in the near future the Plastic Money will acclaim as one of the most widely used financial instrument that accelerate business deals and economic prosperity.

Margie Tidwell et.al, (2009)²⁵ in their work *The Swipe and Spend Economy*, stated that the Credit Card uses and abuses have found a worldwide audience with the recent downturn of the economy. This paper discussed the beginnings of credit card usage with the recent marketing by credit card companies to teenagers and will continue through the senior citizen's need for credit card usage to pay medical bills. How the emphasis will be placed on the use of credit cards by college students whether the student is 20 years old or 40 years old is also discussed.

Muhammad Imtiaz Subhaniet.al., (2011)²⁶ *Plastic Money/Credit Cards Charisma for Now and Then (A Thin Line between Easy Money and Risky Money)*, studied that the monetary rattle between consumption and affordability slammed the household severely for every now and then in all spheres of life from one pole to another. This research focused on the charisma

of Plastic Money, its usability and affordability while they are impacting on its preference to use. The research pointed out that friends and family have an influence on the use of Plastic Money which is taken as a proxy of Plastic Money charisma while convenient use of Plastic Money along with spending adjustment and use of Plastic Money along with prediction of future income are the proxies of its usability and affordability. Rupa and Vani (2011)²⁷ ***Debit Card Usage in India – A Perspective***, states that Debit cards are the important components in the retail payment system. It is seen that while the number of valid debit cards is currently 10 times higher than the number of valid credit cards, the average number of transactions per debit card is 10 times lower than that of credit cards.

Anneke Kosse (2011)²⁸ in his Working Paper ***Do Newspaper Articles on Card Fraud Affect Debit Card Usage***, discussed the economic significance of the consumers' response to skimming fraud publications provides several meaningful messages. The study shows that Point – of – Sale (PoS) skimming fraud announcements deter cardholders from paying by debit card, whereas ATM skimming fraud restrains consumers from withdrawing cash and instead stimulates debit card payments. This indicates that the temporarily created fear for using the debit card at the ATM does not automatically translate into fear for using the debit card at the PoS. Instead, ATMs and PoS terminals are perceived as being substituted.

Tapas Ranjan (2005)²⁹ in the article ***Credit Card and Frauds***, provided awareness about various credit card frauds, and suggestions about precautionary measures with tips for safety use of it. Govindarajan et.al, (2012)³⁰ in their study ***A Study on the Awareness and Utilization of Credit Cards in India***, discussed about the hectic efforts of bankers in India to popularize Internet Banking, Mobile Banking, Debit Cards and Credit Cards, so that their cost of operation will come down. The work identified the fact that though in terms of number of cards in circulation, Debit Card is higher than that of Credit Card in terms of business, Credit Card is better placed. Users of credit card must be aware of various features of Credit Card such as safety and security, utility, operational difficulties and support provided by the Credit Card Department.

Marty Ludlum et.al, (2012)³¹ in their research article ***Financial Literacy and Credit Cards: A Multi Campus Survey***, studied that credit cards in campus have been a disaster, leaving students buried in debt before graduation, often with little hope of paying off the debt before high fees and interest double the amount. This research details the multi – campus survey of current American College students and their use of Credit Cards. Nyasha Kaseke (2012)³² in his work ***Cash or Plastic Money – An Investigation into the Payment Mode Post Multi – Currency Period in Zimbabwe***, studied and investigated how consumers use cash or Electronic (Plastic)

Money in the multicurrency period. The study found the use of Plastic Money to be, whether they liked using it and in particular how they compared it to using cash. Fumiko Hayashi (2012)³³ in his work *The New Debit Card Regulations: Initial Effects on Networks and Banks*, studied how the American consumers are using debit cards more than ever before, affecting how banks and merchants do business and triggering key changes in the payment card industry and also, at the same time, the growing fees levied on merchants by the payment card industry for processing debit purchases have stirred controversy.

Kamal et.al, (2012)³⁴ in their research work *Electronic Credit Cards Usage and their Impact on Bank's Profitability: The Rate of Return on Owners Equity Model – An Empirical Study*, described the effect of using the electronic credit cards included the number of electronic credit cards the proportion of Investment in credit cards, and the operation expenses to the credit cards, and explaining its effect in the net income from credit cards and showing the effect of the net income from credit cards for the bank's profitability by using return on equity model. This study was applied on a sample of Commercial banks working in Jordan, the information and data were collected from Annual Reports given by the banks and by returning to the credit management in Commercial banks. Sudhagar (2012)³⁵ in his research article *A Study on Perception and Awareness on Credit Cards among Bank Customers in Krishnagiri District*, discussed how credit card, a small plastic card issued to users as a system of payment, allows its holder to buy goods and services based on the holder's promise to pay for these goods and services. It also pointed out that the issuer of the card creates a revolving account and grants a line of credit to the consumer (or the user) from which the user can borrow money for payment to a merchant or as a cash advance to the user.

Credit Card and Debit Card Transactions

Benito Arrunada (2005)³⁶ in his paper *Price Regulation of Plastic Money: A Critical Assessment of Spanish Rules Card*, had analysed the extent of cardholder's fee, mandate payment systems to include only two costs when setting their domestic Multilateral Interchanges Fee (MIFs): a fixed processing cost and a variable cost for the risk of fraud, the pricing scheme arising from the decisions will cause unbundling and under provision of those services whose cost are excluded. Vincent (2005)³⁷ in the article *Credit Cards – Modern Payment System* provided information about credit card functioning in India and payment settlement. The study concluded that it is a blessing to both the traders and customers.

Bansal (2006)³⁸ in his article *Plastic Card Currency – A Convenient Mode of Payment*, explained the role of Plastic Money, its various forms and the positive impact of Plastic Money on the lives of people of all walks of life and being accepted as a convenient mode of payment in the modern era of electronic technology driven Commerce.

Adam Levitin (2007)³⁹ in his article *Priceless? The Competitive Costs of Credit Card Merchant Restraints*, argued that credit card merchant restraints lead to an over consumption of credit cards as a transacting device and distort competition within the credit card industry and among payment systems in general. The article contends that merchant restraints are antitrust violations and demonstrates that the economic justifications for merchant restraints are unfounded. Keith Wilcox et.al, (2011)⁴⁰ in their article *Leave Home without It? The Effects of Credit Card, Debt and Available Credit on Spending*, in their research work examined that how credit card debt affects consumer spending. In five experimental and field studies, the authors demonstrate that outstanding credit card debt increases spending for consumers with high self – control. The study showed that this effect can be eliminated by increasing the available credit on the credit card. Tim Mead et.al, (2011)⁴¹ in his research article *The Role of Interchange Fees on Debit and Credit Card Transactions in the Payments System*, studied the use of debit or credit cards to make purchases, merchants are assessed fees for processing the transactions, the largest of which is called an *Interchange Fee*. Rising interchange fees, along with the growing dominance of card transactions in the payments system, have brought increasing scrutiny from regulators on the appropriate level of interchange fees and the competitive aspects of card networks.

Credit and Debit Card Frauds and Misuses

Peter Burns and Anne Stanley (2002)⁴² in their work *Fraud Management in the Credit Card Industry*, the Payment Cards center of the Federal Reserve Bank of Philadelphia sponsored a workshop on fraud management in the credit card industry. The study provided an overview of fraud in the card industry and discussed some of the challenges he faces as a risk manager. Tej Paul Bhatla et.al, (2003)⁴³ in their research article *Understanding Credit Card Frauds*, studied the state of the credit card industry, different types of frauds, how fraudsters attempt to take advantage of loopholes, impact of credit card fraud on card holders, merchants, issuers, how a comprehensive fraud detection – system could help maintain the cost of detecting fraud, and losses due to fraud, i.e., the total cost of fraud, under manageable levels.

Dube and Vijaye (2005)⁴⁴ in his article *Credit Card Frauds-Prevention is Better Than Cure*, briefly explained various credit card frauds and suggested suitable measures to prevent it. Linda et.al, (2009)⁴⁵ in their article *Credit Card Fraud and Detection Techniques: A Review* discussed the fraud is one of the major ethical issues in the credit card industry. The main aims are, firstly, to identify the different types of credit card fraud, and, secondly, to review alternative techniques that have been used in fraud detection. The sub – aim is to present, compare and analyze recently published findings in credit card fraud detection.

Australian Transaction Reports and Analysis Centre – (ATRAC) (2011)⁴⁶ in this report *Card Fraud* identified that the transactions using plastic cards have become more popular with the introduction of Internet – Based shopping and banking. The number of card frauds has also increased as organised crime finds ways to profit from vulnerabilities in the market. Irina Sakharova and Latifur Khan (2011)⁴⁷ in their article *Payment Card Fraud: Challenges and Solutions*, studied that payment card fraud is causing billions of dollars in losses for the card payment industry. Besides direct losses, the brand name can be affected by loss of consumer confidence due to the fraud. This research paper provides an overview of payment card fraud and begins with payment card statistics and the definition of payment card fraud. It also describes various methods used by identity thieves to obtain personal and financial information for the purpose of payment card fraud.

Anneke Kosse (2012)⁴⁸ in their De Nederlandsche Bank (DNB) working paper *Do Newspaper Articles on Card Fraud Affect Debit Card Usage?*, investigated the impact of newspaper articles about skimming fraud on debit card usage in the Netherlands. The direction and strength of the media effects strongly depend on the specific characteristics of the publications, such as type of fraud addressed and their position in the newspaper. The effects, however, are economically small compared to other factors, such as calendar and holiday effects, and do not sustain or accumulate in the long run.

Orzechowski and Walker (2012)⁴⁹ in their report *Debit Card Fraud: The Impact of Proposed Regulations on the Food Retailing Industry*, in their report it is identified that fraudulent debit transactions involve signature debit transactions were it is responsible for \$1.15 billion of the \$1.35 billion in total debit fraud losses in Europe. The study also gave some suggestions to their consumers to adopt more secure PIN debit, or move toward the more reliable systems which is currently used in Europe, where from fraud loss could be reduced dramatically.

Plastic Money in Indian Context

Anil et.al, (2004)⁵⁰ in their report ***Biometrics in Credit Cards: A New Way to Pay***, throws light on biometrics which reduce the credit card fraud and identity theft which can be used as a means of payment and replace the actual credit cards, They point out that fingerprint biometrics are most widely used and voice is a promising biometrics for online transactions, and consumer acceptance.

Douglas et.al, (2005)⁵¹ in their research article ***Overview of Recent Developments in the Credit Card Industry***, explained the function of credit card networks: the various kinds of network models, and the significance of interchange fees in the most complex model. Orr and Bill (2006)⁵² in their article ***Virtually Cashless Society***, has identified the emerging changes in the field of payment industry and bring forth the benefits of cashless society and the need for micro payments infrastructure.

Ramakrishna Reddy (2006)⁵³ in his article ***Card Products in India***, commented on the reasons for not attaining full growth potential among card products and suggest remedies for growth in this field for the benefit of all players.

Saha and Tapash (2006)⁵⁴ in the article ***Debit Cards Overtaking Credit Cards in India***, provided comparative features of both credit cards and debit cards and its volume of transactions from 1995 to 2005 and points out that the growth of debit cards is out placing the credit cards. Slagel et.al, (2006)⁵⁵ in their study ***Credit Card Debt Reduction and Developmental Stages of the Lifespan***, examined the link between theory based developmental stages of the lifespan and factor associates with troubling debt and change. Stages of the lifespan were linked to anxiety over credit card debt rapture and the confidence participants felt in their ability to get out of debt.

Srinivas (2006)⁵⁶ in his study ***An Analysis of the Defaults in Credit Card Payments***, has tried to analyse the socio – economic profile of the defaulters of credit cards, to identify the set of factors which contributed to such defaults and suggest relevant measures to minimize the default cases. Analysis of reasons indicated that economic hardship is the major reason as identified by the sample units and follows by rigid payment structure and loss of job/business.

Stanley Sienkiewicz (2007)⁵⁷ in his research paper ***Prepaid Cards: Vulnerable to Money Laundering?***, discussed the potential money laundering threat that prepaid cards face as they enter the mainstream of consumer payments. This paper provides an overview of money laundering, describes how prepaid cards could be abused, and outlines how both the government and the payment sectors have responded to mitigate risks.

Rangaswamy and Ramesh (2007)⁵⁸ in their article *Plastic Money in Retail Distribution*, highlighted the growth of Plastic Money particularly ATM cum debit cards, its importance in retail distributions, cost effects, benefits and suggesting some tips to avoid frauds and necessity of increasing its usage. Annamalai and Muthu (2008)⁵⁹ in their article *Retail Transaction: Future Bright for Plastic Money*, projected the growth of debit and credit cards in the retail transactions. In the study, it is also mentioned the growth factors, which leads to its popularity, important constraints faced by banks and summarized with bright future and scope of Plastic Money.

Nayak et.al, (2008)⁶⁰ in their paper *Consumer's Behaviour in Selecting Credit Cards*, discussed the factors influencing the selection of credit cards among consumers. The major factors pointed out by them are service offers, promotional offers, interest benefits, and cash benefits, ease of payments, payment charges, card benefits and time benefit. Sarangapani and Mamatha (2008)⁶¹ in their article *The Growing Prominence of Debit Cards and Credit Cards in the Indian Banking Industry*, highlighted the growing prominence of debit and credit cards by providing necessary statistics, comparative features of both cards and also pointed out more popularity of debit cards than credit cards.

Ashish Das (2008)⁶² in his work *Acceptability Standards in Credit Card Industry*, analyzed the various players in the credit card business. It presents the dilemmas in acceptability standards of payments by credit cards. In this research paper, the author brings out the predicament among the various players in the Credit Card industry on the two issues under focus. On analyzing these responses, it is found that in absence of any regulatory framework to address these aspects, the customer is left to the nonchalant disposition of these players. Subramanian and Shiva (2010)⁶³ in their work *It's Your Number..... It's Your Life!*, analysed Plastic Cards (both credit and debit cards) which posed universal presence and acceptance are being used for a variety of general purchases including for cash withdrawals. The authors seriously target a cashless society, where the use of plastic cards in different sectors are increasing and moving from possibility to reality. Rupa and Vani (2011)⁶⁴ in their work *Debit Card Usage in India – A Perspective*, studied the fraud prevention mechanism available in the market, such as public key crypto – systems and digital signatures.

They suggest that during payment, at least one digital signature must be created to verify the process and Digital signatures can be used both to assure integrity of the data and the identity of the originator. Govindarajan et.al, (2012)⁶⁵ in their article *A Study on the Awareness and Utilization of Credit Cards in India*, analysed the statistics published by the

Reserve Bank of India on both debit card and credit cards facts and figures. Though in terms of number of cards in circulation, debit card is higher than that of credit card, in terms of business credit card is better placed. They suggest that the users of credit card must be aware of various features of credit card such as safety and security, utility, operational difficulties and support provided by the credit card association in India.

Debit and Credit Cards at Global Level

Wright and Julian (2000)⁶⁶ in their paper *An Economic Analysis of a Card Payment Network*, presented a model of card payment system to address the social optimality of the rules that govern such systems based on Rochet and Tirole (1999) model. They showed that no – surcharge rule which credit card associations have adopted to prevent merchants surcharging customers for the use of their cards, is generally welfare improving. The research paper provides the socially optimal interchange fee and explained why regulating interchange fees on the basis of cost is likely to be inefficient.

Cabral, Luis M.B. (2005)⁶⁷ in the paper *Market Power and Efficiency in Card Payment Systems: A Comment on Rochet and Tirole*, commented on the main ideas of R and T models used for economic analysis of card payments and lay down a simple basic model that essentially captures the features of R and T model. Association for Payment Clearing Services (APACS) Report (2005)⁶⁸ in this report *Plastic Money: The Credit Card Industry's Contribution to the U.K. Economy*, examines the range of benefits that the credit card industry contributes to the U.K. economy. Many of these benefits are straightforward, such as the tens of thousands of Britons employed by the credit card industry, the wage the industry pays to its employees, and the money it invests in other businesses. The economic burden of over-indebtedness and credit card fraud are not insignificant and cannot be ignored. It is the belief, however, that the myriad benefits outweigh the costs and that the breadth and depth of these benefits should not be overlooked or marginalized in the ongoing credit card debate.

Kataria Neera (2005)⁶⁹ in his article *Credit Cards–Challenges Ahead*, pointed out the growth of credit cards in India, market share of each individual banks, challenges faced by bankers. Klee and Elizabeth (2005)⁷⁰ in their research work *Paper or Plastic? The Effect of Time on Check and Debit Card Use at Grocery Stores*, used scanner data from grocery store transactions to examine time costs associated with media of exchange. The study showed that time factors significantly determine the use of media of exchange and sensitivity to these time factors depend on the income, age and demographic characteristics local market.

Bernthal et.al, (2005)⁷¹ in their study *Credit Cards as Lifestyle Facilitators*, found credit cards as an important facilitator of consumer emancipation through lifestyle within the current market structure and analyse the accounts provided by consumers, credit counselors and participants in a credit counseling seminar in order to develop a differentiated theory of life style facilitation through credit card practice. Santiago et.al, (2007)⁷² in their work *The Economics of Credit Cards, Debit Cards and ATMs – A Survey and Some New Evidence*, described the large and diffuse literature on credit cards, debit cards and ATMs and conclude that point of sale (debit card) and ATM transactions are substitutes, and that ATM surcharges impact point of sale volume significantly.

Elif et.al, (2009)⁷³ in their work *The Impact of Credit Cards on Spending: A Field Experiment*, studied the impact of payment with credit card as compared with cash on insurance company employees' spending on lunch in a cafeteria. In the study, it was observed that it exogenously changed some diners' payment medium from cash to a credit card by giving them an incentive to pay with a credit card.

James (2008)⁷⁴ in his article *Growth of Plastic Money: Prospects and Problem*, had discussed economic and business prospects and problems involved in the Plastic Money market. In his work, he clearly studied the basic terms of plastic money, electronic payment and credit cards and it also focused on plastic money penetration in India, reasons for growth and strong future for Plastic Money.

Barry Scholnick et.al, (2008)⁷⁵ in their work *The Economics of Credit Cards, Debit Cards and ATMs: A Survey and Some New Evidence*, analyzed the critical survey of the large and diffuse literature on credit cards, debit cards and ATMs. The impact of networks on the provision and pricing of ATMs, as well as the tradeoffs that consumer make between different types of payment mechanism, including debit cards, credit cards and ATMs. This paper is also amongst the first to provide new evidence on this latter question from bank level data (from Spain). And conclude that point of sale (debit card) and ATM transactions are substitutes, and that ATM surcharges impacts point of sale volume significantly.

Don Ogilvie (2009)⁷⁶ in their report, *Crisis in the Credit Card Industry Navigating the Perfect Storm*, studied credit cards have gone from being one of the most profitable areas of lending to one of the least. Record levels of defaults and stalled securitization markets have rapidly reversed the profitability of the industry.

Stewart Mackinnon (2009)⁷⁷ in his report *Demystifying Credit and Debit Cards in Canada*, focused in Canada on the domestic card market to establish what reforms are required. The passing into law of the Credit Card Act in the USA earlier this year also has relevance as Canadian legislators and consumers alike may see many of the new rules in the USA as pragmatic solutions to reform certain practices in the card market place in Canada, which are perceived as unfair, unreasonable or deceptive.

John and Pradeep (2009)⁷⁸ in their discussion paper *Credit Cards and Inflation*, studied the use of credit cards which increase trading efficiency but, by also increasing the velocity of money, it causes inflation, in the absence of monetary intervention. The monetary authority attempts to restore pre – credit card price levels by reducing the money supply, it might have to sacrifice the efficiency gains.

Phylis et.al, (2010)⁷⁹ in their work *Consumers and Credit Cards: A Review of The Empirical Literature*, discussed the research in the area of consumer credit card abundance of literature in the business, psychology, and public policy fields. In the 1960s, the work revolved around descriptive characteristics and evolved as scholars probed deeper by investigating relationships between credit cards and psychological constructs, and the need for consumer policy. This paper identifies the empirical research conducted over the past four decades in order to provide insights and recommendations for additional research.

Winston Moore (2011)⁸⁰ in his research article *Trends and Prospects for the Debit Card Industry in Barbados*, studied the growing importance of the debit card industry in Barbados, there exists no previous research on the topic. At present, debit card transactions are even more important than credit cards as a means of payment and could soon overtake some other popular means of conducting transactions.

Fredrick Obura (2012)⁸¹ in his work *Firms Turn to Plastic Money to Cut Costs*, stated that the technology is changing perception of many companies. The study also focused on turning of Plastic Money instead of liquid cash to reduce risks of handling cash. The study set to escalate with banks, telecommunication companies launching various e–payment products now being accepted by consumers.

Rich Williams (2012)⁸² in his report *The Campus Debit Card Trap: Are Bank Partnerships Fair to Students?* analysed and identified that the banks and other financial norms are taking advantage of a variety of opportunities to form partnerships with colleges and universities to produce campus student ID cards and to offer student aid disbursements on debit or prepaid cards.

Adam Rust (2012)⁸³ in his report *Principles for the Reform of the Prepaid Debit Card*, discussed the prepaid card sector for it to be a financial service that helps not hurts users. The prepaid card product has the potential to be a useful low cost financial service with strong consumer protections. But, a consumer buying a card today is challenged to know what functions it provides, what it costs and what consumer protections it offers.

Banerjee and Jose (2012)⁸⁴ in their *Credit Risk Analysis of Credit Card Portfolios under Economic Stress Conditions*, studied the empirical framework for the credit risk analysis of a generic portfolio of revolving credit accounts and apply it to analyze a representative panel data set of credit card accounts from a credit bureau. The data cover the period of the most recent deep recession and provide the opportunity to analyze the performance of such a portfolio under significant economic stress conditions.

Nyasha Kaseke (2012)⁸⁵ in his work *Cash or Plastic Money – An Investigation into the Payment Mode Post Multi–Currency Period in Zimbabwe* investigated about how the consumer use cash or Plastic Money in the multicurrency period. In the study, it is concluded that Plastic Money may have advantages in certain situations but marketing effort should be concentrated on identifying niche opportunities or bundling appropriate services onto the card to provide a relative advantage for increasingly discerning consumers.

Siyanbola and Trimisiu (2013)⁸⁶ in their work *The Effect of Cashless Banking on Nigerian Economy*, studied the effect of cashless banking on Nigerian economy, and discussed the various aspects of cashless banking channels, the real E–Banking problems cashless banking (Plastic Money) along with its advantages and disadvantages to Nigerians.

Omotunde et.al, (2013)⁸⁷ in their research article *Impact of Cashless Economy in Nigeria*, studied the impact of cashless policy in Nigeria. The study showed that the introduction of cashless economy in Nigeria can be seen as a step in the right direction. It is expected that its impact will be felt in modernization of Nigeria payment system, reduction in the cost of banking services, reduction in high security and safety risks and also curb banking related corruptions. Karen Kinney and Colleen Donovan (2013)⁸⁸ in their report *The “A to Z” of EBT, Credit and Debit Cards in Washington*, state that Washington farmers markets are giving shoppers the option to pay with *Plastic* whether it is Electronic Benefit Transfer (EBT) cards or credit and debit cards. There are compelling reasons to offer these services at your market or not. Common Wealth Bank Report (2013)⁸⁹ in its report *Important Information about Credit Cards* studied the various types of cards conditions of use apply, card account details, additional cardholders, how to protect our access methods (which include a card, PIN and

Password), transactions—regular payment arrangements, unauthorized use, loss or theft of our card, PIN or password, variation, default, suspension, cancellation and termination and other details discussed. Mburu and Peris Njoki (2012)⁹⁰ in his work *Investigating the Impact of Credit/Debit cards in enhancing Customer Satisfaction amongst Commercial Banks in Kenya*, studied the raising awareness about the Credit and Debit Cards in the market. The credit card business has been around for the last fifty years though the same is relatively new in Kenya. Though some studies have been undertaken in this area, none has attempted to demystify these products.

Plastic Money and its Payment System (Fee, Charges and Others)

Robert (2003)⁹¹ in his work *An Introduction to the Economics of Payment Card Networks*, studied the open payment card networks typically co – ordinate the activities of thousands of financial institutions that issue cards, millions of retail locations that accept them, and several hundred million consumers that use them. This co – ordination can include the collective setting of certain prices and other controversial network rules.

Guthrie et.al, (2003)⁹² in their paper *Competing Payment Schemes*, presented a model of competing payment schemes. The models highlight the fact that, in a payment system, one type of user (merchants) competes to attract users on the other side of the market (card holders). It also analysed how competition between card associations affects the choice of interchange fees and thus the structure of fees charged to cardholders and merchants. Hayashi et.al, (2003)⁹³ in their paper *Technology Adoption and Consumer Payments: Evidence from Survey Data*, commented that payment choices depends consumers propensity to adopt new technologies and nature of transactions. This paper also analysed the use of consumer payment instrument at the point of sale. It is indicated that consumers who use new technologies and computer are more likely to use e – payment instruments such as Debit Cards, Credit cards and Smart Cards etc.,.

Robert Hunt (2003)⁹⁴ in his article *An Introduction to the Economics of Payment Card Networks* provided an overview of the economics of the card industry and explained some of the differences from the text book model of review of literature and competitive markets. Such differences are important factors for the antitrust analysis of payment card networks. James and Jabrina (2005)⁹⁵ in their discussion paper *Risking Homes to Pay Off Credit Cards – Debt – Consolidation Mortgage Refinancing is not a Winning Financial Formula For Many Families paper*, discussed the cash–out mortgage refinances, homeowners replace their current mortgage with a loan amount larger than the amount they owe on their home.

Pacheco and Richard (2005)⁹⁶ in their research work *Interchange Fees in Credit and Debit Card Industries: What Role for Public Authorities?*, discussed that the Credit and Debit Card transactions are on the rise worldwide. Interchange fees is an integral part of the pricing structure of credit and debit card transactions. Indirectly paid by merchants to card issuers, interchange fees in most countries are set by credit and debit card networks. Jia LokeYiing (2007)⁹⁷ in his study *Determinants of Merchant Participation in Credit Card Payment Schemes*, aimed to empirically establish the determinants of merchant participation in credit card payment schemes. It is also found that a merchant's personal background, type of business and total value of sale are significant in determining a merchant's acceptance of cards in payment transactions.

Robert et.al, (2008)⁹⁸ in their report *Regulatory Intervention in the Payment Card Industry by the Reserve Bank of Australia – Analysis of the Evidence*, described valuable reward programmes and by reducing the incentives of issuers of four – party cards to invest and innovate. The study found that there is no evidence that these losses to consumers have been offset by reductions in retail prices or improvements in the quality of retailer service. The empirical evidence thus provides no support for the view that consumers have derived any net benefits from the intervention.

Victor and Zinman (2008)⁹⁹ in their report *Debit v/s Credit: How People Choose to Pay?* discussed that understanding how households make financial decisions is a foundational piece of economic knowledge, but many questions about household finances remain unanswered. One recurring question is whether standard economic models can fully describe how households make decisions, or whether economic models that incorporate psychology perform better. Charles and Joanna (2008)¹⁰⁰ in their work *Credit Card Debt and Payment Use*, described the credit card holders in the United States regularly carry unpaid credit card debt. Previous literature has focused on the adoption of debit cards by people who carry credit card balances, but so far there has been no empirical analysis exploring the relationship between revolving behavior and patterns of payment use, such as substitution away from credit cards to other payment methods.

Raymond (2009)¹⁰¹ in their research article *Credit Cards and Small Business: the Benefits, Opportunities and Policy Debate*, studied that the track record on government price controls has never been positive, and the potential negatives for interchange fees are numerous. Price controls sound like a simple and reasonable solution to some, but they always come with shifting costs, reduced services and less innovation. David McArthur (2009)¹⁰² in his article *Search and Bargaining with Plastic: Money and Charge Cards as Competing*

Media of Exchange, described as to how Charge cards are introduced into the Lagos – Wright money search model to examine the implications of intermediated exchange for monetary policy. The study identified that Charge cards lower the cost of inflation, and can make some inflation beneficial.

Jashim and Margaret (2009)¹⁰³ in their article *Cashless Transactions: Perceptions of Money in Mobile Payments*, analysed the number of *cashless transaction* and study addressed the issue that the mode of payment affects perceptions of money and purchase behaviour, the majority of the research in the area of the credit card payment mode. Credit card based research has shown that the credit card based payment is used, the volume, value and type of products purchased increased.

Vinayak Bhakta (2009)¹⁰⁴ in his white paper *Credit Card Charge – Offs: Clear and Present Danger* discussed and analysed the current market trends in the collections area of the card industry. It further explores the strategies which need to be adopted by the card industry in the immediate future to tackle with the present economic situation specifically to reduce charge – offs and improve the prospects of debt collections. Cannon and Richard (2009)¹⁰⁵ in their article *Impact of the New Dodd – Frank Financial Reform Act on Debit*, discussed the significant impact on merchant acceptance of debit cards, including: (a) lowering interchange fees deducted by card issuers from amounts due to merchants from card transactions; (b) granting merchants the right to give different discounts to customers for cash, check, debit card or credit card use, and allowing merchants to set a \$10 minimum credit card transaction size; and (c) giving merchants greater control over the routing of debit transactions among networks, potentially leading to dual *bugged* debit cards with a choice of routing signature debit transactions over the visa, Master Card or Discover networks, or Debit Cards with multiple PIN debit network choices.

John Bulmer (2009)¹⁰⁶ in his work *Payment Systems: The Credit Card Market in Canada*, described the structure of the credit card payment system in Canada with particular emphasis on the structure, cost and functioning of the four–party model for credit card transactions. It also outlines the recent history and structure of the credit card industry and explains the cost to merchants of credit card transactions. Richard J. Sullivan (2010)¹⁰⁷ in his report *The Changing Nature of U.S. Card Payment Fraud: Industry and Public Policy Options*, identified that Debit and Credit Card payments are convenient for consumers, widely accepted by merchants, and more efficient than paper forms of payments. But, the cards have become the primary payment instrument in retail transactions; awareness of identity theft and concerns over the safety of payments has increased.

Manoj et.al, (2010)¹⁰⁸ in their research paper *How Credit Card Payments Increase Unhealthy Food Purchases? Visceral Regulation of Vices*, studied the advantages of visceral regulators, consumers might tend to rely on their will power based on the potentially misplaced belief that willpower is as effective as visceral regulators. Preliminary evidence for this proposition comes from the anecdotal observation that although over 60 per cent of American adults are overweight or obese and only 14 per cent of American consumers use cash payments on their shopping trips. Scott et.al, (2010)¹⁰⁹ in their discussion paper *Who Gains and Who Loses from Credit Card Payments? Theory and Calibrations*, studied the merchant fees and reward programs that generate an implicit monetary transfer to credit card users from non – card (or cash) users because merchants generally do not set differential prices for card users to recoup the costs of fees and rewards.

Richard Sullivan (2010)¹¹⁰ in his article *The Changing Nature of U.S. Card Payment Fraud: Issues for Industry and Public Policy*, studied the rapid transition to card payments which has sparked a search for effective counter measures to those who exploit card payment security vulnerabilities to commit payment fraud. A review of these vulnerabilities finds that they are tied together by information – intensive payment approval system.

David et.al, (2011)¹¹¹ in their work *Economic Analysis of the effects of the Federal Reserve Board's Proposed Debit Card Interchange Fee Regulations on Consumers and Small Businesses*, studied the impact of the reductions in interchange fees proposed by the Federal Reserve Board on consumers and small businesses. The study found that consumers and small business would face higher retail banking fees and lose valuable services as banks rationally seek to make up as much as they can for the debit interchange revenues they will lose under the Board's proposal. The number of unbanked consumers would increase as lower – income households reduce the use of higher – priced accounts. Biliiana et.al, (2012)¹¹² in their work *The Adoption Process of Payment Cards – An Agent – Based Approach*, investigate the payment adoption rate under consumers' and merchants' awareness of network externalities, given two levels of Interchange Fees in a multi – agent card market.

Pat Meredith (2012)¹¹³ in her report *Credit and Debit Card Markets*, discussed that Credit and Debit Cards are an important part of Canada's payments system. Canadians are among the world's heaviest users of card – based payments, and for good reason they are widely accepted, generally offer better protection than cash or cheques, and allow users to purchase high – priced goods without having to carry large sums of money. The research included both academic sources and in – person interviews with officials from Australia, New Zealand, the United Kingdom and the United States.

Sebastien and Cathy (2012)¹¹⁴ in their article *Paper or Plastic? Money and Credit as Means of Payment*, studied the technological advances in electronic record – keeping have made credit cards as ubiquitous as cash as means of payment in many economies. This transformation in the payments landscape poses several new challenges for policymakers, particularly in determining how inflation, market structure, and new regulation shape how consumers pay and what merchants accept. Fumiko and Stavins (2012)¹¹⁵ in their discussion paper *Effects of Credit Scores on Consumer Payment Choice*, investigated the effects of credit scores on consumer payment behavior, especially on Debit and Credit Card use. Anecdotally, a negative relationship between Debit Card use and Credit score has been reported; however, it is not clear whether that relationship is related to other factors, such as education or income, or whether it is a mere correlation. The results indicate that an increase in consumers' cost of debit cards – in response to regulatory changes, for example – would have an adverse effect on low – credit – score consumers (typically those with lower incomes and less education). Zhu Wang (2012)¹¹⁶ in his *Debit Card Interchange Fee Regulation: Some Assessments and Considerations*, analysed and investigated the regulations empirical impact on different players in the debit card market. The regulation has substantially reduced interchange revenues of large issuers who are covered by the regulation, while small issuers who are exempt have been shielded well so far.

Federal Trade Commission (FTC) Staff Report (2013)¹¹⁷ *Paper, Plastic... or Mobile? – An FTC Workshop on Mobile Payments*, studied about the mobile payments and the study which focused on potential to provide significant benefits to consumers and businesses. Industry is experimenting with many technologies, business models, and partnerships that provide consumers with new and exciting products and services. Although the industry is still young, FTC staff encourages those developing mobile payment products and services to create them with financial, security, and privacy protections in mind.

Theory and Models of Credit and Debit Cards

Gans et.al, (2003)¹¹⁸ in their paper *A Theoretical Analysis of Credit Card Reforms in Australia*, in the study, it described about how to develop a model of payment systems and analyse the impact of credit card reforms in Australia based on Reserve Bank of Australia's (RBA) main assumptions. RBA moved to reform credit card associations by increasing entry, allowing merchants to surcharge for card payments and regulating the interchange fee. Allowing merchants to surcharge may eliminate much of their concern over the interchange fee.

Emmanuel (2003)¹¹⁹ in their paper *Online Credit Card Processing Models: Critical Issues to Consider by Small Merchants*, discussed and made an attempted to address the current state of the online credit card processing system. The credit card processing mechanism, followed by a discussion of various credit card processing systems also are provided. The research paper focused on the various models of online, real – time credit card processing system and discussed several factors such as cost, complexity and security issues related to implementing such a system and also offered suggestions which are extremely valuable to small business that are venturing into Internet – Commerce. Robert et.al, (2003)¹²⁰ in their paper *Behavioural Models of Credit Card Usage*, examined the repayment and transaction behaviour with credit cards by using behavioural models. They describe the development of Markov Chain Models for late re – payment, investigate the extent to which there are different classes of behaviour patterns and explore the extent to which distinct behaviours can be predicted.

Sujit Chakravorti (2003)¹²¹ in his research work *Theory of Credit Card Networks: A Survey of the Literature*, studied the Credit Cards and its benefits to consumers and merchants not provided by other payment instruments as evidenced by their explosive growth in the number and value of transactions over the last 20 years. Recently, credit card networks have come under scrutiny from regulators and antitrust authorities around the world. The costs and benefits of credit cards to network participants are discussed.

Jonathan Zinman (2006)¹²² *Debits or Credit?* Studied the several modeling, policy, and business questions hinge on how consumers respond to the price of payments. For most consumers, a critical pecuniary margin is the price of a credit card charge. John and Dubey (2008)¹²³ in their research paper *Credit Cards and Inflation*, identified that the introduction (and widespread use) of credit cards increases trading efficiency but, by also increasing the velocity of money, it causes massive inflation, in the absence of monetary intervention. The monetary authority will then have to accept less than pre – credit card efficiency in order to restore pre – credit card price levels, or else it will have to accept substantial inflation if it is unwilling to cut efficiency below pre-credit Card levels.

Marc Anthony (2011)¹²⁴ in his research article *Debit v/s Credit: A Model of Self-Control, Evidence from Checking Accounts*, in this study, the author argued that some households use debit cards as a spending restraint tool, explaining why debit is the fastest growing consumer payment method despite being more expensive and less convenient than credit cards. A simple model is presented which predicts that debit card users are paying down a credit card balance among other predictions.

ATM Services and its Usages

Srinivas (2004)¹²⁵ in his article ***Bio – Metric ATMs***, studied and pointed out the use of biometric technology in ATMs for preventing the frauds connected with it and also points out some of its limitations. Stix and Hclmut (2004)¹²⁶ in his paper ***How to Do Debit Cards Affect Cash Demand? Survey Data Evidence***, analysed how EFTPOS payments and ATM withdrawals affect cash demand. The result revealed that cash demand is significantly and size ably affected by debit card usage and that there are significant differences in cash demand for individuals with different debit card sage frequencies. In addition, the effect of EFTPOS payments on cash use at the Point – of – Sale is also discussed. Hossain and Razwanul Bari (2006)¹²⁷ in their research work ***Understanding of ATM (Automated Teller Machine) in Bangladesh***, discussed the real time infrastructure of how ATMs are connected and how they maintained. They, in the study conclude that they have read and how it works in live situation are totally different from our expectation. In this research pa per, it is written with a contrast with both sides from the bookish knowledge and real time experience.

Maruti Rao (2009)¹²⁸ in his research paper ***A Study on Customers Satisfaction towards ATM Services in Dharwad City***, studied the account holders' satisfaction level towards ATM cum Debit Card services and to understand the popularity of debit card as a means of purchase through Point of Sales. In his paper, he made an attempt to understand the awareness level of ATM and its overall development of ATM – cum – Debit Card business in the Dharwad city. The study mainly focused on the Plastic Money specially ATM cum Debit Card as a New Tech–Product.

Shamsher Singh (2008)¹²⁹ in his article ***Analysis of CRM Effectiveness: ATM Services in Banking Services***, analyses the CRM and its core marketing activity in the market driven economy, where the consumer has occupied the central position. The paper studied the effectiveness of ATM services of leading Indian Banks such as State Bank of India, ICICI bank, HDFC Bank and Punjab National Bank in NCR Delhi. He states that banking sector has undertaken various initiatives to attract, built and retain their customers. ATM is the most visible and used practice by the customers. Customers are the king in the present business scenario and Customer Relationship Management (CRM) is the key to attract and retain customers.

Dhande (2009)¹³⁰ in his book ***Opportunities for Better Services and Consumer Relations through Innovations in ATM Technologies***, focused on the current scenario of Indian banking Sector from reform to transform, need for CRM in Banking Sector of India, effects of competition, strategic elements in CRM policy formulation, CRM as a system of information

management, tools for CRM, ATM Service Points and its potential, opinion of customers on ATM Services of the SBI group of banks, managerial problems in ATM systems, customers' demands preferences and choices on the technologies advancements for better services.

Prasad and Siva Rama (2004)¹³¹ in their article *ATM v/s KCC (Product Development and Innovation)*, provide an outlook for ATMs and credit cards, benefits of technology to agriculturists, extension of ATM facilities to agriculturists etc. Lawan Ahmed Mohammed (2011)¹³² in his article *Use of Biometrics to tackle ATM Fraud*, research work provided an overview of the possible fraudulent activities that may be perpetrated against ATMs and investigates recommended approaches to prevent these types of frauds. In particular, it developed a prototype model for the utilization of biometrics equipped ATM to provide security solution against most of the well-known breaches. To ensure that such security approach will be accepted by the majority of users, the model was tested and the users' opinions were given.

Mc Andrews and James (2003)¹³³ conducted a survey on *Automated Teller Machine Net Work Pricing – A Review of Literature*, in the study discussed and disclosed the ways that ATMs have altered the relationship between banks and their depositors as well as the competitive relationships among banks and concluded with suggestions for further research.

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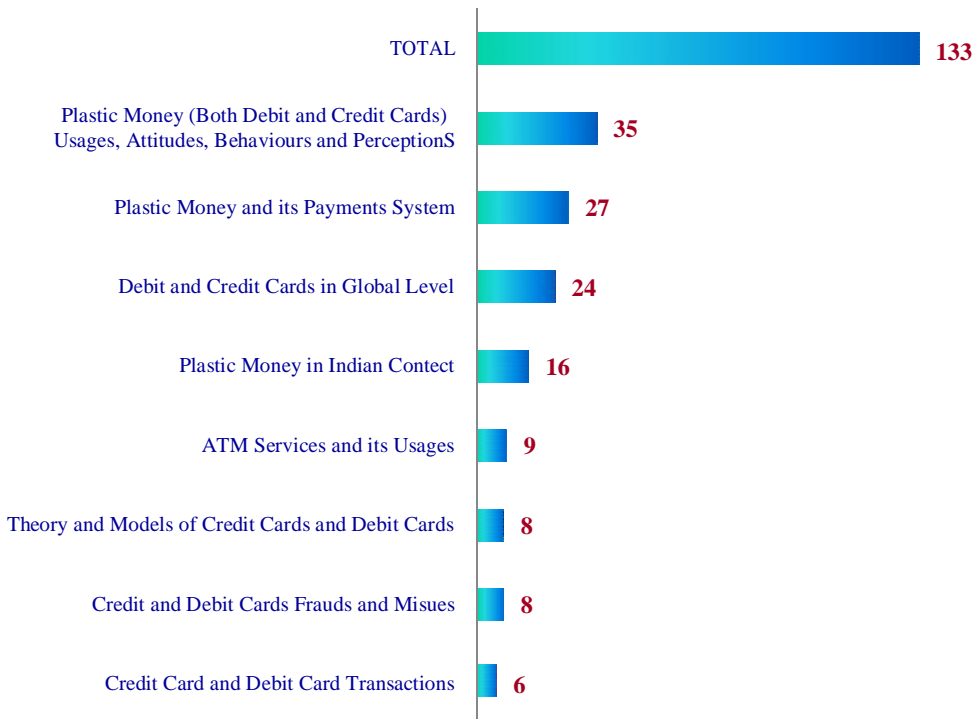
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Graph 2.1: Aggregate of Literature Review on Plastic Money

There are large number of studies conducted at the Indian level and very few works are presented in this chapter focusing on the Plastic Money holders, usage, perceptions, awareness level, satisfactions, attitudes, behavior of the card holders, frauds and crime activities, security issues, impact on the banks, adoption of new technologies involved in the Plastic Money, payment systems and other e – clearance and settlements through the use of Bank cards. But, studies relating to the Impact of Plastic Money in Karnataka State, Southern Region are extremely limited. Keeping this point of view, an attempt has been made to study the Impact of Plastic Money on the Bank Customers of Karnataka – An Empirical Study.

Conclusion

This chapter deals with the review of the earlier studies which are classified under eight categories focusing on usage patterns of Credit Cards and Debit Cards, security aspect of Plastic Money, Debit Card and Credit Card frauds and their prevention, economics of card usage, attitude towards Plastic Money, comparative studies of old and modern instruments, customer acceptance and usage patterns, general view of Plastic Money etc. At the end of the chapter an attempt has been made to identify the research gap in the area.

Exhibit 2.1: Summary of Literature Review on Plastic Money with Related Elements

Source: Literatures, since 2000 – 2012.

Chapter - III

CHAPTER - III

Plastic Money in India – A Conceptual Framework

Introduction

Money is anything generally accepted as a medium of exchange. A **Medium of Exchange** is virtually anything which is used to pay for goods and services or settle debts. Thus, the distinguishing feature of money is that society widely accepts it to settle transactions. In popular usage, the term **Money** is often synonym for these two media of exchange.

Coins and Rupees in India however are called **Currency** and comprise only part of the money supply.

The primary function of money in an economy is to serve as a medium of exchange. This simply means that when buying the goods, services or financial instruments (such as stocks or bonds) and pay with money.

Today, India and other countries across the globe, almost all the people use money in the form of currency or cheques as the medium of exchange. Barter – the exchange of goods and services without the use of money is possible but rare method of making transactions in the current scenario.

The era of Plastic Money started in the form of Credit and Debit Cards. It includes Debit Cards, ATMs, and Smart Cards etc.

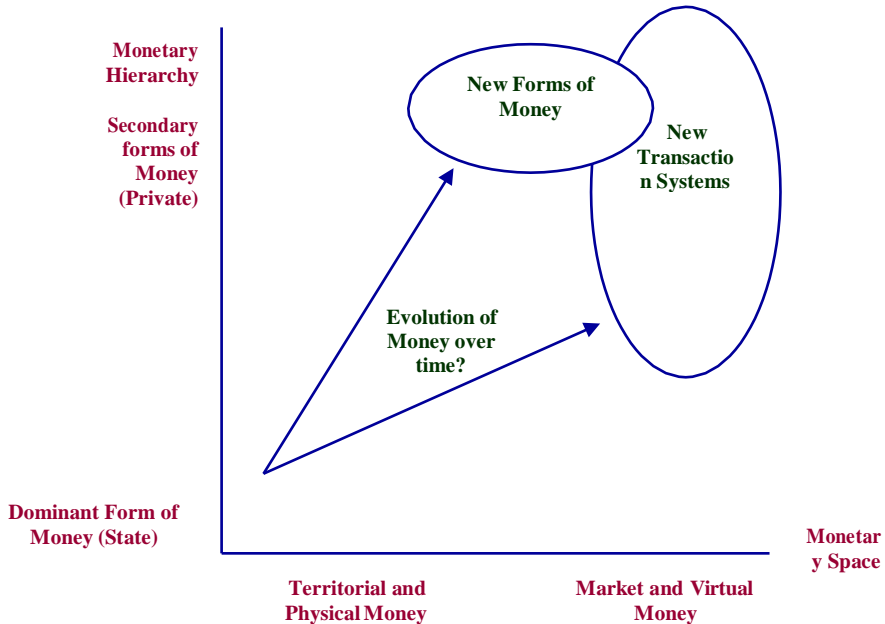
Credit Cards, variant of Plastic Money, are used as substitutes for currency. Now, people can remotely access their money through these plastics. Carrying wads of cash for a weekly or monthly shopping is risky and not having enough in the present.

Today, Credit and Debit Cards have largely replaced cheques as alternatives to cash. Both are reasonably secured compared to cash and are widely accepted.

Credit cards are the financial instruments, which can be used more than once to borrow money or buy products and services on credit. Basically banks, retail stores and other business houses issue them.

Plastic Money was introduced in 1950s and is now an essential form of **Ready Money** which reduces the risk of handling a huge amount of cash.

Figure 3.1: Possible Paths for the Future Money



Source: Riel Miller (2002). *The Future of Money*, Organisation for Economic Co-operation and Development (OCED), OECD Publication Service, Rur Andre – Pascal, PP. 14.

For the future, it can be observed from Figure 3.1, the question is to what extent transactions will shift towards other quadrants—particularly the upper right, where conditions contrast the most with those that pertain today. Two distinct and mutually reinforcing answers are dealt with and in turn, in the two sections: one based on the long-run trends of monetary development, and the other rooted in an assessment of the implications for money of future economic and social changes.

The growth of E – Commerce and transaction via Internet has fuelled the usage of cards for utility services like booking air, railways tickets, entertainment and retail shopping. Convenience of not carrying cash as ATMs is now at each corner of cities and POS terminals (Point – of – Sale/Point – of – Purchase) helping people to shop at any point of time. Banks now provide incentives such as cash-back schemes and discounts at certain retailers to popularize the use of Plastic Money. Customers use it because cost per transaction is low in using these cards as against go to banks and do the transaction.

Credit Cards can offer free use of funds, provide people always to pay the balance in full and on time. It helps us to establish a good credit history. It provides a convenient payment method for purchases made on the internet and over the telephone. It gives incentives, such as reward

points, that people can redeem. The uses of credit cards has had an enormous impact on the economy – changing buying habits by making it much easier for consumers to finance purchases and by lowering savings rates (because consumers do not need to save money for larger purchases). Credit cards involve finance charges, annual fees, and Card – Renewal fees. Add-on-card fees etc, while applying using a credit card but actually it is the interest rates that make your credit card ownership a nightmare. Finance charges are the most important part of any credit card items. The finance charges are paid based on a monthly interest rate and are calculated on an average daily balance method for most credit cards in India. This is calculated by the simple formula listed below:

$$\text{Interest Calculation} = (\text{Outstanding amount} \times \text{Interest Rate} / 100 \times 12 \text{ months}) \times (\text{No. of days}/365)$$

Bankers encourage using Plastic Money as a strategy to reduce their cost of branches as most of the account functions such as cash deposit/withdrawal, cheque deposit, ordering books, statements and funds transfers can be done via the ATM. It reduces branch visits which will ultimately reduce their employee cost. There were as estimated 130 million Debit Cards and 24 million credit cards in circulation in India, 2009. The Plastic Money usage has been increasing and, the RBI statistics shows that 331, Million Debit Cards users in Country at the end of Financial Year (FY) 2013 and 19.5 Million Credit Cards user base for the same period. Credit card companies can be expected to deliver new products to spur growth. New credit card services can include payment systems to expand card acceptance as well as cards are designed to help revamp a consumer's credit. In addition growth by retaining current customers and attracting new consumers to credit card usage. Although macro – economic conditions are the ultimate key to industry vitality, credit card companies will continue to aid growth through innovation of products and services, rewards programs can add value to credit cards. Rewards programs help industry.

The growth of Indian economy witnessed the growth of Plastic Money. In the year 2012, Plastic Money Credit Card usage was 30 times of Debit Card payments in a year, however, the number of debit cards in the country is more than 15 times than that of credit cards. Indians use a credit card for an average payment amount of about ` 55,000 in a year, which is nearly 30 times the money spent through debit cards. At the end of last fiscal year, 2011 – 12, there were a total of 1.76 crore outstanding credit cards in the country, which rose further to 1.8 crore by June – 2012. On the other hand, the number of Debit Cards stood at over 29 crore as on June 30, 2012, up from 27.8 crore at the end of last fiscal, the latest RBI data reveals. During 2011 – 12, the total amount spent through Credit Cards was ` 96,614 crore giving an average

transaction size of ` 54,738 per card in a year. In comparison, the debit cards were used for transactions worth ` 53,432 crore in 2011 – 12, leading to an average transaction size of ` 1,920 on every card in a year.

Table - 3.1: Electronic Payments in India (2003 – 2010)

Total Electronic Payment			Credit Cards			Debit Cards		
Years	Volume	` in Billion	Cards (Million)	Volume	` in Billion	Cards (Million)	Volume	Cards (Million)
2003-04	166.95	521.42	-	100.17	176.62	-	37.75	48.73
2004-05	228.90	1087.49	-	12.94	256.86	-	41.53	53.61
2005-06	285.01	1463.82	17.32	156.08	338.86	497.63	45.68	58.97
2006-07	378.70	2356.93	23.12	169.53	416.61	749.76	60.17	81.71
2007-08	535.30	10419.91	27.54	228.20	579.84	1024.37	88.30	125.21
2008-09	667.82	5003.21	24.69	259.56	653.55	1374.31	127.65	185.47
2009-10*	532.39	4986.90	20.64	175.12	457.56	1705.68	124.04	192.88

Source: RBI, Cygnus Research

Note: (* up to December 2009), (Number in Million and Amount in ` Billion)

The Table – 3.1, indicates that the trend of the electronic payments in India is increasing from 2003–2010. When compared with that of the credit cards, the payments made through the debit cards are very high .The card industry is growing at over 30 per cent per annum till now. Every card issuer felt that there will be a huge untapped potential, the power of a 250 million middle class population etc. There are still over 150 million bank accounts and which is set to come in different forms. Banks are increasingly looking at offering rewards or points on credit and debit card transactions in an attempt to attract more customers and increase card usage. As the world is developing there is rising insecurity among people and this makes carrying of cash very risky and in this situation Plastic Money comes to the people as a solution. China, India and South Korea provide the biggest opportunities for credit card growth. As emerging economies, the public policies of these countries and increased tourism mean credit card companies are gaining customers overseas. Although growth is predicted to be somewhat slower in Latin America and Eastern Europe, credit cards continue to penetrate these regions as well. It is expected that cards payments is set to establish smart growth in the coming future. Since the beginning of 1960s, the banks introduced a new facility for making payments i.e., the credit card. The use of credit card is essentially a method of postponing payment.

Plastic Money – A Global Perspective

Plastic Money has increasingly becoming an alternative payment system in most developed and developing countries. There are myriad factors responsible for this. First and foremost, the technical revolution in the banking sector has eliminated physical and geographical banking and replaced it with anytime anywhere banking. This has played a crucial role in the payment card industries. Secondly, there has been a sea change in consumer behaviour. They want the convenience and safety in making payments. With the use of credit card there is no need to stand in queues in bank branch, where they have an account, during banking hours on a working day. The use of credit card also enables its holders to minimize the use of hard cash and, thus, provides safety to the cardholders.

The idea of using a card to make purchases was first thought of by Edward Bellamy in 1887. He wrote a book, *Looking Backward*, which described his idea of a utopian society. In this book, he coined the term *credit card*. Since that time, advancements have been made that have allowed this idea to become a reality. Electronic verification systems emerged that allow merchants to verify a credit card is valid and has enough credit available to cover a transaction in a matter of seconds. The data from the card is most commonly obtained from a magnetic strip on the back of the card. Software has been created by many credit card companies that monitor the use of the credit card. If a purchase seems to be out of the customer's norm, a credit card may become inactive, until the purchase can be confirmed by the customer. This added feature significantly decreases the amount of fraud committed on these cards. The surfacing of such technology has led to the creation of many jobs.

Every credit card company employs thousands of customer service representatives. These representatives are normally available 24/7 to answer any questions. Jobs were also created for account managers, or better known to the public as collection representatives. Fraud Prevention positions arose since fraud has become a major issue with credit cards. Training positions arose to keep all employees up to date in this always – changing industry. Business Technology (BT) positions were produced to aid with the creation, stability and updates of software used by customer service and account managers.

Growth of Plastic Money in India

In India, once in a while everyone gets an aggressive call from banks that try to push people towards getting credit cards. With the Indian economy expanding rapidly at more than 7.5 per cent per annum and the middle – class budding, several financial firms believe and predict that the use of Plastic Money (or cashless transactions) in India will become very popular.

According to RBI, although the number of credit cards increased to a crore during three financial years from 2005 to 2008, the number of transactions through credit cards fell in financial year 2009 – 10. For example, while purchases of about 25 crore saw the use of plastic money in 2008 – 09, the figures fell by over two crore transactions in the financial year 2010.

Generally, increasing reliance on cashless transactions is seen as sign of a modern economy where there is a strong synergy between the ordinary consumers and its financial institutions. *Therefore, in India with a declining trend in Plastic Money, more emphasis should be placed on use of cashless transactions. Ashish Das, has done an in depth analysis of use of cashless transactions in the Indian economy. According to him, “Transition from the existing cash – based retail payments to cashless payments can occur by promoting payment through debit cards. This will require rationalizing costs associated with the use of debit cards, making them more secure and conducting focused financial education programs for increasing public awareness. This transition would lead to saving currency management costs and generate valuable information on spending behaviour of the masses”.*

Ashish Das offers a number of reasons for the current decline in use of cashless transactions in India. According to him, credit cards offer free and risky credit and thus are an expensive payment mode. However, the product design and promotions in credit card sales are such that the pricing is kept hidden and the users are oblivious of the fact that the cost is ultimately borne by them. On the other hand, debit card is another alternative to cash. Though this mode of payment offers no credit and carries little risk, yet it has been often priced at par with the credit card by the Indian banks—again, a price that is borne by the cardholder. The end result causes a net decline in the use of Plastic Money. For both debit and credit cards, the cost of transactions is ultimately passed onto the merchants who agree to accept card payments. If the merchants cannot put a surcharge, then he will add the card transaction cost to the cost of the product, which in most cases will be unknown to the card user at the point of sales. However, in cases where the merchants can put a surcharge, there is a discount on offer for paying cash, which makes using the card an inefficient mode.

Also, in India most merchants have small or medium sized businesses and in this set-up there is a disincentive for these merchants, who have less pricing power due to their low business volumes. In order to incentivize the use of Plastic Money, Das recommends the proportion of the transaction amount borne by the merchant to be 0.2 per cent with a cap of ` 20. Also, according to Das, unlike credit cards with hidden costs, the use of simple debit cards should be encouraged where such cards should be completely surcharge free. In this regard, the RBI could take steps to organize focused financial education campaigns among merchants

and cardholders that promote the use of these cards. Also, the Indian Government might consider providing tax benefits to merchants for accepting card – based payments from card users.

It is believed that mobile devices like mobile phones and Personal Digital Assistant (PDAs) could soon be used as Plastic Money. According to the Telecom Regulatory Authority of India (TRAI), mobile phone usage has been steadily increasing in India and according to a recent estimate (2010 – 11) India now has 851.9 million mobile phone users. If the government considers promoting the use of the mobile devices as Plastic Money, then that might just be the thing needed to spur the use and adoption of cashless transactions in India. The *phone – as – card* use might also spur a healthy growth and competition among mobile phone companies offering such services to its end users. Also, the government could decide to promote the use of *pre – paid debit card* that is not linked to a regular bank account, but where the consumer instead pays a bank or merchant some amount to recharge the same amount as plastic money. Banks should be encouraged to issue pre–paid and re–loadable debit cards to non–customers.

Das feels use of Plastic Money increases the possibility of card fraud and identity theft. In order to avoid this, cards should have photographs of the cardholder. The information generated through card payments would help track transactions. (*Sanjay Gade, February 8 2013*). (Plastic Money) Credit/Debit cards are a novel way of providing value added services to banks customers. Cards are issued to approval clients for purchase of goods or services from authorized merchant establishments on credit guarantee of issuer of credit card. The customer need not carry any cash and is empowered to spend whatever and whenever he wants with his credit card within the fixed limits prescribed by the bank. Debit and unlike credit card which is a post – paid card is prepaid card with same stored value. Every time a person uses the cards, the merchant who in turn can get the money transferred to his account from the banks of the buyer, debits and exact amount of purchase from the card.

India has over 150 million people having bank accounts, which is very small in number i.e. about 20 per cent of the total population for a country with population exceeding 1.1 billion and compared with other countries; it is 98 per cent in Germany, 95 per cent in Singapore and 46 per cent in South Africa. Of the total banked population in India, 30 million are eligible for credit cards and all are eligible for debit cards. In fact, since each cardholder may also have multiple cards in use, there is plenty of opportunities for expansion of cards and cardholders in India. In India, Banks had issued a total of 26.7 million credit cards and 122 million debit cards and the number of merchant establishment accepting cards reached 4,28,479 at the end of October – 2008.

The average value of transactions at the Point – of – Sale (PoS) using debit Card and Credit Card was ` 161 and ` 2415 respectively. The convenience and acceptability of Plastic Money as a mode of payment increase the frequency of its use. ATM networks paved the way for the rapid growth in the number of Debit Cards in India. Number of ATMs has been increased from 28,704 in June 2007 to 36,314 in June 2008. If data is to be believed, credit card users have increased cash withdrawals from Automated Teller Machines (ATMs) in the period April 2012 – January 2013 compared with the period April 2011 – January 2012. According to data from Reserve Bank of India, between April 2012 and January 2013, the total number of Credit Cards in use went up 7.12 per cent, whereas the number of credit card transactions at ATMs went up by 10.31 per cent; amount involved in such transactions has gone up 19.60 per cent in this period. Essentially, what this means is that the number of people using credit cards to withdraw cash is going up with additional number of credit cards issued.

On the other hand, the total number of debit cards in the same period has gone up by 13.51 per cent. Again though the number of transactions through debit cards at ATMs has gone up by 5.31 per cent, the number of transactions at points of sale (PoS) has gone up by 40.23 per cent. Also, the amount involved in ATMs has gone up by 16.52 per cent, whereas at PoS it has shot up by 57.85 per cent. *It shows a shift and it is a good sign for the banking industry*, K.V.S. Manian, (Consumer Banking), Kotak Mahindra Bank Ltd. The amount involved per debit card transaction at PoS has gone up from ` 1,633 in April – 2012 to ` 1,839 in January – 2013. Debit cum ATM cards are now used for both cash withdrawals and for payment of purchases at POS terminals and online. The annual spending on cards jumped from ` 920 crore in 1983 to ` 18,000 crore in 2005. According to a recent report the total spending through PoS terminals increased to ` 55,000 crore during 2005 – 2006.

Total spending in India on payment cards are still less than one per cent of the country's PCE (Personal Consumption Expenditure), the comparison of which shows very poor with the global average of 5 per cent PCE on cards and is miniscule when compared to the 15 per cent PCE of developed nations. It indicates that the growth potential for payment card industry in India is enormous.

The vast majority of merchants continue to be cash – based although the number of merchants accepting cards is on the increase - reflecting the Indian consumers' willingness to use cards for every clay today purchase as well as for big ticket transactions. The volumes and the number of card transactions will witness an exponential growth aided largely by the factors such as the annual growth in credit and debit cards in India which is approximately 30

per cent to 40 per cent. The other factors that influence this growth include the amount of annual spending on cards, wider acceptance of Plastic Money by merchants aggressive marketing campaigns by new generation banks and foreign banks prompt payment by cardholders, growth of co – branded cards, innovative schemes and privileges offered by cards, retail boom, changes in consumer behaviour, increased level of socio - economic environment of people, explosive rise in corporate citizens, and emergence of E – Commerce as a main stream business channel. India is going to be one of the premier visitor destinations attracting a large number of foreign tourists and the supportive role of RBI, also increases the growth of card usage. The desire on the part of the middle class and upper middle class to enhance the lifestyles by accessing more products and undertaking too encourages its growth. It is a primary mode of payment promoting E – Commerce and M – Commerce. They are rapidly gaining a foothold in the financial service industry.

The convenience and reliability of Plastic Money confer to the customers and the merchants have already made the Plastic Money as an irreplaceable mode of payment instrument in the present cashless society. Plastic Money also has become a part of the modern life style of people today. All these highlight the scope and potential for Plastic Money as a payment instrument in India. The growing recognition of Plastic Money increases the usage and acceptance of it in the business deals all over the world. The success of card usage depends upon the cardholder's awareness about the features and benefits of cards, various problems/risks connected with the card, their satisfaction level and decision to choose the cards in place of cash, promotional measures adopted by banking authorities and above all the extent to which merchants are ready to accept it as a medium of payment in the business dealings.

Plastic Money Penetration in India

Managing business is changing fast in India—one of the world's fastest growing economies. This is particularly true in India's credit card market, which grew by nearly 25 per cent in the every subsequent year from 2002 onwards. India stands in the second position among 10 countries in respect of the highest number of credit card holders who use their cards for dining out, shopping and for cash advances, says a survey called **Share of Wallet** conducted by the American Express Bank in Australia, India, Hong Kong, Indonesia, Malaysia, New Zealand, Philippines, Singapore, Taiwan and Thailand. Two – Third per cent of the Indian credit card users said they anticipated their plastic card spending to increase in the year 2003. The people in India are seeking the convenience of plastic money and the usage of it is widening. The growth indicators are show below.

Table - 3.2: Credit Card Growth

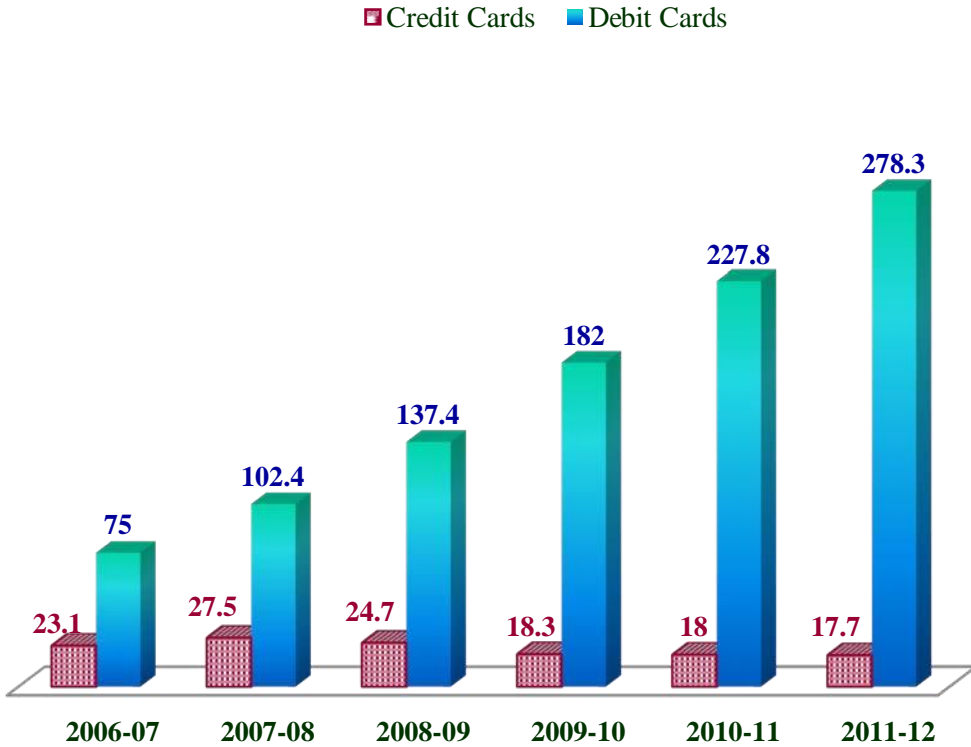
Period	Credit Card growth
2003	26.76
2004	29.00
2005	23.66
2006	25.14
2007	22.57

Source: Business Line, July 19, 2007

The credit card industry in India has never had it so good. In its 15 years of doing business in this country, it had issued 2.69 crore cards till December 2003 and this figure skyrocketed to 4.33 crore in 2004. This growth in Plastic Money is also visible in the number of transactions using cards and their value. From 14.57 crore transactions in 2002 – 03, the number rose to 21.19 crore in just the first nine months of 2004 – 05. The amount involved in these transactions also shot up from ` 26,951 crore to ` 44,737 crore.

- (a) The debit card market is estimated to grow at 26 per cent to cross the 1.732 lakh mark in the country by March 2010.
- (b) However, the credit card base is expected to fall further in 2009 – 10 to about 226 lakh.
- (c) The surge in debit card usage can be attributed to the meltdown and the cautions attitude towards spending money.
- (d) With the increasing criminal behavior rate in the country, banks and card issuers are likely to remain hesitant to issue new credit cards.
- (e) Many banks have been closing inactive and unproductive accounts from their credit card portfolio.
- (f) ICICI Bank, HDFC Bank, HSBC Bank, SBI and Citibank have over 80 per cent share of the Indian credit card industry.

Chart 3.1: Number of Credit and Debit Cards Outstanding (a)



Source:<http://www.cardbhai.com/credit-debit-card-data/total-credit-cards-in-india-bank-wise-2012-end>

The chart 3.1 and Table 3.3, indicate the increasing trend in the usage which is outstanding in the Indian Banking sector.

Table - 3.3: Number of Credit and Debit Cards Outstanding

Year	Credit Cards (in Millions)	Debit Cards (in Millions)
2006-07	23.1	75
2007-08	27.5	102.4
2008-09	24.7	137.4
2009-10	18.3	182
2010-11	18	227.8
2011-12	17.7	278.3

Source:<http://www.cardbhai.com/credit-debit-card-data/total-credit-cards-in-india-bank-wise-2012-end>

Table - 3.4: Total Credit Cards and Debit Cards of the selected banks in India at the end of December (2009–2012)

Sl. No.	Bank	No. of Outstanding cards as at the end of the month							
		Credit Cards				Debit Cards			
Public Sector Bank		2009	2010	2011	2012	2009	2010	2011	2012
01.	State Bank of India	2,655,983	2,291,103	2,145,084	2,502,860	51,410,261	68,394,000	86,508,000	105,104,000
02.	Bank of India	114,443	117,714	119,324	121,111	4,354,864	6,196,860	8,451,970	12,676,774
Private Sector Bank									
03.	HDFC Bank Ltd.	4,429,583	4,782,039	5,496,726	6,208,875	10,465,354	12,562,120	13,722,502	14,897,289
04.	ICICI Bank Ltd.	5,078,622	36,835,334	2,892,502	2,824,532	15,512,705	15,662,809	15,696,191	18,006,486

Source:

01. <http://www.cardbhai.com/credit-debit-card-data/total-credit-cards-in-india-bank-wise-2011-end>
02. <http://www.cardbhai.com/credit-debit-card-data/india-credit-card-holders-information-bank-wise-2012>
03. www.policybazaar.com/credit-cards

From the Table 3.4, the outstanding Plastic Money (Debit and Credit Cards) of the Public Sector (SBI and BOI) and Private Sector Bank (ICICI and HDFC) trend shows the usage and number of Plastic Money holders from 2009–12.

Indian Commercial banks introduced the credit card facility in the early eighties. Credit Card is a convenient medium of exchange. It is a cute card made of plastic. It has a method of identification of users by means of either signature identification or a stamp size photo of the cardholders. It authorized the holder to charge goods or services to his account for which he is billed. Credit Card is otherwise called *Plastic Money*. The most important difference between a credit card and a Debit Card is that while credit card is a *post - paid* one the latter is a *pre – paid*. Credit Cards are designed to reduce the use of either cash or cheque for transactions. It enables a customer to purchase goods or services within prescribed limits from certain authorized retail and service establishments without making immediate cash payments. The customer thus possessing a credit card need not carry any cash and is empowered to spend wherever and whenever he wants goods and services with his credit card within the limits prescribed by his banks. It reduces the physical movement of cash and enables bankers to transfer money electronically. The customers can avail the credit card facility only in those

establishments, which accepted them. After purchase of goods or services, the customer will hand over the card to the supplier/seller who swipes the card in an electronic terminal, which reads the cardholders name, card number etc. On accepting the card by the machine, the supplier records the amount of the transaction in the machine. The imprinter of the machine print a sales voucher showing the card holders name, card number, card type, name of the business establishment, transaction ID, invoice number, amount of transaction etc.

The holder signs the voucher and the signature is cross checked by the supplier with that of the specimen signature on the card.

The signed voucher is then sent to the bank, which pays it after deducting its service charges. Once in a month the bank sends a statement of all the credit purchases in the previous month to the credit card holder and the latter has to remit the amount either by cheque. Credit cards are generally issued by banks only to those prompt customers having either savings or current account. The banks should issue cards to its customers only having good financial standing, with satisfactory records of accomplishment. The credit limit or purchasing power is fixed by bank issuing the card.

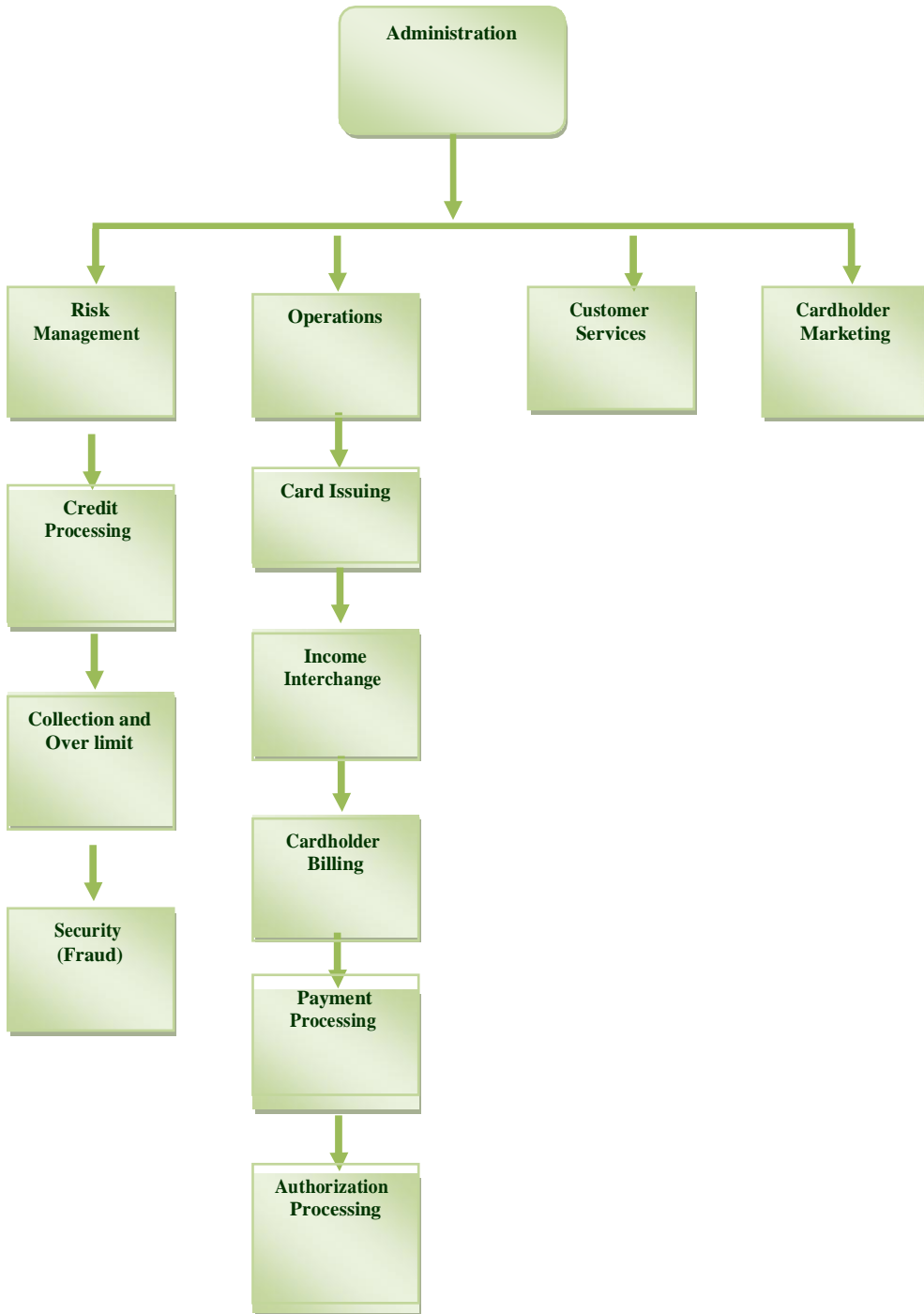
On the basis of credit limits bank issues different types of credit cards to its customers. The credit limits of card vary from bank to bank.

The bank assumes the risk and responsibility of collecting the dues from the customer and they permit cardholders a *Cash Advance Facility* from its branches. The upper limit of the cash advance facility will be fixed by the bank.

Banks which issue cards, tie up with the international organizations like Master, Visa, Maestro, Cirrus, American Express, Diners, Discover etc. that issue credit cards. In the Exhibit– 3.1, the card issuing banks gives a service charge to the card issuing international organizations certain banks issues credit card free of cost to their customers, while some other banks issues charges a small amount from the customers as annual service charges. Loyalty bonus is also provided by banks to their customers for encouraging bulk purchase using credit card by them.

Usually, the card issuing institution supply a guide or booklet with cards containing detailed terms and conditions, risks on the account when the card is lost or misused and other relevant information with regard to the usage of the card.

Exhibit 3.1: Bank Card Issuer Organizational Structure



Source: Indian Institute of Bankers, Professional Banker, Bank Credit Card Business, Pp. 20, 1996.

Table - 3.5: ATM and Card Statistics – November, 13

Bank Name	ATMs		POS		Credit Cards				Debit Cards					
	On-site	Off-site	On-line	Off-line	No.of outstanding cards as at the end of the month	ATM	POS	ATM	POS	No.of Outstanding cards as at the end of the month	ATM	POS	ATM	POS
Scheduled Commercial Banks														
Public Sector Banks														
State Bank of India	19687	15475	114406	0	2758042	42082	5439913	207.33	14069.16	127248000	203335000	11071000	584959.80	17048.80
Bank of India	1688	1526	2565	499	122841	8364	112022	54.60	299.30	15833896	13854347	1306316	34193.70	1547.70
Private Sector Banks														
ICICI Bank Ltd.	3692	7483	228686	9441	3094705	6633	5819504	31.60	13245.20	21014427	31328329	8783452	139124.25	15045.03
HDFC Bank Ltd.	4651	6694	223006	0	5117856	69096	13197140	467.47	37382.52	17297969	30426316	8425986	131874.81	13575.36

Sources: www.rbi.org.in

From the Table – 3.5, the number of Automatic Teller Machines (ATMs) and Point – of – Sale (POS) of Plastic Money (both of Debit and Credit cards of both on – site and off sites also increased.

Automated Teller Machine (ATM)

An ATM is simply a data terminal. Like any other data terminal, the ATM has to connect to, and communication through, a host processor. The host processor is similar to an Internet Service Provider (ISP) in that it is the gateway through which all the various ATM networks become available to the cardholder. Most host processors can support either leased – line or dial – up machines. Leased–line machines connect directly to the host processor through a four – wire, point – to – point, and dedicated telephone line. Dial – up ATMs connect to the host processor through a normal phone line using a modem and a toll–free number via a modem.

When a cardholder wants to do an ATM transaction, he or she provides the necessary information by means of the card reader and keypad. The ATM forwards this information to the host processor, which routes the transaction request to the cardholders bank or institution that issued the card. If the cardholder is requesting cash, the host processor causes an electronic fund transfer to take place from the customer’s checking account to the host

processors' account. Once the funds are transferred to the host processor's bank account, the processor sends an approval code to the ATM authorizing the machine to dispense the cash. The processor then ACHs (Authorization of the Cardholders) the cardholder's fund into the merchant's bank account, usually the next bank business day. In this way, the merchant is requested, the money moves electronically from the users account to the host's account to the merchant's account. Communication between the ATM and into the phone lines recording the signals sent to the ATM to authorize the dispensing of cash and then feeding the same signals to the ATM to trick it into authorized dispensing of cash.

- (a) **Direct Deposit** – Direct Deposit authorizes specific deposits, such as paychecks and social security checks, to an account on a regular basis.
- (b) **Pay – by – Phone System** – Pay – by – Phone systems occur by contacting the financial institutions with instructions to pay certain bills or to transfer fund between accounts. This usually requires an agreement with the institution to make such transfers.
- (c) **Personal Computer (PC) Banking** - PC Banking refers to computer hardware, software and telecommunication systems that enable retail customers to access both specific account and general bank information on bank products and services through a Personal Computer (PC). The bank's network design and telecommunication links may include the use of private networks or public networks. Personal Computer Banking allows handling of many banking transactions, for instance, to view an account balance, request transfer between accounts, and pay bills electronically.
- (d) **Electronic Bill Payment (EBP)**- Consumers can pre – authorize direct withdrawals so that recurring bills such as insurance premiums, mortgages, and utility bills, are paid automatically. To many bankers, EBP makes dollars and sense. By charging for EBP, banks can bring in new revenue streams to offset other loss – leading Internet banking services.
 - 1. Using Debit card – This process is similar to using credit card but deducts money from a checking or saving account.
 - 2. Using Credit Card – There are three ways credit card purchases are conducted. Either a merchant uses voice authentication using a touch–tone phone, Electronic Data Capture (EDC) magnetic stripe – card swipe terminals, or virtual terminals on the Internet.

After a cashier swipes a credit card through a reader, the EDC software at the Point – of – Sale (PoS) terminal dials a stored telephone number via a modem to call an acquirer. An acquirer is an organization that collects credit – authentication requests from merchants and

provides the merchants with a payment guarantee. When the acquirer company gets the credit card authentication request, it checks the transaction for validity and the record on the magnetic stripe. Single dial – up transactions are processed at 1,200 to 2,400 bits per second, while direct Internet attachment uses much higher speeds via this protocol. In this system, the cardholder enters a Personal Identification Number (PIN) using a keypad. The PIN is not on the card—it is encrypted in a database. The PIN can be either in the bank’s computers in an encrypted form or encrypted on the card itself. The transformation used in this type of cryptography is called one – way. This means that it’s easy to compute a cipher given the banks key and the customer’s PIN, but not computationally feasible to obtain the plain text PIN from the cipher, even if the key is known. This feature is designed to protect the cardholder from being impersonated by someone who has access to the bank’s computer files. (Nidhi Kapoor, 2008)

Sustained increase in total number of ATMs indicating move towards door–step banking.

During 2011 – 12, an additional 21,000 ATMs were deployed by the banks. Public sector banks accounted for more than 60 per cent of the total number of ATMs as at end – March 2012, while close to one – third of the total ATMs were attributable to new private sector banks (Table –3.6).

Table - 3.6: ATMs of Scheduled Commercial Banks (As at end – March 2012)

Sl. No.	Bank Group	On-site ATMs	Off-site ATMs	Total number of ATMs
1	2	3	4	5
01.	Public Sector Banks	34,012	24,181	58,193
1.1	Nationalised Banks	18,277	12,773	31,050
1.2	SBI Group	15,735	11,408	27,143
02.	Private Sector Banks	13,249	22,830	36,079
2.1	Old Private Sector Banks	3,342	2,429	5,771
2.2	New Private Sector Banks	9,907	20,401	30,308
03.	Foreign Banks	284	1,130	1,414
All SCBs (1+2+3)		47,545	48,141	95,686

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012.

Note: *: Excluding IDBI Bank Ltd

From the Table – 3.6, it is clear that the numbers of ATMs of On–site and Off–site of the Scheduled Commercial Banks are very high. Interestingly, the public sector banks, nationalized banks and SBI groups shows that number of ATMs trends is increased at the end of the March – 2012.

Table - 3.7: ATMs of Scheduled Commercial Banks (As at end – March 2013)

Sl. No.	Bank Group	On-site ATMs	Off-site ATMs	Total number of ATMs
1	2	3	4	5
01.	Public Sector Banks	40,241	29,411	69,652
1.1	Nationalised Banks	20,658	14,701	35,359
1.2	SBI Group	18,708	13,883	32,591
02	Private Sector Banks	15,236	27,865	43,101
2.1	Old Private Sector Banks	4,054	3,512	7,566
2.2	New Private Sector Banks	11,182	24,353	35,535
03.	Foreign Banks	283	978	1,261
All SCBs (1+2+3)		55,760	58,254	1,14,014

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012.

Note: *: Excluding IDBI Bank Ltd.

From the Table 3.7, it is clear that the numbers of ATMs of on – site and off – site of the Scheduled Commercial Banks are very high.

Interestingly, the public sector banks, nationalized banks and SBI groups show that number of ATMs trends is increased at the end of the March–2013.

Automatic Teller Machines (ATM) – Modern industries economies still function to a large extent on cash payments despite the development of electronic payment systems. Although cash payments represent the direct converse of electronic forms of payment, cash delivery is itself increasingly based on the huge base of Automatic Teller Machine (ATMs), which are being increasingly networked together to permit customers to collect cash from different bank as well as in other countries.

ATM and Credit Card networks are linked in that VISA and Master Card holders have long enjoyed the facility to draw cash from ATMs.

ATM networks are increasingly being developed by non–banking organizations through originally established by large commercial bank.

Table - 3.8: Branches and ATMs of Scheduled Commercial Banks in India (As at end- March 2013)

Sr. No.	Name of the Bank	Branches					ATMs		
		Rural	Semi-urban	Urban	Metro-politan	Total	On-site	Off-site	Total
1	2	3	4	5	6	7	8	9	10
Scheduled Commercial Banks		26,493	25,009	19,027	18,033	88,562	55,760	58,254	114,014
Public Sector Banks		24,124	19,554	15,080	13,903	72,661	40,241	29,411	69,652
Nationalised Banks*		17,036	13,539	11,320	10,585	52,480	21,533	15,528	37,061
01.	State Bank of India	5,589	4,153	2,601	2,356	14,699	15,037	12,138	27,175
02.	Bank of India	1,594	1,156	714	769	4,233	1,103	1,030	2,133
Private Sector Banks		2,361	5,445	3,882	3,881	15,569	15,236	27,865	43,101
03.	HDFC Bank Ltd.	428	1,106	705	793	3,032	4,344	6,399	10,743
04.	ICICI Bank Ltd.	436	989	786	884	3,095	3,322	7,159	10,481

*: Nationalised Banks include IDBI Bank Ltd.

Note: 1) Branches data exclude administrative offices.

Source: Master office file (latest updated version) on commercial Banks.

From the Table – 3.8, it is clear that the numbers of ATMs of on – site and off – site of the Scheduled Commercial Banks are very high in the rural, semi-urban, urban and metropolitan cities.

Interestingly, the public sector banks, nationalized banks and SBI groups shows that number of ATMs trends is increased at the end of the March – 2013.

Table - 3.9: Data on ATM deployment and ATM Transactions - Position for the Quarter Ending September – 2013

Bank Name	Metro Centres	Urban Centers	Semi - Urban Centres	Rural Centres	Total
Scheduled Commercial Banks					
Public Sector Banks					
Nationalised Banks					
Bank of India	763	909	757	476	2905
State Bank of India	8485	10975	9412	3905	32777
Private Sector Banks					
HDFC Bank Ltd.	4258	3430	2513	976	11177
ICICI Bank Ltd.	5766	3323	1627	382	11098

Sources: www.rbi.org.in

From the Table – 3.9, it is clear that the deployment and ATM Transactions – Positions of on – site and off – site of the Scheduled Commercial Banks are very high in the rural, semi–urban, urban and metropolitan cities. Interestingly, the public sector banks, nationalized banks and SBI groups show that number of ATMs trends is increased at the end of the September – 2013.

Application of ATMs

01. *Cash Withdrawals* – The basic purpose of ATMs is to provide a 24 hour unmanned teller, to meet round-the-clock money needs of the customers. Maybe due to this service, ATMs are popularly known as Any Time Money. The withdrawals can be anytime at any place and from any machine.
02. *Cash and Cheque Deposits* - Customers can deposit cash and cheque through an ATM anytime.
03. *Information about the Balance* – Customers can have an access to a wide range of information about their accounts such as balance; cheques credited and debited bank charges for various items etc.
04. *Ordering Cheque Book* – Customers can order a cheque book anytime from ATM;
05. *Ordering Bank Statements* – Customers can order Periodic Bank Statements through an ATM.
06. *Direct Transfers* – Transfers can be of two types. They can be between different types of accounts belonging to one account holder or they can be between two different accounts of different holders.
07. *Arrangement for regular payment* – Payments of telephone bills, insurance premium, electricity bills, periodical membership payments etc, can be easily handled through an ATM.
08. *Issue of Travelers' Cheques* – ATM can be used to issue travelers cheques of various denominations.
09. *Handling of loan applications* – Although complete processing of a loan application is not possible on an ATM, certain basic formalities can be completed with its help;
10. *Point of sale Transaction* – ATMs can be used for POS transactions. Customers making purchases can pay through ATMs, which will directly debit their account and immediate credit will be given to the retailer's account; and;
11. *Miscellaneous* – Banks offer a number of other services to their customers through ATMs. ATMs can accept share applications, and can also be used to buy and sell shares and other securities.

Credit Cards in ATMs

Many credit cards can also be used in an ATM to withdraw money against the credit limit extended to the card, but many card issuers charge interest on cash advances before they do soon purchases. The interest on cash advances is commonly charged from the date the withdrawal is made, rather than the monthly billing date. Many card issuers levy a commission for cash withdrawals, even if the ATM belongs to the same bank as the card issuer. Merchants do not offer cash back on credit card transactions because they would pay a percentage commission of the additional cash amount to their bank or merchant services provider, thereby making it uneconomical. Many credit card companies will also, when applying payments to a card, do so at the end of a billing cycle, and apply those payments to everything before cash advances. For this reason, many consumers have large cash balances, which have no grace period and incur interest at a rate that is (usually) higher than the purchase rate, and will carry those balances for years, even if they pay off their statement balance each month.

Based on a survey conducted by international consultancy firm, International Data Corporation (IDC) in India on behalf of National Cash Register (NCR) Corporation:

01. Around 88 percent of the cardholders make use of the facility only for cash withdrawal.
02. A cardholder on an average uses an ATM for 3.5 times a month for cash withdrawal, while he uses the machine around 2.5 times for balance inquiry. ` 55,000 crore dispensed through ATMs in India in fiscal 2003 (` 27,000 crore in the previous year) 9000 ATMs in India: Growth Rate 60 per cent per annum ` 1500 crore already spent to set up this infrastructure ` 2,000 – ` 3,000 per day is the cost of maintaining a single ATM. A MNC now making 2500 ATMs annually plans to make 10000 from 2005.
03. Number of Transactions per ATM, up to 400 per day.
04. Price of an ATM – ` 7 – 10 lakh, ATMs are good brand ambassadors for the Bank. ATM centers by way of their ambience and services provided give customers a certain feeling about the bank. The cost per transaction is about ` 20.

*** *Public Sector Banks Were Major Issuers of Debit Cards***

Issuance of credit cards declined, while debit cards showed a high growth trend. Foreign banks, however, showed a small decline in the issuance of debit cards. More than three – fourth of the total Debit Cards outstanding at the end of March – 2012 were issued by public sector banks. In contrast, more than half of the outstanding credit cards as at the end of March – 2012 were issued by new private sector banks.

Table - 3.10: Credit and Debit Cards Issued by Scheduled Commercial Banks (As at end – March)

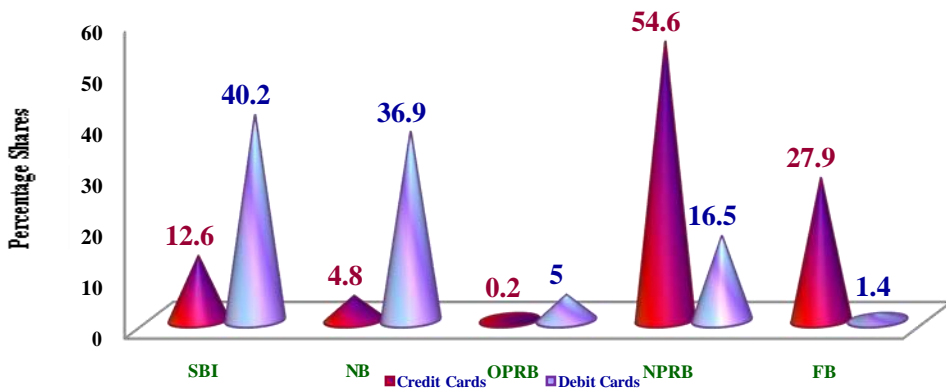
(in Million)

Sl. No.	Bank Group	Outstanding Number of Credit Cards			Outstanding Number of Debit Cards		
		2011	2012	2013	2011	2012	2013
1	2	3	4	5	6	7	8
01.	Public Sector Banks	3.80	3.06	3.5	170	215	260.6
1.1	Nationalised Banks	0.78	0.84	0.9	80	103	118.6
1.2	SBI Group	2.30	2.22	2.6	90	112	136.4
02	Private Sector Banks	9.32	9.67	11.1	53	60	67.3
2.1	Old Private Sector Banks	0.04	0.04	0.04	12	14	15.4
2.2	New Private Sector Banks	9.28	9.63	11.1	41	46	51.9
03.	Foreign Banks	5.64	4.92	5.0	3.9	3.8	3.3
All SCBs (1+2+3)		18.04	17.65	19.5	228	278	331.2

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012–13.

Note: Components may not add up to total due to rounding off numbers to million.

From the Table – 3.10, it is clear that the outstanding numbers of credit and debit cards of the Scheduled Commercial Banks are very high. Interestingly, the debit cards of the public sector banks, nationalized banks and SBI groups show that number of ATMs trends is increased at the end of the March – 2013 when compared with that of the Private and Foreign banks.

Chart 3.2: Share of Bank Groups in Total Credit and Debit Cards (As at end – March 2012)

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012.

From the Chart – 3.2, it is clear that the outstanding numbers of Debit and the Credit Cards trends is increased. Of which the 54.6 per cent Credit cards of the New Private Banks (NPRB) which is very high and the 40.2 per cent of Debit cards of the State Bank of India (SBI) is very high.

A trend in favour of cashless payments is discernible in recent years with both volume and in India, cash continues to be the pre-dominant mode of payment. The policy initiatives and the regulatory stance of the Reserve Bank of India (RBI) has continued to focus on increasing the acceptance and penetration of safe, secure and efficient non-cash payment modes comprising cheques, Credit/Debit Cards, and transactions through ECS/RTGS/NEFT, over the years. Due to these measures the average ratio of non – cash retail payment to GDP continues to hover around 6 per cent over the last three years.

The bank – led model for Mobile Banking has also started gaining popularity in the recent months. As at the end of June 2012, 69 banks were granted approval to provide Mobile Banking facility, of which 49 have started operations. In November 2010, National Payment Corporation of India (NPCI) was given approval to launch Interbank Mobile Payment Service (IMPS), which is a unique 24X7 inter-bank electronic funds transfer system providing instantaneous credit to the beneficiaries. With this channel having now stabilised and gaining further customer acceptance, the earlier transaction limit for mobile banking has been removed by the Reserve Bank of India (RBI). The banks are now free to fix their own per transaction limit based on their own risk perception with the approval of their respective Boards. Apart from this, the volume and value of transactions through the two major electronic payment systems of the country, *i.e.*, RTGS and NEFT has increased rapidly. Pre-paid Payment Instruments (PPIs) have emerged as a convenient replacement/substitution for cash transaction, besides providing a proper audit trail. PPIs are payment instruments that facilitate purchase of goods and services against the value stored on such instruments. As at the end – June 2012, 40 banks (including the Department of Posts, GoI) and 21 non – bank entities were granted approval/ authorization under the Payment and Settlement System (PSS) Act, 2007 to issue PPIs in India. Three types of PPIs are popularly issued *viz.*, paper voucher, cards and M – Wallets. Amongst these, the paper vouchers are the most popular in terms of numbers and value.

These were mainly issued by non – bank. However, efforts are underway to migrate these paper based PPIs to electronic modes. Going forward, the relaxations in the domestic money transfer guidelines introduced in October-2011 are expected to provide further impetus towards financial inclusion through electronic PPIs, including the use of M – Wallets, by

enabling all authorised entities (both banks as well as nonbanks) to increase domestic remittances through formal payment channels value of transactions through major electronic modes of payments registering an increase (Table – 3.11).

Table - 3.11: Volume and Value of Electronic Transactions by SCBs, till 2012

(Volume in million, Values in ` Billion)

Year	Volume		Percentage Variation		Value		Percentage Variation	
	2010-11	2011-12	2010-11	2011-12	2010-11	2011-12	2010-11	2011-12
1	2	3	4	5	6	7	8	9
ECS Credit	117	122	19.5	3.6	1,817	1,838	54.5	1.2
ECS Debit	157	165	5.0	5.1	736	834	5.9	13.3
Credit Cards	265	320	13.2	20.7	755	966	22.2	27.9
Debit Cards	237	328	39.3	38.2	387	534	46.6	38.0
NEFT	132	226	99.5	70.9	9,321	17,903	127.6	92.1
RTGS	49	55.0	48.5	11.6	4,84,872	5,39,307	22.9	11.2

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012

Note: Percentage variation could be slightly different as absolute numbers have been rounded off to million ` Billion.

Table - 3.12: Volume and Value of Electronic Transactions by SCBs, till 2013

(Volume in million, Values in ` Billion)

Year	Volume		Percentage Change	Value		Percentage Change
	2011-12	2012-13	2012-13	2011-12	2012-13	2012-13
1	2	3	4	5	6	7
ECS Credit	121.5	122.2	0.6	1,838	1,771	-3.6
ECS Debit	165	177	7.2	834	1,083	29.9
Credit Cards	320	397	23.9	966	1,230	27.3
Debit Cards	328	469	43.2	534	743	39.1
NEFT	226	394	74.3	17,904	29,022	62.1
RTGS	55	69	24.5	5,39,308	6,76,841	25.5

Source: Report on Trend and Progress of Banking in India for the year 2012 - 2013

Note: Percentage variation could be slightly different as absolute numbers have been rounded off to million ` Billion

From the Table – 3.11 and 3.12, it is clear that the volume and the percentage variation on the electronic transactions in India are increasing from 2011 – 12 to 2012 to 13.

Table - 3.13: Penetration of Electronic Mode of Payment

Percentage of population of years and above using	World	High Income	Upper Middle Income	Middle Income	India	Lower Middle Income	Low Income
Credit Card	14.8	49.8	11.8	701	1.8	2.2	1.9
Debit Card	30.4	61.4	39.6	24.8	8.4	10.1	7.4
Electronic Mode to make payments (wire and online transfers)	14.5	55.2	8.2	5.3	2.0	2.3	1.9
Mobile phone to pay bills	2.0	-	1.7	1.8	2.2	2.0	2.6

Note: Data relate to 2011

Source: Global Findex (Global Financial Inclusion Database), World Bank

From the Table – 3.13, it is clear that the Penetration of Electronic Mode of Payments such as Credit cards and Debit cards at the global level is also increasing. At the same time, in India also the increasing trends can be with the population and income level of the people overall.

Plastic Money Frauds

State – of – the – art thieves are concentrating on Plastic Cards. In the past, this type of fraud was not very common. Today, it is a big business for criminals. Plastic cards bring new convenience to shopping and banking, but they can turn into nightmares in the wrong hands. The following are the types of frauds

- (a) Stolen Cards at the Office.
- (b) Extra Copies of Charge Slips.
- (c) Discarded Charge Slips.
- (d) Unsigned Credit Cards.
- (e) Loss of Multiple Cards.
- (f) Strange Requests for Your PIN Numbers.
- (g) Legitimate Cards.
- (h) Altered Cards.
- (i) Counterfeit Cards.

New technology is making it more difficult for criminals to use, alter, or counterfeit credit and debit cards. Some of the innovations are already in use.

These Security Features have Been Added to Major Credit Cards

- **Holograph**

A three-dimensional, laser produced optical device that changes its color and image as the card is tilted.

- **Fine – Line Printing**

A repeated pattern of the card company name positioned as background for the company logo.

- **Ultra – Violet Ink**

Special ink that is visible only under ultra–violet light, which will display the credit card company's logo.

Fraud Solution Approaches

Credit Card fraud *prevention* is the first line of defense in reducing costs associated with credit card fraud. Once fraud prevention fails, it is essential for fraud detection methods to identify fraud as soon as possible.

Data mining techniques are relevant to fraud detection because there is a need for fast and efficient algorithms to search for patterns in large databases. Older fraud detection software tools have their roots in statistics (cluster analysis), whereas the more recent tools are based in data mining (due to increased power of modern computers and massive datasets) (Witten and Frank 2005).

**Table - 3.14: Statement of Complaints Received at Banking Ombudsman Office
(Continued) (For the period 2012 – 13)**

Name of the Banks	No of Complaints in ATM/Credit/Debit Cards
Scheduled Commercial Banks	17,612
Public Sector Banks	10,067
Nationalised Banks	3,361
State Bank of India	5,461
Bank of India	298
Private Sector Banks	4,756
Old Private Banks	196
New Private Banks	4,560
ICICI Bank	1,603
HDFC Bank	1,842
Foreign Banks	2,789

Source: Report on Trend and Progress of Banking in India, 2012 – 13

From the Table – 3.14, it is clear that the complaints received at Banking Ombudsman Office on Credit cards and Debit cards of the selected public and private sector banks is also increasing. The leading complaint received is in the SBI in the above table.

Conclusion

To sum up, this chapter discusses the conceptual framework of the Plastic Money in general and it tries to provide the information to the normal layman to pioneer researchers in the field of the Banking sector particularly in the new banking technology products. It focuses on the global perspectives of the Plastic Money, growth of debit and credit cards in India, plastic money penetrations, ATMs and its applications, credit cards in ATMs, public sector banks in issuing the Plastic Money. This module also studied the Plastic frauds and its precautionary measures to reduce the Plastic frauds.

Chapter -IV

CHAPTER - IV

Profile of Selected Sample Banks

Introduction

Karnataka has a rich cultural heritage. It speaks about trade activities, rate of interest that prevailed and the community living that existed in those days. Temples acted as banks and the socio-economic activities of the society revolved around temples. Karnataka has made a greater stride in modern banking in India during 20th century. The functioning of organized Banking sector was evidenced with the establishment of the branches of the then Presidency Banks, i.e. The Bank of Bombay (1840) and The Bank of Madras (1843) which opened their branch offices at Dharwad in 1863 and at Bangalore Cantonment in 1864 respectively. In the course of time, many more branches of Presidency Banks were opened at Belgaum, (1867) Mangalore, (1867) Hubli, (1870) and Kumta. Mangalore Branch of Madras Presidency Bank (1872 – 73) was started to meet the requirements of the port traders. Dharwad branch was opened mainly to facilitate the cotton traders of Bombay – Karnataka area. The unorganised banking sector was mainly dominated by the local money lenders viz. *Sahukars*, *Zamindars* and *Traders*. Money – lending was a profitable business. It was commonly practiced by all communities. The Marwadis, Gujarathis, Jains, Mahajans, Chettiyars and Multhani money lenders from the North came and settled in important trading centres of Karnataka. They are found engaged in money lending business even to-day. Bangalore Cantonment area was dominated by the European money lenders together with the natives.

In the absence of strict regulatory measures which came much later especially after independence, promoting of a banking company was much easier. Small banking companies with limited capital base and inexperienced management were the common features. There was a mushroom growth of banking. And in semi – urban and rural areas banks were promoted. Nearly half of the total number of banks born in the State was registered during 1930 – 1940. The Swadeshi Movement also contributed much for the growth of commercial banking activities in the state, promoted specially by the local traders. Most of these banks had a limited life span. In those days, the banks were started with impressive names to attract the customers, especially on the basis of religion, caste and community. Many a time, local community spirit reflecting itself in commercial spirit contributed much for the faster growth of community banking. This tendency was very much evident especially in Dakshina Kannada, (South Canara) which is said to be the cradle of modern banking industry in Karnataka. The

contributions of undivided Dakshina Kannada district to the modern banking industry are unique. Branch banking was started here as early as in 1923. During the last four decades, (1906 – 1945) the district became the cradle and creche in nursing as many as 22 banks.

In different parts of integrated areas of Karnataka, sporadic Commercial Banking activities were ushered in at different times based on local demand, expertise and economic potentialities. In princely Mysore, the period of Commissioner's rule (1831 – 1881) was of great significance. It ushered in an era of modernization by adopting the British system of administration in all spheres including banking. The establishment of Bangalore Cantonment in 1809 and shifting of the State Secretariat from Mysore to Bangalore in 1831 gave a fillip to commercial and industrial activity in Bangalore which was partly supported by the banking institutions. The joint stock banks that were promoted in princely Mysore were Bangalore based banks i.e., Bangalore Bank Limited and Mysore Bank Corporation Limited, both registered in 1868 with the share capital of seven lakh and two lakh rupees respectively. As stated earlier, Bangalore City including the then Cantonment area had a rich potentiality and infrastructure which boosted the growth of banking both in the organised and unorganised sectors.

During 1868 – 1876, there were nearly 24 banking companies operating in Bangalore City area. During the next few decades i.e., from 1890 to 1949 about 12 banking companies founded in Bangalore City, but all did not survive. Among the Bangalore based banks, the Bangalore Union Bank founded in 1890 had the longest service of fifty years before its liquidation in 1940. The Devanga Bank (1926) was amalgamated with Vijaya Bank in 1963. The Vysya Bank (1930) and Bank of Mysore (1913) survived and the later becoming State Bank of Mysore at a later stage.

The royal capital, Mysore did not lag behind in promoting joint stock banks. In 1874 (six years later than Bangalore) two banking companies, viz., the Rajadhani Bank and the Town Bank of Mysore were promoted and continued to function not beyond 1913. A decade thereafter, in 1885 Nanjanagudu Srikanteswara Swamy Bank was promoted. This is the only bank which served for nearly 80 years till its license was refused in 1965. During the period of two – and – a half decades (1884 – 1908) as many as 17 joint stock companies were promoted, combining banking and trading. Among the oldest banks of the princely Mysore which are no more now, mention may be made of Chitradurga Savings Bank founded in 1870 at Chitradurga which had a record service of nearly 96 years before its merger with Karnataka Bank Limited in 1966.

There have been remarkable changes in banking in the country, especially after the nationalization in 1969. Out of 20 nationalized banks in the country, four are from Karnataka viz., Canara Bank (1906) and Vijaya Bank (1930) both originating from Mangalore, and Corporation Bank (1906) and Syndicate Bank (1925) both originating from Udupi. Among the private sector banks the Vysya bank Limited, Bangalore (1930) and Karnataka Bank Ltd, Mangalore (1930) are the leading banks of the State, having branches outside the State also. Recognising the growing banking business in Karnataka, the RBI opened its branch at Bangalore in 1953.

Since nationalisation, the concept of *class banking* has been transformed into the concept of *mass banking*. Banks are playing vital role in the implementation of economic policies of the state and the Central Government according to plan priorities. There is a remarkable change in the lending policy of banking institutions. Now, the lending policy is target and priority sector oriented. Both public sector and private sector banks including co – operative banks in the state have actively responded continuously to the national policies of banking. In the popular loan mela programmes, (1985 – 1987) the banks of Karnataka did not lag behind; so also in the promotion of Grameena Banks. The innovative banking policies like Lead Bank Scheme, loans under DIR (*Differential Interest Rate Schemes*), IRDP – *Integrated Rural Development Program*, 20 Point Programmes, Anthyodaya, adoption of villages by commercial banks and co – operatives for their all round development and the service area approach to lending in rural area etc. have been fully implemented by the banks working in the state. Many commercial banks in the state have diversified their activities towards merchant banking, leasing, housing and so on. Since 1976 – 77, after the establishment of Grameena Banks, better and intensive banking services are provided in rural areas. Now, rural area is better served than before in 1969. All the districts of the state are covered by the Grameena Banks which has reduced the imbalanced economic growth between the urban and rural areas to certain extent. In 1990, in terms of ratio of number of banks serving per lakh population, Karnataka stood fourth in ranking of the country, having 9.5 bank offices per lakh population, as against 7.1 bank offices at all – India level. The other states within this regard other than Karnataka were Gujarat, Haryana, Maharashtra, Punjab and West Bengal. From among the list of developed states, the rank of Karnataka was second. The spread of banking services in rural areas was much better in Karnataka when compared to some other developed states. The spread of number of banks in rural segments per lakh population was eight in the state, being next only to Punjab where it was nine. The Credit Deposit Ratio (CDR) of rural banks in the State was the highest among the States i.e., 107.4 per cent in June 1990, as against all – India CDR of 65.2 per cent.

The CD Ratio of semi – urban branches also was the highest in Karnataka, (76.9 per cent) compared to the national ratio of 50.5 per cent. The geographical spread of rural branches in the State which was only 25 per cent in June 1969 had increased to 55 per cent in March 1989. This was mainly due to the rapid expansion of Grameena Banks all over the state. The lending of commercial banks to priority sector including weaker sections exceeded the stipulated target of 40 per cent fixed by RBI in Karnataka of the total lending; the share of priority sector was 45 per cent (3,487 crores) as in 1991. Karnataka was placed at 8th position among the major states in per capita deposit, which being 2,362, higher than the national average of 1,570. The deployment of credit was better in the state compared to all–India figures. The total investment made by the commercial banks in Karnataka in the State/Central Government loans floated during 1991 – 92 were Central 64 crores, State Development Loan 14.10 crores; other state Loans 4.50 crores (RBI Report).

Table - 4.1: District and Bank Group – Wise Distribution of the number of Reporting Offices, Aggregate Deposits and Gross Bank Credit of All Scheduled Commercial Banks, (June – 2013)

(Amount in ` Million)

Districts	State Bank of India and Its Associates			Nationalised Banks			Foreign Banks		
	Offices	Deposits	Credit	Offices	Deposits	Credit	Offices	Deposits	Credit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Ramanagara	14	1,221	1,231	14	2,404	2,119	13	10,920	3,339
Shimoga	29	3,837	3,331	25	11,288	3,887	8	1,608	1,244
Tumkur	50	4,984	7,412	27	6,690	4,161	5	1,464	429
Davangere	42	4,392	5,555	19	5,204	3,498	5	1,690	1,698
Kolar	35	5,005	4,744	8	3,925	1,055	3	455	210
Bangalore Rural	13	1,716	1,244	24	4,316	4,100	18	3,579	722
Bangalore Urban	21	8,971	2,812	210	253,651	170,781	224	516,321	237,499
Chikkaballapura	29	3,255	3,040	10	1,828	582	4	246	52
Chikmagalur	38	3,193	2,409	29	9,664	3,570	4	1,043	218
Chitradurga	66	6,850	8,027	14	2,445	2,163	6	583	392

Source:<http://www.rbi.org.in/scripts/QuarterlyPublications.aspx?head=Quarterly%20Statistics%20on%20Deposits%20and%20Credit%20of%20Scheduled%20Commercial%20Banks>

From the above Table–4.1, it shows that the district wise number of offices locates and its deposits. It is very clear that the trend in opening the banks and its offices vary in each selected districts, where the leading banks are located in the Bangalore urban which is ranked one among the chosen group of banks in the study, second is Shimoga district and third is Ramanagara. The above statistics helped to decide which districts are having more bank branches and offices and to know the deposits.

Banking Network in Karnataka

Karnataka has a better banking network system than any other state in the country. Apart from 19 nationalised banks, State Bank of India (SBI) and its seven associate banks are operating in Karnataka. There are also more than 25 private sector banks besides 13 Regional Rural Banks operating in the State. There were 4,704 commercial bank branches (including 1,103 branches of 13 Regional Rural Banks) in the State as on March – 2003 of which 3,180 were in rural areas. The share of rural branches was 46 per cent against 25 per cent at the time of nationalization. As in March – 2003, the average per branch population for the state as a whole was 12,395. The aggregate outstanding deposits of commercial banks (including Regional Rural Banks) stood at ` 63,840 crores and outstanding advances amounted to ` 41,592 crores at the end of March 2003. The credit deposit ratio of the state works out to 65 per cent against the RBI stipulation of 60 per cent. The priority sector advances amounted to ` 19,436 crores as in March – 2003, which works out to 46.73 per cent of total advances against the RBI stipulation of 40 per cent. The advances to agriculture and allied activities in the state stood at ` 8,177 crores. The weaker section advances in the state stood at ` 3,342 crores. While the per branch business for the state as a whole works out to ` 22.41crores, that for rural branches it was significantly lower at around ` 7.05 crores. For the country as a whole it was ` 30.52 crores and for rural branches ` 7.75 crores. In 2002 – 03, as many as 9,284 individual families were assisted under Swarnajayanthi Gram SwarojgarYojana (SGSY) that came into effect from 01.04.1999. Apart from this 2,016 Self Help Groups (SHGS) were assisted to the extent of ` 66.02 crores for the same period.

Table - 4.2: Selected Bank Group – Wise, and Population Group Wise Number of Branches of Scheduled Commercial Banks – 2011 and 2012

Sl. No.	Bank/ Bank Groups	Number of branches as on March 31,2011				
		Rural	Semi -urban	Urban	Metro Politan	Grand Total
		(1)	(2)	(3)	(4)	(5)
Public Sector Banks						
01.	State Bank of India	5,046	3,881	2,357	2,151	13,435
02.	Bank of India	1,333	824	619	667	3,443
TOTAL (a)		6,379	4,705	2,976	2,818	16,878
Private Sector Banks						
03.	ICICI	258	801	686	781	2,526
04.	HDFC	123	616	534	694	1,967
TOTAL (b)		381	1,417	1,220	1,475	4,493
GRAND TOTAL [(a) + (b)]		6,760	6,122	4,196	4,293	21,371

Source: Master Office File (Latest updated) on Commercial Banks, Department of Statistics and Information Management, RBI.

Note

01. Data as per information reported by banks.
02. Population group classification based on 2001 census.
03. Data on branches exclude administrative offices.

The above Table – 4.2 clearly indicates that in India, based on the population for the year which ended on 31st March, 2011, the number of scheduled commercial banks, of which the leading public sector banks in the target bank is the only State Bank of India (SBI), where highest bank branches are located in all rural, semi – urban, urban and metro–Politian cities. On the other side among the Private Sector Banks, the ICICI banks show the leading in opening their branches in different locations.

Table - 4.3: Selected Bank Group–Wise, and Population Group Wise Number of Branches of Scheduled Commercial Bank – 2011 and 2012

Sl. No.	Bank/ Bank Groups	Number of branches as on March 31, 2012				
		Rural	Semi -urban	Urban	Metropolitan	Grand Total
		(1)	(2)	(3)	(4)	(5)
Public Sector Banks						
01.	State Bank of India	5,250	3,656	2,442	2,214	13,862
02.	Bank of India	1,466	1,040	676	724	3,906
TOTAL (a)		6,716	4,696	3,118	2,938	17,768
Private Sector Banks						
03.	ICICI	285	913	721	827	2,746
04.	HDFC	177	913	654	768	2,512
TOTAL (b)		462	1,826	1,375	1,595	5,258
GRAND TOTAL [(a) + (b)]		7,178	6,522	4,493	4,533	23,026

Source: Master Office File (Latest updated) on Commercial Banks, Department of Statistics and Information Management, RBI.

Note

01. Data is as per information reported by banks.
02. Population group classification based on 2001 census.
03. Data on branches exclude administrative offices.

The above Table – 4.3 clearly indicates that in India, based on the population for the year which ended on 31st March, 2012, the trend is the same as it is increasing where the number of scheduled commercial banks, of which the leading public sector banks in the target bank is the State Bank of India only, whose highest bank branches are located in all rural, semi – urban, urban and metro–Politian cities. On the other side, among the Private Sector Banks, the ICICI banks show the leading in opening their branches in different locations.

Table - 4.4: Selected Bank Group–Wise, and Population Group Wise number of Branches of Scheduled Commercial Bank, March – 2013

Sl. No.	Bank/ Bank Groups	Number of branches as on March 31, 2013				
		Rural	Semi -Urban	Urban	Metropolitan	Grand Total
		(1)	(2)	(3)	(4)	(5)
Public Sector Banks						
01.	State Bank of India	5,589	4,153	2,601	2,356	14,699
02.	Bank of India	1,594	1,156	714	769	4,233
TOTAL (a)		7,183	5,309	3,315	3,125	18,932
Private Sector Banks						
03.	ICICI	436	989	786	884	3,095
04.	HDFC	428	1,106	705	793	3,032
TOTAL (b)		864	2095	1491	1677	6127
GRAND TOTAL [(a) + (b)]		8,047	7,404	4,806	4,802	25,059

Source: Master Office File (Latest updated) on Commercial Banks, Department of Statistics and Information Management, RBI

The above Table – 4.4 clearly indicates that, in India based on population for the year which ended on 31st March, 2013, the trends is the same as it is increasing where the number of scheduled commercial banks, of which the leading public sector banks in the target bank is the only State Bank of India (SBI), where highest bank branches are located in all rural, semi – urban, urban and metropolitan cities. On the other side, the among the Private Sector Banks, the ICICI banks show the leading in opening their branches in the different locations.

Table - 4.5: Selected Commercial Banks and their Offices in Karnataka

Sl. No.	Banks	As on March 31		
		2011	2012	2013
Public Sector Banks				
01.	State Bank of India	546	597	646
02.	Bank of India	95	102	184
TOTAL (a)		641	689	830
Private Sector Banks				
03.	ICICI	136	144	160
04.	HDFC	111	145	157
TOTAL (b)		247	289	317
GRAND TOTAL [(a) + (b)]		888	978	1147

Source: Master Office File (Latest updated version on banks), DSIM, RBI

Note

01. Data is as per information reported by banks.
02. Data on number of offices include administrative offices.

The above Table - 4.5 clearly indicates that in Karnataka, region wise the bank branches for the year which ended on 31st March, the trends for the year 2011, 2012 and 2013 is increasing where the number of scheduled commercial banks, of which the leading public sector banks in the target bank is the only State Bank of India. On the other side, among the Private Sector Banks, the ICICI banks show leading in opening their branches in different locations.

Table - 4.6: Region–Wise Deployment of ATM for the Quarter ending, September – 2011

Sl. No.	Bank Name	Metro Centers	Urban Centers	Semi - Urban Centers	Rural Centers
Public Sector Banks					
01.	State Bank of India	5571	7223	6184	2647
02.	Bank of India	564	505	365	168
Total (a)		6135	7728	6549	2815
Private Sector Banks					
03.	ICICI Bank Ltd.	3546	2201	1065	101
04.	HDFC Bank Ltd.	2776	2021	1307	416
Total (b)		6322	4222	2372	517
Grand Total [(a) + (b)]		12457	11950	8921	3332

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012

The above Table – 4.6 clearly indicates that in Karnataka, region wise the ATMs for the year which ended on 31st September, the trends in the deployment of the ATM for the year – 2011 is increasing where the number of scheduled commercial banks, of which the leading public sector banks in the target bank is the State Bank of India (SBI), where highest bank branches are located in all rural, semi – urban, urban and metro – politian cities. On the other side, among the Private Sector Banks, the ICICI banks show leading in opening their branches in different locations.

Table - 4.7: Region – Wise Deployment of ATM for the Quarter Ending, March – 2012

Sl. No.	Bank Name	Metro Centers	Urban Centers	Semi - Urban Centers	Rural Centers
Public Sector Banks					
01.	State Bank of India	5701	7402	6326	2712
02.	Bank of India	603	537	376	164
Total (a)		6304	7939	6702	2876
Private Sector Bank					
03.	ICICI Bank Ltd.	4634	2881	1384	107
04.	HDFC Bank Ltd.	3772	2816	1800	525
Total (b)		8406	5697	3184	632
Grand Total [(a) + (b)]		14710	13636	9886	3508

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012

The above Table – 4.7 clearly indicates that in Karnataka, region wise the ATMs for the year which ended on 31st March, the trends in the deployment of ATM for the year – 2012 is increasing where the number of scheduled commercial banks, of which the leading public sector banks in the target bank is the State Bank of India (SBI), where highest bank branches are located in all rural, semi–urban, urban and metro – politian cities. On the other side, among the Private Sector Banks, the ICICI banks show leading in opening their branches in different locations.

Table - 4.8: Region – Wise Deployment of ATM for the Quarter Ending, March – 2013

Sl. No.	Bank Name	Metro Centers	Urban Centers	Semi - Urban Centers	Rural Centers
Public Sector Banks					
01.	State Bank of India	6888	9087	7755	3445
02.	Bank of India	713	681	497	242
Total (a)		7601	9768	8252	3687
Private Sector Banks					
03.	ICICI Bank Ltd.	5488	3225	1424	344
04.	HDFC Bank Ltd.	4245	3373	2340	785
Total (b)		9733	6598	3764	1129
Grand Total [(a) + (b)]		17334	16366	12016	4816

Source: www.rbi.org.in

The above Table – 4.8 clearly indicates that in Karnataka, region – wise the ATMs for the year which ended on 31st March, the trends in the deployment of the ATM for the year – 2013 is increasing where the number of scheduled commercial banks, of which the leading public sector banks in the target bank is the State Bank of India (SBI) only, where highest bank branches are located in all rural, semi – urban, urban and metro – politian cities. On the other side, among the Private Sector Banks, the ICICI banks show leading in opening their branches in different locations.

Off – Site ATMs as Substitute for Brick – and Mortar Branches

Off – site ATMs play an important role by providing the basic banking services like cash withdrawal, transfer of funds even without the presence of full – fledged brick – and – 33 mortar branches.

During 2011 – 12, there was an addition of 14,365 new off – site ATMs. However, metropolitan areas accounted for the maximum number of newly opened ATMs. Southern region had maximum number of newly opened ATMs, followed by northern region. However, the share of rural areas in the total number of ATMs continued to remain small.

Table - 4.9: Region – Wise Deployment of ATM for the quarter ending March – 2013

Bank Name	Metro Centers	Urban Centres	Semi-Urban Centers	Rural Centers
State Bank of India	5701	7402	6326	2712
ICICI Bank Ltd.	4634	2881	1384	107
HDFC Bank Ltd.	3772	2816	1800	525
Bank of India	603	537	376	164

Source: www.rbi.org.in

From the table – 4.9 clearly indicates that the majority of the ATM deployment in India is SBI and ICICI bank respectively.

Table - 4.10: Karnataka State – Wise Deployment of ATMs in the Selected Banks for the Quarter Ending

Bank Name	ATMs		
	September – 2011	March – 2012	March – 2013
State Bank of India (SBI)	1219	1227	1387
Bank of India (BOI)	73	77	80
ICICI Bank Ltd.	682	765	939
HDFC Bank Ltd.	585	935	1083

Sources: www.rbi.org.in

From the table – 4.10 clearly indicates that the majority of the ATM deployment in Karnataka region is SBI and ICICI banks respectively.

The Automated Teller Machine (ATM) has been hailed as one of the most innovative and revolutionary technological developments in the history of banking. The channel, which was initially a medium for disbursement of cash to customers at bank branches, has now developed into a touch – point for delivery of a wide variety of banking services at branches and convenient off–site locations. Though banks initially owned and deployed their own ATMs, over time this has undergone a broad change, with banks now preferring outsourcing all or many of the activities associated with ATM operations – starting from deployment, maintenance, cash loading and technology upgrading. This has helped them reduce their operational costs and stay more focused on their core business. Internationally, in addition to bank – owned and deployed ATMs, Independent ATM Deployers (IADs) and Independent Service Organisations (ISOs) are engaged in the ATM business. Such ATMs are called White – label ATMs (WLAs). IADs and ISOs are almost similar in their operations, barring the following differences:

- (i) ISOs are usually larger operators that own and deploy ATMs and the entire related infrastructure. They have a sponsorship arrangement with the banks for cash loading and services. The relationships with sponsor banks are guided by local regulatory

requirements. The ISO scheme works either through a single sponsor bank or the multi sponsor bank model.

- (ii) In the IAD model, the entities concentrate on investment in the assets (ATMs). They own the ATM and connect to any existing network provider for the payment infrastructure. The IADs can include entities ranging from individual business owners to large retail outlets/supermarkets. Such entities do not have a direct arrangement with any bank for any aspect related to the operation of such ATMs, including cash loading. Under both models, an additional important revenue source is through on-site advertisements. A large portion of the revenue for the IAD/ ISO is generated through such advertisements.

ATMs and WLA Scheme in India

The number of ATMs in the country stands at 98,074, of which 38 per cent are owned by private sector banks, 33 per cent by public sector banks, 27 per cent by the SBI and Associates, and 2 per cent by foreign banks. There has been a 30 per cent year-on-year growth in the number of ATMs deployed in the country since 2008, but the penetration of ATMs in Tier III to Tier VI centres remains below the desired level. In order to ensure deeper penetration of ATMs in unbanked/under-banked areas, the Reserve Bank of India (RBI) has permitted White-Label ATMs in the country to supplement the existing ATM schemes operated by banks.

Under the policy guidelines, non-bank entities incorporated in India under the Companies Act, 1956 would be authorised to set up, own and operate ATMs in India, which will provide banking services to the customers of banks in India, based on the cards (debit /credit /pre-paid) issued by banks. Such non-bank entities should have a minimum net worth of one billion as per the latest financial year's audited balance sheet, which is to be maintained at all times. The model envisages that cash management and customer redressal would continue to be the responsibility of the sponsor banks. The scheme offers scope for large volumes, especially in unbanked /under-banked areas. It is expected that WLA operators in India will use the features of the IAD and ISO models, as permitted under the guidelines, and collaborate closely with the sponsor banks. authorised, accessible, inclusive and compliant with international standards. The vision proactively aims to encourage electronic payment systems for ushering in a less-cash society in the country.

State Bank of India (SBI) is an India-based bank. As of March 31, 2012, the Bank had a network of 20,193 branches, including 5,096 branches of its five associate banks. In addition to banking, the Company, through its various subsidiaries, provides a range of financial services,

which include life insurance, merchant banking, mutual funds, credit card, factoring, security trading, pension fund management, custodial services, general insurance (Non–Life Insurance) and primary dealership in the money market. Its segments include Treasury, which includes investment portfolio and trading in foreign exchange contracts and derivative contracts, Corporate/Wholesale Banking, which comprises lending activities of Corporate Accounts Group, Mid Corporate Accounts Group and Stressed Assets Management Group; Retail Banking, which comprises of branches in National Banking Group, which includes personal banking activities, including lending activities to corporate customers, and other Banking Business.

State Bank of India (SBI)

State Bank of India is the largest state–owned banking and financial services company in India. The Bank provides banking services to the customer. And in addition, through its subsidiaries, provides a range of financial services, which include life insurance, merchant banking, mutual funds, credit card, factoring, security trading, pension fund management and primary dealership in the money market. The Bank operates in four business segments, namely Treasury, Corporate/Wholesale Banking, Retail Banking and Other Banking Business. The Treasury segment includes the investment portfolio and trading in foreign exchange contracts and derivative contracts.

The Corporate/Wholesale Banking segment comprises the lending activities of Corporate Accounts Group, Mid Corporate Accounts Group and Stressed Assets Management Group.

The Retail Banking segment consists of branches in National Banking Group, which primarily includes personal banking activities, including lending activities to corporate customers having banking relations with branches in the National Banking Group. SBI provides a range of banking products through their vast network of branches in India and overseas, including products aimed at NRIs.

The State Bank Group with over 16,000 branches has the largest banking branch network in India. The State bank of India is the 10th most reputed company in the world according to Forbes. The bank has 156 overseas offices spread over 32 countries. They have branches of the parent in Colombo, Dhaka, Frankfurt, Hong Kong, Johannesburg, London and environs, Los Angeles, Male in the Maldives, Muscat, New York, Osaka, Sydney, and Tokyo. They have offshore banking units in the Bahamas, Bahrain, and Singapore as well as representative offices in Bhutan and Cape Town.

Table - 4.11: State Bank of India (SBI)

<i>(Amount in ` million)</i>								
Items	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	Group Aggregate 2012-13	All Banks' Aggregate 2012-13
No. of Offices	10683	12070	13252	14350	14902	15564	21301	92114
No. of Employees	179205	205896	200299	222933	215481	228296	293965	1096984
Business per employee	45.60	55.60	63.60	70.47	79.84	94.39	101.97	121.33
Profit per employee	0.37	0.47	0.45	0.39	0.53	0.65	0.60	0.83

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012

The above Table – 4.11, clearly shows the trend in the SBI and its associates, with number of branches increasing during the last five years and along with that the number of employees is also increased. The above statistical data helps to decide and to know to what extent the bank provides its services and to know its financial status in the market.

Bank of India (BOI)

Bank of India, founded on September 7, 1906 by a group of eminent businessmen from Mumbai. In July 1969 Bank of India was nationalized along with 13 other banks. Beginning with a paid – up capital of ` 50 lakh and 50 employees, the bank has made a rapid growth over the years. It has evolved into a mighty institution with a strong national presence and size able international operations. In business volume, Bank of India (BOI) occupies a premier position among the nationalized banks. In 2013, Bank of India (BOI) has 2609 branches in India spread all over states/union territories including 93 specialized branches. These branches are controlled through 48 Zonal Offices. Bank of India (BOI) has several firsts to its credit. The Bank has been the first among the nationalised banks to establish a fully computerised branch and ATM facility at the Mahalaxmi Branch at Mumbai way back in 1989. It pioneered the introduction of the Health Code System in 1982, for evaluating/ rating its credit portfolio. Bank of India was the first Indian Bank to open a branch outside the country, at London, in 1946, and also the first to open a branch in Europe, Paris in 1974. The Bank has sizeable presence abroad, with a network of 23 branches (including three representative offices) at key banking and financial centres viz. London, New York, Paris, Tokyo, Hong – Kong, and Singapore.

Table - 4.12

Public Sector Bank								
Bank of India (BOI)								
<i>(Amount in ` million)</i>								
Items	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	Group Aggregate 2012-13	All Banks' Aggregate 2012-13
No. of offices	2980	3118	3304	3586	4088	4373	54478	92114
No. of employees	40557	40155	39676	39788	41537	42348	507694	1096984
Business per employee	65.20	83.30	101.10	128.40	136.00	158.20	142.23	121.33
Profit per employee	0.50	0.75	0.44	0.62	0.64	0.64	0.65	0.83

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012

The above Table – 4.12, clearly shows the trend of the BOI and its associates, number of branches that are increased during the last five years along with that the number of employees is also increased. The above statistical data helped us to decide and to know to what extent the bank provides its services and to know its financial status in the market.

Housing Development Finance Corporation Limited (HDFC) Bank

HDFC Bank Limited (HDFC Bank) is a banking company engaged in providing a range of banking and financial services, including commercial banking and treasury operations. The bank operates in four segments: treasury, which primarily consists of net interest earnings from the bank’s investment portfolio, money market borrowing and lending, gains or losses on investment operations and on account of trading in foreign exchange and derivative contracts; retail banking, which serves retail customers through a branch network and other delivery channels; wholesale banking, which provides loans, non – fund facilities and transaction services to corporate, public sector units, government bodies, financial institutions and medium scale enterprises, and other banking business, segment includes income from para banking activities, such as credit cards, debit cards, third party product distribution, primary dealership business and the associated costs.

HDFC is India's largest mortgage company based in Mumbai, India. It was founded in 1977 by Hasmukhbhai Parekh. HDFC's distribution network spans 318 outlets that include 77 offices of HDFC's distribution company HDFC Sales Private Limited. In addition, HDFC covers over 90 locations through its outreach programmes. HDFC's marketing efforts continue to be concentrated on developing a stronger distribution network. Home loans are also sourced through HDFC Sales, HDFC Bank Limited and other third party Direct Selling Agents (DSA). To cater to non – resident Indians, HDFC has an office in London, Singapore, and Dubai and service associates in GCC countries.

Table - 4.13

New Private Sector Banks								
Housing Development Finance Corporation Limited (HDFC) Bank								
<i>(Amount in ` million)</i>								
Items	2007 -08	2008-09	2009-10	2010-11	2011-12	2012-13	Group Aggregate 2012-13	All Banks' Aggregate 2012-13
No. of offices	745	1422	1736	1999	2553	3046	9718	92114
No. of employees	37386	52687	51888	55752	66076	69401	203733	1096984
Business per employee	50.60	44.60	59.00	65.30	65.40	75.00	93.03	121.33
Profit per employee	0.50	0.42	0.60	0.74	0.80	1.00	1.18	0.83

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012

The above Table – 4.13, clearly shows the trend in the HDFC and its associates, the number of branches are increasing during the last five years along with that the number of employees has increased. The above statistical data helped us to decide and to know to what an extent the bank provides its services and to know its financial status in the market.

Industrial Credit and Investment Corporation of India (ICICI) Bank

ICICI Bank is India's second-largest bank with total assets of `4,062.34 billion (US\$ 91 billion) at March 31, 2011 and profit after tax ` 51.51 billion (US\$ 1,155 million) for the year ended on March 31, 2011. The Bank has a network of 2,774 branches and about 10,021 ATMs in India, and has a presence in 19 countries, including India. ICICI Bank offers a wide range of banking products and financial services to corporate and retail customers through a variety of delivery channels and through its specialised subsidiaries in the areas of investment banking, life and non-life insurance, venture capital and asset management. The Bank currently has subsidiaries in the United Kingdom, Russia and Canada branches in United States, Singapore, Bahrain, Hong Kong, Sri Lanka, Qatar and Dubai International Finance Centre and representative offices in United Arab Emirates, China, South Africa, Bangladesh, Thailand, Malaysia and Indonesia. UK subsidiary has established branches in Belgium and Germany. ICICI Bank's equity shares are listed in India on Bombay Stock Exchange and the National Stock Exchange of India Limited and its American Depositary Receipts (ADRs) are listed on the New York Stock Exchange (NYSE).

The ICICI Bank, together with its subsidiaries, joint ventures and associates, is a diversified financial services group providing a range of banking and financial services, including commercial banking, retail banking, project and corporate finance, investment banking, broking and treasury products and services. It operates under four segments, retail banking, wholesale banking, treasury and other banking. Retail banking includes exposures, which

satisfy the four criteria of orientation, product, granularity and low value of individual exposures for retail exposures. Wholesale Banking includes all advances to trusts, partnership firms, companies and statutory bodies, which are not included under Retail Banking. Treasury includes the entire investment portfolio of the bank. Other banking includes hire purchase and leasing operations and other items. In November – 2012, it opened its second branch and first high street branch in Hong Kong.

Table - 4.14

New Private Sector Banks								
Industrial Credit and Investment Corporation of India (ICICI) Bank								
(Amount in ₹ . million)								
Items	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	Group Aggregate 2012-13	All Banks Aggregate 2012-13
No. of offices	1271	1434	1721	2565	2786	3134	9718	92114
No. of employees	40686	51835	41068	56969	58276	62065	203733	1096984
Business per employee	100.80	115.40	76.50	73.50	70.80	73.50	93.03	121.33
Profit per employee	1.00	1.10	0.90	1.00	1.10	1.40	1.18	0.83

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012.

The above Table – 4.14, clearly shows the trend in the ICICI bank and its associates, number of branches has increased during last five years along with that the number of employees is also increased. The above statistical data helps to know to what an extent the bank provides its services and to know its financial status in the market.

Conclusion

This chapter provides the reader, a detailed profile of Karnataka's history, origin and selected banks profile which is relevant to the present study and also provide necessary statistics relating to the study. The research provided the banking statistics covering number of selected public sector banks and private sector banks such as State bank of India (SBI), Bank of India (BOI) and Housing Development Finance Corporation Limited (HDFC) and Industrial Credit and Investment Corporation of India Bank (ICICI), and also the ATM points in different regions in the southern zone of the Karnataka state.

Chapter -V

CHAPTER - V

Debit Cards, Credit Cards and ATM Services in the Selected Banks

Introduction

Debit Cards, Credit Cards and Smart Cards are collectively referred to as Plastic Money because they are made out of Plastic. The customers enter a personal identification number to authorize the transaction in a typical purchase using a Debit Card. The merchant's computer then requests authorization from the computer network usually the regional ATM network that links the merchant's bank with the customer's bank. The customer's bank, or sometimes the network, verifies that the customer's account has sufficient funds to pay. The network then contacts the merchant's computer and authorizes the purchase. The network also contacts the two banks, which debit the customer's account and credit the merchant's account. The bank typically does not credit the merchant's account with the entire amount of the transaction, a percentage referred to as the discount is charged by the banks and other intermediaries. Later, usually at the end of the day, settlement of all the transfers between them. These steps go unseen and the transaction is completed within minutes. (Subramani M et.al, 2008).

Debit Cards

A **Debit Card** (also known as a **Bank Card**) is a Plastic Money which provides an alternative payment method to cash when making purchases. Functionally, it can be called an Electronic Check, as the funds are withdrawn directly from either the bank account (often referred to as a *Check Card*), or from the remaining balance on the card. In some cases, the cards are designed exclusively for use on the Internet, and so there is no physical card. The use of debit cards has become widespread in many countries and has overtaken the cheque, and in some instances cash transactions by volume. Like Credit and Debit cards are used widely for telephone and Internet purchases. Debit cards can also allow for instant withdrawal of cash, acting as the ATM card for withdrawing cash and as a cheque guarantee card. Merchants can also offer *cash back/cash out* facilities to customers, where a customer can withdraw cash along with their purchase.

Debit Cards or Credit Cards are the electronic Plastic Cards that are used as a substitute for cash. Bank Debit Cards help reduce the need for carrying cash and cheques. Debit cards are directly linked to a cardholder's bank account. Whenever a card holder withdraws money from an ATM or uses the Debit Card for making payments, his/her account balance is automatically

reduced. Two decades ago, the number of debit cards in circulation was approximately 19 million. This figure is projected to cross 34.4 million by 2016. The history of debit cards shows that they have largely been used to pay for food and drinks.

Features of Debit Cards

The Following are Features of Debit Cards

- It is a combination of a cheque and ATM card. Therefore, there are no fees for using the ATM for cash withdrawal, or as a debit card for purchase.
- The Debit Card services is meant for withdrawals against the balance already available in the designated account.
- It is the card holder's obligation to maintain sufficient balance in the designated account to meet withdrawals and service charges.
- A Debit card is more affordable than credit card.
- No credit check is required to get a Debit card.
- Use of card is terminated without notice, upon the death, bankruptcy or insolvency of the cardholder or for other valid reasons.
- Spending is limited to our bank balance.

Bank Debit Cards: Types

Debit cards are offered by banks in the following forms:

- (a) Online Card.
- (b) Prepaid Card.
- (c) Offline Card.
- (d) Electronic Purse Debit Card.
- (e) Debit Cards for Telephone, Mails and Internet transactions.

An example of the front of a typical debit card:

- Issuing bank logo.
- EMV chip.
- Hologram.
- Card number.
- Card brand logo.
- Expiry date.
- Cardholder's name.

An example of the reverse side of a typical debit card:

- * Magnetic Stripe.
- * Signature Stripe.
- * Card Security Code.

Although many debit cards are of the Visa or Master Card brand, there are many other types of Debit Card, each accepted only within a particular country or region, for example Switch (now: Maestro) and Solo in the United Kingdom, Carte Bleue in France, Laser in Ireland, *Electronic Cash (EC)* (formerly Euro cheque) in Germany and EFTPOS cards in Australia and New Zealand. The need for cross – border compatibility and the advent of the euro recently led to many of these card networks (such as Switzerland's *EC direkt*, Austria's *Bankomatkasse* and Switch in the United Kingdom) being re – branded with the internationally recognized Maestro logo, which is part of the Master Card brand. Some debit cards are dual branded with the logo of the (former) national card as well as Maestro (example, EC cards in Germany, Laser cards in Ireland, Switch and Solo in the UK, Pinpas cards in the Netherlands, Bank contact cards in Belgium, etc.). The use of a Debit Card system allows operators to package their product more effectively while monitoring customer spending. An example of one of these systems is ECS Embed International. A prepaid debit card looks a lot like a credit card. It even works a lot like a credit card, when you use it in a store to purchase products. However, a prepaid credit card is not a credit card. The two work very differently.

Disadvantages of Debit Cards

Debit cards, however, do entail certain limitations, such as:

- Debit cards come with lesser fraud protection facilities than credit cards.
- Some transactions cannot be carried out with a debit card, such as renting a car in a foreign country.

Debit Cards: Issuers

The banks issuing debit cards include:

- (a) Bank of America.
- (b) Citibank.
- (c) American Express.
- (d) Deutsche bank.
- (e) Capital One.
- (f) Standard Chartered.
- (g) Chase.
- (h) HSBC.

Types of Debit Card Systems

*** Online Debit System**

Online debit cards require electronic authorization of every transaction and the debits are reflected in the user's account immediately. The transaction may be additionally secured with the Personal Identification Number (PIN) authentication system and some online cards require such authentication for every transaction, essentially becoming enhanced automatic teller machine (ATM) cards. One difficulty in using online debit cards is the necessity of an electronic authorization device at the Point – of – Sale (PoS) and sometimes also a separate PIN pad to enter the PIN, although this is becoming commonplace for all card transactions in many countries. Overall, the online debit card is generally viewed as superior to offline debit card because of its more secure authentication system and live status, which alleviates problems with processing lag on transactions that may only issue Online Debit Cards. Some on-line debit systems are using the normal authentication processes of Internet Banking to provide real – time on – line debit transactions. The most notable of these are Ideal and PoL.

*** Offline Debit System**

Offline Debit Cards have the logos of major Credit Cards (Example - Visa or Master Card) or major debit cards (Example – Maestro in the United Kingdom and other countries, but not the United States) and are used at the Point – of – Sale like a credit card (with payer's signature). This type of Debit Card may be subjected to a daily limit, and / or a maximum limit equal to the current/checking account balance from which it draws funds. Transactions conducted with offline debit cards require 2–3 days to be reflected on users' account balances. In some countries and with some banks and merchant service organizations, a *credit* or offline debit transaction is without cost to the purchaser beyond the face value of the transaction, while a small fee may be charged for a *debit* or online debit transaction. (Although it is often absorbed by the retailer) Other differences are that online debit purchasers may opt to withdraw cash in addition to the amount of the debit purchase (if the merchant supports that functionality), also, from the merchant's standpoint, the merchant pays lower fees on online debit transaction as compared to *credit* (offline) debit transaction.

*** Prepaid Debit Card**

Prepaid debit cards, also called reloadable debit cards or reloadable prepaid cards, are often used for recurring payments. The payer loads funds to the cardholder's card account. Prepaid debit cards use either the offline debit system or the online debit system to access these funds. Particularly for companies with a large number of payment recipients abroad,

prepaid debit cards allow the delivery of international payments without delays and fees associated with international cheques and bank transfers. Providers include Caxton FX prepaid cards, [Escape prepaid cards and Travelex prepaid cards]. Whereas, web – based services such as stock photography websites (stockpot) outsourced services, and affiliate networks (Media Whiz) have all started offering prepaid debit cards for their contributors / freelancers / vendors.

Debit Cards: Benefits

Debit cards offer the following benefits:

01. Debit Card help people to be disciplined financially, since one cannot splurge with the limited amount of funds deposited for the card.
02. A person with poor credit can obtain a debit card without too much trouble.
03. Debit cards can be used to make online purchases and payments.
04. They provide freedom from carrying cash and checks while travelling, thereby offering more safety.
05. Debit cards do not charge high interest rates or fees on card transactions.

The Following are the Benefits of the Debit Card Services

*** Free with our bank account**

Obtaining a Debit Card is easy. The qualify to open a bank account, and usually get a Debit Card, if bank offers the service.

*** No background check**

When we are applying for a debit card, the bank does not need to look into credit history.

*** Cash withdrawals**

The customer can withdraw a minimum of `100 and a maximum `10,000 per transaction.

*** Convenience**

A Debit card frees us from carrying a lot of cash or a cheque book. In case, of international traveler, it is needed to stock up on Traveler's Cheques or cash. Debit Card to withdraw cash from over 500,000 ATMs around the world in over 100 countries. The withdrawal of the local currency of the country limited only by the money we have back home in our account and Business Travel Quota (BTQ) limit arability.

*** Fair exchange**

The return merchandise or cancel services paid for with a Debit card, the transaction is treated as if it were made with cash or cheques. Customers usually get cash back for offline purchases; for on – line transactions, the amount is credited to our account.

*** Statement of account**

A statement of transactions can be obtained from the customer's branch. For example, a mini statement containing the last four transactions and balance can be obtained at a State Bank Group during the working hours of the customer's branch.

*** Banking cum Shipping card**

Debit card can be used as ATM card at any ATM across the world, as well as for making purchase at merchant locations. Cash can be withdrawn from any of the 12000 plus ATMs in India.

Drawbacks of Debit Cards

a. No grace period

Unlike a credit card, debit card transactions are on a *pay now* basis

b. Limited protection

Using a debit card may mean to have less protection than it would have with a credit card for undelivered or defective goods. Like the credit card, a debit card too is a payment mechanism which allows the holder to make purchases without making any immediate cash payment. It appears that *Plastic Money* seems to be the preferred mode of payment for more and more people. While the use of credit cards and debit cards has increased manifold both in terms of value and volume of transactions yet the growth in use of debit cards has been at a much faster rate than in the case of credit cards.

A debit card is a variant of ATM card. It has the following features:

01. Whereas an ATM card can be used only where the ATMs are provided by the banks, and that too only for cash withdrawals, the debit card can be used in any merchant outlet that is linked with the customer's bank for making payment.
02. Credit card is issued to clients after a proper assessment of their credit standing. But for a debit card holder there is no need to make such an assessment.

03. At the time of making payment through a debit card, the amount is instantly debited to the customer's account unlike payment made through the credit card where the account of the customer is debited after a certain period.
04. Debit card freeze the card holder from carrying cash for his/her purchases.
05. Debit card is like a blank cheque, so it must be used carefully otherwise an unscrupulous person can wipe the entire balance in the bank account of the holder.
06. There are no chances of the debit card user to fall into the debt trap, since payment is immediately debited to his account, as he can only use the money which is available in his account.
07. There are no transaction costs and no question of late fee payment in the use of debit card.
08. Bankers also avoid the risk of bad debts.

Credit Card

Credit cards are fundamentally different from the other payment methods in that they involve extending credit rather than drawing on an existing store of funds. Banks in conjunction with credit card associations such as Visa and Master Card, issue general – purpose credit cards. Departmental stores also issue credit cards to be used for purchases at that particular store. Like Electronic Fund Transfer, payment by credit card is not anonymous. Since paying with a credit card does not involve a store of funds, deposit insurance and reserve requirements are not directly relevant. The bank that issues the card is liable and thus merchants are paid if the cardholders default. If the issuing bank fails, the credit card association guarantees payment to merchants with outstanding transactions and then has a creditor's claim on failed banks.

History of Bank Credit Cards

The origins of the bank credit card have been traced to John C. Biggins, a consumer credit specialist at the Flatbush National Bank of Brooklyn, New York. In 1946, Biggins launched a credit plan called *Charge – It*. The program featured a form of scrip that was accepted by local merchants for small purchases. After the sale was completed, the merchant deposited the scrip in a bank account, and the bank billed the customer for the total scrip issued.

In 1951, the first modern credit card was issued by the Franklin National Bank in New York. Unsolicited credit cards were sent to prospective card – holders, who were not subject to credit screening prior to being sent a card. Merchants signed agreements to accept the cards. When a purchase was made, the cardholder presented the card to the merchant, who would

copy the information on the card onto the sales slip. The purchase was credited to the merchant's account at Franklin Bank in the amount of the transaction, less the discount rate. If a purchase exceeded the merchant's floor limit, the merchant was required to call the bank for approval. Franklin National Bank's Credit Card program was copied by hundreds of other banks in the late 1950s and early 1960s. (Indian Institute of Bankers, 1996). Credit card began to be used in USA as early as 1920's and their use began to increase after 1950. Diners Club introduced their credit card in 1950 and the American Express Company in 1958 and Bank of America in 1959.

In India, the Central Bank of India was the first bank to introduce the credit card known as *Central Card* in the middle of 1981. Credit card facility became immensely popular among customers in India by 1990. With the introduction of credit card system, the concept of every – where and any time banking became a reality. Convenience and easy acceptability of credit cards and technological advancement have paved the way for continuous rise in credit card – based of payments and transactions. Credit cards in India, made their debut in 1981, and are on the verge of an unprecedented boom. Between 1987 and 2001, the market has virtually grown to over four million cards with over 25 – 30 per cent of compounded annual growth in new cardholder's base.

It's not that only the card numbers have increased, but even the types of cards on offer have seen a surge. Today, the domestic card industry is flooded with different types of cards ranging from gold, silver, global, co – branded credit cards, smart to secure, the list is endless. Foreign banks have shouldered the major responsibility of increasing the card base and adding value – added services to the card products in the past. This is also evident from the fact that the market share of these foreign banks is estimated to be well over 70 per cent. But the scenario has changed dramatically in the last couple of years with the entry of State Bank of India, (SBI) a domestic major in the banking sector. More and more nationalized banks and private sector banks like ICICI and HDFC Banks are aggressively launching credit cards with value added features. There is immense growth potential in the domestic card industry. A glance at the Indian population reveals that India's middle/upper middle class (target segment) represents a population of over 10 million.

There are only two to three million cardholders, each possessing an average of two cards. This is a very low figure given India's huge middle to upper class population. There is no doubt that the domestic card industry has yet to mature but offers significant long – term growth potential. The lack of maturity of the domestic card industry, its growth will depend upon building core retail business, with more sophisticated products. In the expansion of domestic

credit card market, the existing foreign players, SBI, other nationalised banks and the new domestic private sector banks are expected to play an important role with complementary strategies.

Foreign banks, with the advantage of technology and industry experience are expected to concentrate on increasing card spending and customer loyalty in the major cities. SBI, on the other hand is expected to capitalize its superior distribution network to expand card acceptance in the smaller towns. The new private sector banks would have the opportunity to capture significant market share by combining the strengths of foreign banks and nationalised bank like SBI. Although at present the card market is mainly limited to India's relatively bigger cities and tourist locations only, there is also a potential in smaller cities.

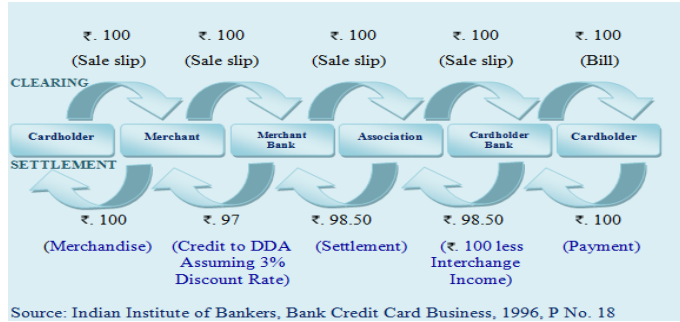
Domestic banks, owing to their vast network and reach to smaller cities, can easily tap this potential. They would be better off, penetrating into smaller cities and bringing credit card to the masses rather than cannibalizing other foreign banks' existing cardholder base. The efforts of these banks to increase the card base is going to be wholeheartedly supported by the residents of these smaller cities with their higher disposable income, changing lifestyle, increasing travel and the growth in the entertainment sector.

A credit card is part of a system of payments named after the small plastic card issued to users of the system. The issuer of the card grants a line of credit to the consumer (or the user) from which the user can borrow money for payment to a merchant or as a cash advance to the user. A credit card is different from a charge card, where a charge card requires the balance to be paid in full each month. In contrast, credit cards allow the consumers to *revolve* their balance, at the cost of having interest charged. Most credit cards are issued by local banks or credit unions, and are the same shape and size as specified by the ISO 7810 standard. The length of this article or section may adversely affect readability.

Clearing/Settlement of Credit Cards

Clearing is the process by which transaction information is passed between issuers and acquirers to effect posting to the cardholders account. There is no transfer of funds. Settlement is the process by which the dollar amounts of cardholders' purchases are passed from the acquirers to the issuers. A sample clearing/settlement flow is illustrated in the exhibit – 5.1 clearing (acquire to cardholders statement) is represented by the top flow. Settlement (issuer to acquirer) is represented by the bottom flow and does not require immediate cardholder's payment to occur. Exhibit – 5.1 reflects a 1.5 percent interchange rate (` 1.50 interchange fee) on a ` 100 purchase.

Exhibit 5.1: Interchange Flows of Credit Cards



Guidelines for Issuing of Credit Cards

The Reserve Bank of India has initiated several steps to encourage the use of credit card transaction in an efficient and a safe manner. The Reserve Bank of India took the initiative to ensure that the rules, regulation, standards and practices of the card issuing banks accord with the best international practices. In order to ensure best international practices in credit card operation, the Reserve Bank of India in October 26, 2004, constituted a Working Group under the chairmanship of Shri R. Gandhi to study the *Regulatory Mechanism for Cards*.

Based on the recommendation of this Working Group and the feedback received from card issuing banks, non-banking finance companies and the public, guidelines on credit card operations of banks were issued by the RBI in November 2005. The important features of the guidelines are given below:

01. Each Bank/NBFC must follow a standard policy for credit card operations incorporating Fair Practices Code for credit card released by the IBA (Indian Bankers Association) in March – 2005.
02. Before issuing a credit card, the issuing institution must independently assess the applicant based on self – declaration or credit information supplied by the customer. Based on the information received the institution must assess the credit risk and fix the credit limit for the credit card holder.
03. The card issuing institution would be solely responsible for the fulfillment of the conditions of Know Your Customer (KYC) requirements.
04. Add-on cards (i.e. those that are subsidiary to the principal card) will be issued to the principal cardholder, only on the condition that the liability will be that of the principal cardholder.
05. While applying for the credit card, the terms and conditions such as credit limit, cash withdrawal limit, joining fees for primary card holder and for add – on card holder,

annual membership fees for primary and add – on card holders, billing statements – periodicity and mode of sending, cash advance fee, services charges levied for certain transaction interest free (grace) period, prevailing rate of interest should be communicated to the card holder in clear and simple language. They should also furnish to the card holder charges in case of default, methods of computation of overdue, overdue interest charges, finance charges for revolving credit and cash advances, renewal and termination procedures. Contact particulars of 24 hour call centers of card issuer, particulars of officers to be contacted, grievance redressal, procedure to be followed in case of loss, theft and misuse of card – mode of intimation to card issuer and all other valid information which the customer requires to operate the card effectively should be furnished to them.

06. Card issuer should ensure that there is no delay in dispatching monthly bills. Sufficient time for payment of bill, that is, at least 10 days should be given to the customer before the interest starts getting charged. The issuer should charge interest only after the last mentioned for payment.
07. The card issuer should not levy any charge that was not clearly indicated to the credit card holder at the time of issue of the card. They must obtain the prior consent of the cardholder for levying fresh charges. They need not obtain such consent of the cardholder in case of service taxes, which are levied by the government or any other statutory authority from time to time.
08. Changes in charges other than interest rate should be effected in to only with prior notice of at least one month.
09. If a customer has any dispute on any bill, the card issuer should provide explanation and, if necessary, documentary evidence to the customer within a maximum period of sixty days in a spirit of amicable redressal of grievances.
10. To avoid frequent complaints of delayed billing, the credit card issuing institution should consider providing bills and statements of accounts on – line.
11. Credit card issuer should be extremely careful in the appointment of service providers while outsourcing, ensuring that they seldom compromise on quality of customer services.
12. The terms and conditions for payment of credit card dues, including the minimum payment due, should be so stipulated to ensure that there is no negative amortization.
13. Card issuer will be responsible for all acts of omission and commission of their direct sales marketing and recovery agents with regards to customer's rights like their

personal privacy, preservation of customer records, maintaining confidentiality of customer information and fair practices in debt collection.

14. In case, an unsolicited card is issued and activated without the consent of the recipient and the latter is billed for the same, the card issuing bank/NBFC shall not only reserve the charges forthwith, but shall also pay a penalty without any murmur to the recipient amounting to twice the value of the charges reversed.
15. Card issuing institution should not reveal the information regarding customers received at the time of opening the account or issuing the credit card to any other person or organization without obtaining their specific consent.
16. Before reporting the default position of a card holder to CIBIL or any other information company authorized by the Reserve Bank, the credit card issuer must serve advance notice to the card holder of its intention of reporting. While reporting they should stick on to a procedure duly approved by their boards.
17. In the matter of recovery of dues, card issuer should ensure that they and their agents adhere to the instruction on Fair Practice Code for lenders as recommended by the Reserve Bank and also the IBAs Code for collection of dues and repossession of security.
18. Card issuer or their agents should not resort to threats or harassments of any kind, either verbal or physical, against any person in their debt collection efforts.
19. Card issuer should constitute grievance redressal machinery for credit cards and give wide publicity to it through electronic and print media.
20. If the customer does not get a satisfactory reply for their complaints from the cards issuer within a maximum period of thirty days from the date of his lodging the complaint, he will have the option to approach the office of the concerned Banking Ombudsman for redressal of his grievance.
21. The Standing Committee on Customer Service in each credit card issuing institution any review, on a monthly basis, the credit card operations, including reports of defaulters to the CIBIL and credit card related complaints. It may take measures to improve the services and ensures the orderly growth of the credit card operations.
22. Card issuers should quote Annualized Percentages Rates (APR) on card products (separately for retail purchase and cash advance, if they are different). The method of calculation of APR should be given with one or two examples for better comprehension. The APR charged and the annual fee should be shown with equal prominence. The late payment charges including the method of calculation of such charges and the number of days should be prominently indicated. The manner in which the outstanding unpaid

amount will be included for calculation of interest should also be specifically shown with prominence in all monthly statements. Even when the minimum amount indicated to keep the card valid has been paid, it should be indicated boldly that the interest will be charged on the amount due after the due date of payment.

23. The card issuing institution should obtain prior consent of the cardholder for upgrading credit cards, enhancing credit limits and for any other changes in the terms and conditions.
24. The card issuing institution should maintain a Do Not Call Registry (DNCR) containing the phone numbers (both cell phones and land phones) of customers as well as non-customers (non-constituents), who have informed the institution that they do not wish to receive unsolicited calls/SMS for marketing of its credit card products.
25. The intimation for including an individual's telephone number in the Do Not Call Registry (DNCR) should be facilitated through a website maintained by the bank/NBFC or on the basis of a letter received from such a person addressed to the bank/NBFC.
26. With a view to ensure the quality of customer service relating to the credit card operations on an on-going basis, each card issuing institution must review on a monthly basis the credit card operations including reports of defaulters to CIBIL, credit card related complaints, measures taken to improve the services, steps taken for the growth in the credit card operations etc. in their Standing Committee on Customer Service; and
27. A prospective or existing credit card holder must observe carefulness while applying or owning a credit card. The terms and conditions of the credit card agreement must be carefully viewed and understood so that a clear insight can be achieved. This will help a credit card holder to make the best use of the plastic money. The credit card repayments must be made before the due date to avoid attraction of late fee, penalty and surcharge. This can also be done to maintain a smooth flow of business transactions and ensuring one's credit stability and visibility in the plastic money market.

Debit Cards v/s Credit Cards: Similarities and Differences

The financial institutions offer both Debit Cards and Credit Cards. Both cards offer special rewards, such as points and cash back on purchases made through the card. Debit Cards and Credit Cards can be used to make online payments with the help of the PIN number assigned to them. They can be used to withdraw money from ATMs, depending on the cash limit available on these cards.

Debit Cards and Credit Cards differ in some significant ways. In the case of a credit card, the issuer offers credit and overdraft facilities. This facility is not available with a debit card, which will only debit payments from existing and available funds within the cardholders account. A credit cardholder therefore has a monthly bill to pay in every month that the card is used. If they don't pay that bill, high interest charges are applied. A debit card holder is free from the hassle of paying those bills, and from the risk of building up large debts to credit card companies.

Table - 5.1: Comparison Chart – Debit and Credit Cards (Plastic Money)

Factors	Credit Card	Debit Card
Line of Credit	Carries Line of Credit	No Line of Credit
PIN Number	No	PIN number provided, but not is not always asked to punch in
Picture ID asked for	Yes	No
Interest	Pay additional interest drawn on the amount borrowed	No
Credit History	Responsible credit card usage and payment can improve one's credit rating. Credit cards typically report account activity to at least one of the three major credit bureaus on a monthly basis	Does not affect credit history
Legal Liability laws	Strict. Consumer liability limit for credit card fraud is \$50 if the credit card company is notified within 60 days in written since the fraudulent charges	Lean. Consumer liability limit for debit card fraud is \$50 if the bank is notified within two days of noticing the fraudulent charges
Risk involved	Low	High, as they are attached to a bank account. A person does not need a pin number to use a debit card and therefore can easily drain a person's bank account, causing extreme problems
Fraud	Only problem is proving that someone else has used the card	With a debit card the persons has to figure out how to get their money back and if any checks bounced they are responsible for those as well
Limit	Credit line, which can be increased/decreased from the time of applying	Equals your account limit
Overdraw Fees	Low. Some credit card companies allow to overdraw amount over the maximum credit line with a fees	High "overdraft" fees. Possible to overdraw amount over the account limit
Connected to	Need not be connected to any bank account	Checking Account; Savings Account
Monthly bills	Yes	No
Offers Protection	Yes Example insurance on a rental car	No
Alternate to	Cash	Cheque, Cash
Where money comes from?	Borrowing money from a bank or financial institution. (Spending "other" money)	Funds taken from the money that you have in your bank account. (Spending your "own" money)
Can be used as	Credit card only	Debit Card and Credit Card

Source: http://www.diffen.com/difference/Credit_Card_vs_Debit_Card

Credit or Debit?

For consumers, the difference between a *Debit Card* and a *Credit Card* is that the debit card deducts the balance from a deposit account, like a checking account, whereas the credit card allows the consumer to spend money on credit to the issuing bank. In other words, a debit card uses the money you have and a credit card uses the money.

In some countries, the debit networks typically require that purchases be made in person and that a personal identification number be supplied. The *credit* networks allow cards to be charged with only a signature and picture ID. In other countries, Identification typically requires the entering of a personal identification number or signing a piece of paper. This is regardless of whether the card network in use mostly is used for credit transactions or for debit transactions. In the event of an offline transaction (regardless of whether the offline transaction is a credit transaction or a debit transaction), identification using a PIN is impossible, so only signatures on pieces of paper work.

In some countries, Consumer protections also vary, depending on the network used. Visa and MasterCard, for instance, prohibit minimum and maximum purchase sizes, surcharges, and arbitrary security procedures on the part of merchants. Merchants are usually charged higher transaction fees for credit transactions, since debit network transactions are less likely to be fraudulent. This may lead them to *steer* customers to debit transactions. Consumers disputing charges may find it easier to do so with a credit card, since the money will not immediately leave their control. Fraudulent charges on a debit card can also cause problems with a checking account because the money is withdrawn immediately and may thus result in an overdraft or bounced checks.

In some cases debit card – issuing banks will promptly refund any disputed charges until the matter can be settled, and in some jurisdictions the consumer liability for unauthorized charges is the same for both debit and credit cards. In India and Sweden, the consumer protection is the same regardless of the network used. Some banks set minimum and maximum purchase sizes, mostly for online – only cards. However, this has nothing to do with the card networks, but rather with the bank's judgment of the person's age and credit records. Any fees that the customers have to pay to the bank are the same regardless of whether the transaction is conducted as a credit or as a debit transaction, so there is no advantage for the customers to choose one transaction mode over another. Shops may add surcharges to the price of the goods or services in accordance with laws allowing them to do so. Banks consider the purchases as having been made at the moment when the card was swiped, regardless of

when the purchase settlement was made. Regardless of which transaction type was used, the purchase may result in an overdraft because the money is considered to have left the account at the moment of the card swiping.

Table - 5.2: Growth in Credit Card – Based Payments (2003-06)

Year	Counts (in lakh)	Amount (in crore)
2003 – 04	1001.79	17662.82
2004 – 05	1294.72 (29.24 %)	25686.36 (45.42 %)
2005 – 06	1560.66 (20.55 %)	33886.47 (31.92 %)

Source: Benson Kunjukunju, Commercial *Banks in India–Growth, Challenges and Strategies*, New Century Publication, First Edition, 2008. (Figures in brackets indicate percentage of change over the previous year).

India has come out of self – binding shackles to look *young* again and the enthusiasm shared by the young work force of the country is driving the economy like never-before. In the present day world, no one wants to be bothered by the presence of huge cash in his or her wallet and the Indians are no exceptions. The unprecedented growth in the number of *Credit Card* users has stimulated the Indian economy by a significant extent. The arrival of malls, multiplexes, online shopping stores and shopping complexes have contributed to the growth of the use of Plastic Cards.

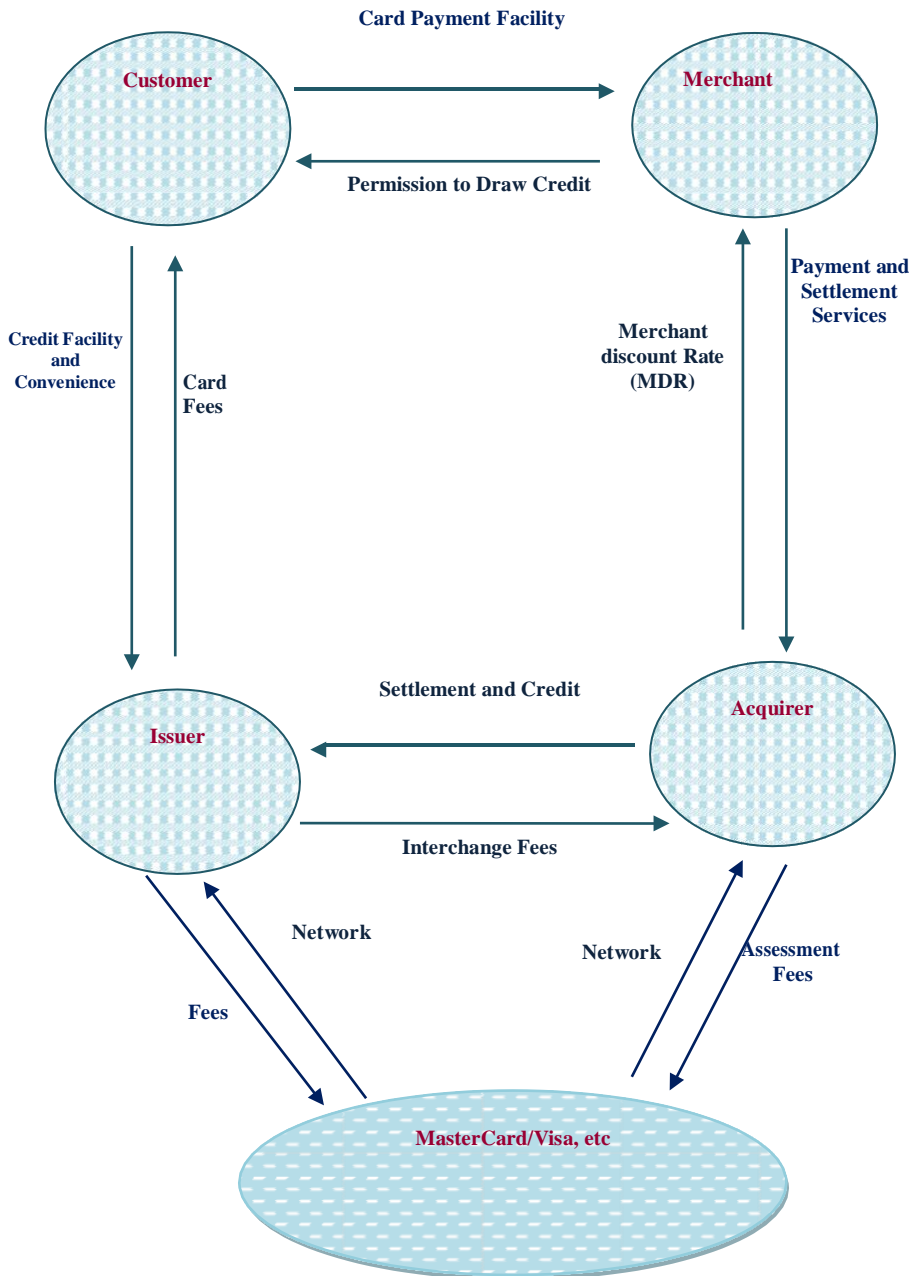
It will not be wrong to say that such a scenario in context of the Indian market is not driven by style statement and is driven more by needs. The benefits of Plastic Money have offered unmatched ways to create equilibrium and offer an amicable solution when it comes to purchases and the inability to possess or carry cash. The modern day Indian customers find it easier to make physical payment (credit card payments) rather than carrying too much cash. The introduction of credit card facilities to pay for mobile, electricity, movie tickets and other related transactions have also contributed to the growth of Plastic Money in the country.

Best Credit Cards in India

In context of the Indian market, the leading credit card service providers are ICICI, HDFC, State Bank of India and Bank of India to name a few. These financial institutions have tried their hands on ensuring value – addition while offering customer – friendly credit card deals. The Best credit cards in India are usually meant for specific user group such as women, students and small business owners. These cards are offered to the prospective customers with appealing deals. Statistics have clearly revealed that the numbers of credit card holders in India are close to 22 million as of January, 2007. It has been also revealed that the increasing consumerism in the country has led to a two-fold increase in the number of credit card

transactions from FY 2003 – 04 to 2005 – 06. The trends were as favourable as ever in the financial years, FY 2006 – 07 and 2007 – 08 and the same is likely to continue in the coming financial years.

Figure 5.1: Working of the Card System



Source: Ashish Das, Nov, 2008

The Interchange fee on a purchase transaction flows from the merchant acquiring bank to the card issuing bank. The settlement and credit transactions between the issuer and the acquirer are done using the network of MasterCard/VISA, who gets a share of the fee in exchange. In India, though competition guides acquirer – merchant pricing policies, it is generally understood that Interchange fees is one component of the Merchant Discount Rate (MDR) established by acquirers. The implementation of proper Interchange rates is necessary and also very crucial for maintaining a strong and vibrant credit card payments network.

The other major component of the MDR is the fee imposed by the acquirer which is retained by the acquirer to meet its own expenses. It is quite common to see a transaction at a merchant establishment involving a bank which is both the acquirer and the issuer. In such a situation it may be possible to reduce the Interchange fee since the payment network is substantially reduced. However, such reduced Interchange fee is not generally passed on to the merchants. The banks and Master Card / VISA generate revenue and make profit in the credit card system by charging Interchange fees. In the western countries big merchants have already realized this and are in union in their demand for reduction in Interchange fees. Master Card USA, moving towards being more transparent, has now explicitly placed on its official website the Interchange Rates.

Limitations of Credit Cards as a Source of Finance

- a. Credit cards lead to overspending on the part of the holder and as such may disorganize the organization's cash budget and cash planning;
- b. Limited as to the activities they can finance as they are ideal for financing working capital items and not fixed assets in which case they are not a profitable source of finance;
- c. They are expensive to obtain and maintain because of associated costs such as ledger fees, registration, insurance, commission expenses, renewal fees etc;
- d. It is a short – term source and is open only to a few establishments in which case a company can obtain goods and services from those establishments that can accept them;
- e. Entail a lot of formalities to obtain example guarantees, presentation of bank statements and even charging assets that are partially pledged to secure expenses that may be incurred using these cards;
- f. They may be misused by dishonest employees who may use them to defraud the organization off goods and services which may not benefit such organizations; and

- g. Credit card organization may suspend the use of such cards without notice and this will cause inconvenience to the holder who may not meet his/her ordinary needs obtained through these cards.

Conclusion

To sum up, this chapter deals with history, meaning of debit and credit cards, similarities and differences between the debit and credit cards, types of Plastic Money, benefits, features of both the debit and credit cards in India. It also focused towards the clearing/settlement of credit cards, guidelines for issuing the credit cards to the customers and future of the Plastic Money in India.

Chapter - VI

CHAPTER - VI

The Empirical Evidences and Analysis of the Impact of Plastic Money on Bank Customers in Karnataka

Introduction

In this chapter the socio – economic profile of the Plastic Money users or Bank cardholders and the factors that motivated the bank customers to choose Plastic Money are presented. In this connection, the core research study is presented focusing mainly on the impact of the plastic money holders in the southern region of Karnataka state in three important dimensions such as socio – cultural, economic (financial aspects) and psychological. The data required was collected from 600 individual cardholders from selected public and private bank branches in Southern Zone of Karnataka, focusing on Bangalore division covering 53 taluks (Bangalore Urban (05) Bangalore Rural (04) Chikkaballapur (06) Chitradurga (06) Davanagere (06) Kolar (05) Ramanagara (04) Shimoga (07) Tumkur (10) taluks), selecting randomly from each district comprising who holds either credit card or debit card or both. They were further classified as users of debit cards, credit cards and both debit and credit cards.

Socio–Economic Profile of the Selected Respondents

The table - 6.1, indicates that the overall Plastic Money holders are male respondents which accounts to 313 (52.17 per cent) and only 287 (47.83 per cent) are female Plastic Money holders. And bank wise also the major holders are male bank customers who hold both the debit and credit cards, of which in the Public sector, the highest male holders 92 (56.10 per cent) are from SBI Banks and 63 (51.64 per cent) are from BOI Banks. In the private sector banks, the highest holders are males which accounts to 99 (58.93 per cent) and 83 (56.8 per cent) respectively in the ICICI Banks and HDFC Banks in the selected region of the Karnataka state.

The Plastic Money holders under the category age group shows that highest customers fall under the group of 40 – 49 which accounts to 146 (24.33 per cent) in the overall sample. When it is observed bank wise, only Private Sector Banks indicate that highest holders fall in the same age group of 40 – 49 which accounts to 40 (23.81 per cent) from ICICI Banks and 40 (27.40 per cent) from HDFC Banks. In the Public Sector Banks, 38 (23.17 per cent) fall under 40 – 49 age group from SBI Banks and 32 (26.22 per cent) fall under the age group of 50 – 59 from BOI Banks. Overall majority of customers are from the 40 – 49 in both the sectors.

Table - 6.1: Socio – Economic Profile of Plastic Money Holders of Selected Sample

Description	Group	Public Sector Banks				Private Sector Banks				Grand Total	
		SBI		BOI		ICIC I		HDFC			
		N	%	N	%	N	%	N	%	N	%
Gender	Male	92	56.10	63	51.64	99	58.93	83	56.85	313	52.17
	Female	72	43.90	59	48.36	69	41.07	63	43.15	287	47.83
TOTAL		164	100.0	122	100.0	168	100.0	146	100.0	600	100.0
Age	20 - 29	36	21.95	19	15.57	38	22.62	28	19.18	121	20.17
	30 - 39	30	18.29	24	19.67	32	19.05	31	21.23	117	19.50
	40 - 49	38	23.17	28	22.95	40	23.81	40	27.40	146	24.33
	50 - 59	32	19.51	32	26.22	28	16.67	25	17.12	117	19.50
	60 and above	28	17.07	19	15.57	30	17.86	22	15.07	99	16.50
TOTAL		164	100.0	122	100.0	168	100.0	146	100.0	600	100.0
Education	SSLC	39	23.78	28	22.95	28	16.67	39	26.71	134	22.33
	PUC	28	17.07	26	21.31	30	17.86	22	15.07	106	17.67
	Graduate	40	24.39	34	27.87	32	19.05	36	24.66	142	23.67
	Post-Graduate	45	27.44	22	18.03	40	23.81	25	17.12	97	16.17
	Others	12	7.23	12	9.84	38	22.62	24	16.44	121	20.17
TOTAL		164	100.0	122	100.0	168	100.0	146	100.0	600	100.0
Occupation	Agriculture	15	9.14	3	2.45	9	5.36	11	7.53	38	6.33
	Own Business	16	9.76	17	13.93	14	8.33	10	6.85	57	9.5
	Private Sector Employee	20	12.20	22	18.03	34	20.24	29	19.86	105	17.5
	Public Sector Employee	24	14.63	26	21.31	28	16.67	26	17.80	104	17.33
	Home Maker	23	14.02	10	8.17	11	6.55	13	8.90	57	9.5
	Professional	25	15.24	22	18.03	32	19.05	27	18.49	106	17.67
	Retiree Employee	12	7.32	7	5.73	16	9.5	18	12.33	53	8.83
	Student	29	17.68	15	12.29	24	14.29	12	8.22	80	13.33
TOTAL		164	100.0	122	100.0	168	100.0	146	100.0	600	100.0
Monthly Income	Below ₹.10,000	12	7.32	9	7.37	13	7.74	8	5.48	42	7
	10,000 - 20,000	29	17.68	20	16.39	32	19.05	35	23.97	116	19.33
	20,000 - 30,000	62	37.80	42	34.43	35	20.83	46	31.51	185	30.83
	30,000 - 50,000	41	25	28	22.95	34	20.24	41	28.08	144	24.00
	50,000 - 100,000	11	6.71	12	9.84	26	15.48	9	6.16	58	9.67
	Above 100,000	9	5.49	11	9.02	28	16.67	7	4.79	55	9.17
TOTAL		164	100.0	122	100.0	168	100.0	146	100.0	600	100.0
Type of the Account	Saving Bank Account	89	54.27	66	54.10	72	42.86	59	40.41	286	47.67
	Current Account	30	18.29	36	29.51	60	35.71	52	35.62	178	29.67
	Fixed Deposit Account	45	27.44	20	16.39	36	21.43	35	23.97	136	22.66
	TOTAL		164	100.0	122	100.0	168	100.0	146	100.0	600

Source: Field Survey Result, 2011 – 2013, (Note: N = Total respondents)

In case of educational qualification, overall cardholders are graduates which accounts to 142 (23.67 per cent). Bank wise it varies. About 45 (27.44 per cent) are post graduates from SBI banks, 34 (27.87 per cent) are graduates from BOI. In the Private Sector Banks, the highest qualified customers are from ICICI Bank which accounts to 40 (23.81 per cent) are Post – Graduates and only 39 (26.71 per cent) are just SSLC who are large in number holding the Plastic Money in the selected sample study.

The Plastic Money holder from various occupations indicates that the highest are professionals in the overall sample which accounts to 106 (17.67 per cent). Bank wise it again varies, in the Public Sector Banks, the major cardholders are students which accounts to 29 (17.68 per cent) from SBI Banks and 26 (21.31 per cent) are public sector employees, where as in the Private Sector Banks, about 29 (19.86 per cent) are from Private Sector Employees from HDFC Banks and 32 (19.05 per cent) holders are retired employees from ICICI Banks in the selected region. In case of the monthly income of the Plastic Money holders in the selected area represents that highest holders fall under the group of ` 20,000 – ` 30,000 which accounts to 185 (30.83 per cent) out of 600 sample, whereas, bank wise both the Public Sector Banks and Private Sector Banks, the highest holders fall under the income group of ` 20,000 – ` 30,000, out of which 62 (37.80 per cent) from SBI Banks, 42 (34.43 per cent) from BOI Banks, 35 (20.83 per cent) from ICICI Banks and 46 (31.51 per cent) from the HDFC Banks. The above Table – 6.1, indicates that 286 (47.67 per cent) are having the savings bank account, of which 89 (54.27 per cent) respondents from the SBI Banks, 66 (54.10 per cent) accounts to BOI, 72 (42.86 per cent) belong to the ICICI banks and only 59 (40.41 per cent) respondents belongs to the HDFC Bank. 178 (29.67 per cent) are holding Current deposit account and 136 (22.66 per cent) accounts to the Fixed deposit account.

Table - 6.2: Awareness of Plastic Money from Different Sources

Sources	Public Sector Banks				Private Sector Banks				Grand Total	
	SBI		BOI		ICICI		HDFC			
	N	%	N	%	N	%	N	%	N	%
Advertisement	30	18.29	15	12.29	13	7.74	35	23.97	93	15.50
Family Members/ Relatives	22	13.41	12	9.84	22	13.10	16	10.95	72	12.00
Friends	62	37.80	42	34.4	36	21.43	32	21.91	172	28.67
News Papers	35	21.34	15	12.30	40	23.81	41	28.08	131	21.83
Television	18	10.97	10	8.20	32	19.05	15	10.27	75	12.5
Bankers	12	7.32	10	8.20	12	7.14	2	1.40	36	6.00
Others if any specify	6	3.69	15	12.29	11	6.55	5	3.42	37	6.17
TOTAL	164	100.0	122	100.0	168	100.0	146	100.0	600	100.0

Source: Field Survey Result, 2011 – 2013, (Note: N = Total respondents)

The above Table - 6.2 indicates that the highest respondents which account to 172 (28.67 per cent) are aware from their friends, among them 62 (37.80 per cent) respondents from the

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SBI Bank, 42 (34.40 per cent) are from BOI. 40 (23.81 per cent) belongs to the ICICI bank and 41 (28.08 per cent) respondents belongs to the HDFC Bank who are aware from the newspapers. 131 (21.83 per cent) are the second highest to become aware from the newspapers, 72 (12.00 per cent) are aware from the family members/relatives, 93 (15.50 per cent) are from advertisements, 75 (12.5 per cent) from media (Televisions), 36 (6.00 per cent) from the Bankers and 37 (6.17 per cent) from other sources.

Table - 6.3: ATM – Cum – Debit Card and Credit Card Awareness and Possession

Description	Public Sector Banks						Private Sector Banks						Grand Total		
	SBI			BOI			ICICI			HDFC			Yes	No	Total
	Yes	No	Total	Yes	No	Total	Yes	No	Total	Yes	No	Total			
ATM - CUM - DEBIT CARDS															
Awareness of ATM-Cum Debit Card	32 (19.51)	47 (28.66)	79 (48.17)	34 (27.87)	28 (22.95)	62 (50.82)	81 (48.21)	14 (08.33)	95 (56.55)	47 (52.80)	30 (52.63)	77 (52.74)	194 (48.26)	119 (60.10)	313 (52.17)
Possession of ATM-Cum Debit Card	79 (48.17)	06 (03.66)	85 (51.83)	30 (24.59)	30 (24.59)	60 (49.18)	61 (36.31)	12 (07.14)	73 (43.45)	42 (47.20)	27 (47.37)	69 (47.26)	212 (52.74)	75 (39.90)	287 (47.83)
Total	111 (67.68)	53 (32.32)	164 (100)	64 (52.46)	58 (47.54)	122 (100)	142 (84.52)	26 (15.47)	168 (100)	89 (60.96)	57 (39.04)	146 (100)	402 (6700)	198 (33.00)	600 (100)
CREDIT CARDS															
Awareness of Credit Cards	68 (41.46)	44 (26.83)	112 (68.29)	40 (32.79)	28 (22.95)	68 (55.74)	57 (33.93)	46 (27.38)	103 (61.31)	42 (28.77)	54 (36.99)	96 (65.75)	207 (34.50)	172 (28.67)	379 (63.17)
Possession of Credit Card	21 (12.80)	31 (18.90)	52 (31.70)	18 (14.75)	36 (29.51)	54 (44.26)	42 (25.00)	23 (13.69)	65 (38.69)	19 (13.01)	31 (21.23)	50 (34.25)	100 (16.67)	121 (20.17)	221 (36.83)
TOTAL	89 (54.27)	75 (45.73)	164 (100)	58 (47.51)	64 (52.46)	122 (100)	99 (58.93)	69 (41.07)	168 (100)	61 (41.78)	85 (58.22)	146 (100)	307 (51.17)	293 (48.83)	600 (100)

Source: Field Survey Result, 2011 – 2013, Note: (Numbers mentioned in the parenthesis represents the percentages). % - Percentage to total of respective columns/rows.

Table – 6.3 indicates that 313 (52.17 per cent) are strongly aware of ATM – Cum – Debit Cards, and 287 (47.83 per cent) possess the debit card with them out of 600 selected sample. In case of Credit Cards, about 379 (63.17 per cent) are well aware and 221 (36.83 per cent) possess the cards with them for their routine transactions. Overall 402 (67.77 per cent) out of 600 respondents are aware and possess the Debit Cards and with the same respondents again they are also well aware of the credit cards and possession of them for various transaction which accounts to 307 (51.17 per cent) out of the same total sample bank wise, the highest debit card awareness are from the Private Sector Bank – ICICI Bank which accounts to 142 (84.52 per cent) out of 168 Plastic Money holders and second highest awareness is from the SBI Bank which accounts to 111 (67.68 per cent) out of 164 plastic money holders in the selected sample in the southern region of Karnataka, where as rest of the selected bank's awareness level indicates that, only 64 (52.46 per cent) out of 122 holders and 89 (60.96 per

cent) out of 146 holders are from HDFC Bank and only 64 (52.46 per cent) from the BOI Banks in the selected sample area. Bank wise the highest credit card awareness are from the PrivateSector Bank – ICICI Banks which accounts to 99 (58.93 per cent) out of 168 Plastic Money holders and second highest awareness is from the SBI Bank which accounts to 89 (54.27 per cent) out of 164 plastic money holders in the selected sample in the southern region of Karnataka, whereas rest of the selected bank’s awareness level indicates that, only 61(41.78 per cent) out of 146 holders and 58 (47.51 per cent) out of 122 holders in the selected sample area.

Table - 6.4: Region – Wise Card Holders Statistics

Sl. No.	Respondents from different Places	Banks									
		Public sector Banks				Private Sector Banks				TOTAL	
		SBI		BOI		ICICI		HDFC			
		N	%	N	%	N	%	N	%	N	%
01.	Bangalore Rural	19	11.58	11	09.02	24	14.29	14	09.59	68	11.33
02.	Bangalore Urban	21	12.80	12	09.84	26	15.48	10	06.85	69	11.50
03.	Chikkaballapur	20	12.20	14	11.48	22	13.10	15	10.27	71	11.83
04.	Chitradurga	18	10.98	10	08.20	16	09.52	16	10.96	60	10.00
05.	Davangere	19	11.58	12	09.84	12	07.14	22	15.07	65	10.83
06.	Kolar	14	08.54	14	11.46	12	07.14	21	14.38	61	10.17
07.	Ramanagar	16	09.76	18	14.75	15	08.93	23	15.75	72	12.00
08.	Shimoga	23	14.02	15	12.30	22	13.10	12	08.22	72	12.00
09.	Tumkur	14	08.54	16	13.11	19	11.31	13	08.90	62	10.33
TOTAL		164	100	122	100	168	100	146	100	600	100

Source: Field Survey Result, 2011 – 2013, Note: N = Number of Respondents and % = Percentages

The above table - 6.4, indicates the bank wise and district/region wise card holders, Among them the largest card holders are from ICICI bank which accounts to 168 (28 per cent) out of 600 respondents in the selected banks of the southern region of the Karnataka state. About 72 (12 per cent) cardholders are from Ramanagar and Shimoga respectively which indicates the highest card holders in the selected district. In the Public Sector Banks, SBI Bank show highest holders which accounts to 164 (27.33 per cent).

Table - 6.5: Gender – Wise Plastic Money Holders Statistics

Gender	Debit Cards				Grand Total		Credit Cards				Grand Total	
	Yes	%	No	%	N	%	Yes	%	No	%	N	%
Male	185	59.0	158	55.1	313	52.2	193	50.94	119	53.8	379	63.27
Female	127	41.0	129	44.9	287	47.8	186	49.10	102	46.2	221	36.83
TOTAL	313	100	287	100	600	100	379	100	221	100	600	100

Source: Filed Survey Result, 2011 – 2013, N – Number of respondents.

From the above table – 6.5, the highest credit card holders are males. Plastic Money holders which accounts to 379 (63.27 per cent) and 221 (36.83 per cent) are female respondents. In case of Debit Cards also the highest Debit Card holders are male which accounts to 313 (52.2 per cent) and female Debit Card holders and 287 (47.8 per cent). The above table indicates that male Plastic Money holders are dominating in the southern region of Karnataka State.

Table - 6.6: Area and Gender Wise Plastic Money Holders

Area	Gender	Public Sector Banks								Private Sector Banks				Total	
		SBI				BOI				ICICI		HDFC		F	%
		F	%	F	%	F	%	F	%						
Bangalore Rural	Male	F	10	52.6	5	45.5	12	50.0	8	57.1	35	51.5			
		%	28.6	-	14.2	-	34.2	-	23.0	-	100	-			
	Female	F	9	47.4	6	54.5	12	50.0	6	43.9	33	48.5			
		%	27.3	-	18.2	-	36.4	-	18.1	-	100	-			
	Total	F	19	100	11	100	24	100	14	100	68	100			
%	32.3	-	22.1	-	25.0	-	20.6	-	100	-					
Bangalore Urban	Male	F	12	57.1	6	50.0	12	45.2	6	60.0	36	52.2			
		%	33.3	-	16.7	-	33.3	-	16.7	-	100	-			
	Female	F	9	42.9	6	50.0	14	53.8	4	40.0	33	47.8			
		%	27.8	-	18.2	-	42.0	-	12.0	-	100	-			
	Total	F	21	100	12	100	26	100	10	100	69	100			
%	30.4	-	17.4	-	37.7	-	14.5	-	100	-					
Chikaballapur	Male	F	10	50.0	9	54.3	12	54.5	7	46.7	38	53.5			
		%	26.3	-	26.7	-	31.6	-	18.4	-	100	-			
	Female	F	10	50.0	5	35.7	10	45.5	8	53.3	33	46.5			
		%	30.3	-	15.2	-	30.3	-	24.2	-	100	-			
	Total	F	20	100	14	100	22	100	15	100	71	100			
%	28.2	-	19.7	-	31.0	-	21.2	-	100	-					
Chitradurga	Male	F	10	55.6	5	50.0	9	56.3	5	31.2	29	48.3			
		%	34.5	-	17.2	-	31.0	-	17.3	-	100	-			
	Female	F	8	44.4	5	50.0	7	43.7	11	68.8	31	51.7			
		%	25.8	-	16.1	-	22.6	-	35.5	-	100	-			
	Total	F	18	100	10	100	16	100	16	100	60	100			
%	30.0	-	16.7	-	26.7	-	26.6	-	100	-					
Davangere	Male	F	10	52.6	6	50.0	8	66.7	12	54.5	36	55.4			
		%	27.7	-	16.7	-	22.2	-	33.3	-	100	-			
	Female	F	9	47.4	6	50.0	4	33.3	10	45.5	29	44.6			
		%	31.0	-	20.7	-	13.8	-	34.5	-	100	-			
	Total	F	19	100	12	100	12	100	22	100	65	100			
%	29.2	-	18.5	-	18.5	-	33.8	-	100	-					
Kolar	Male	F	9	64.3	10	71.4	7	58.3	10	47.6	36	59.0			
		%	25.0	-	27.8	-	19.4	-	27.8	-	100	-			
	Female	F	5	35.7	4	28.6	5	41.7	11	52.4	25	41.0			
		%	20.0	-	16.0	-	20.0	-	44.0	-	100	-			
	Total	F	14	100	14	100	12	100	21	100	61	100			
%	23.0	-	23.0	-	19.6	-	34.4	-	100	-					
Ramanagar	Male	F	8	50.0	10	55.6	7	46.7	12	52.2	37	51.4			
		%	21.6	-	27.0	-	19.0	-	32.4	-	100	-			
	Female	F	8	50.0	8	44.4	8	53.3	11	47.8	35	48.6			
		%	22.9	-	22.9	-	22.8	-	31.4	-	100	-			
	Total	F	16	100	18	100	15	100	23	100	72	100			
%	22.2	-	25.0	-	20.8	-	32.0	-	100	-					
Shimoga	Male	F	11	47.8	9	60.0	11	50.0	7	58.3	38	52.8			
		%	29.0	-	23.7	-	28.9	-	18.4	-	100	-			
	Female	F	12	52.2	6	40.0	11	50.0	5	41.7	34	47.2			
		%	35.3	-	17.6	-	32.4	-	14.7	-	100	-			
	Total	F	23	100	15	100	22	100	12	100	72	100			
%	32.0	-	20.8	-	30.5	-	16.7	-	100	-					
Tumkur	Male	F	7	50.0	6	37.5	8	42.1	7	53.8	28	45.2			
		%	25.0	-	21.4	-	28.6	-	25.0	-	100	-			
	Female	F	7	50.0	10	62.5	11	57.9	6	46.2	34	54.8			
		%	20.6	-	29.4	-	32.4	-	17.6	-	100	-			
	Total	F	14	100	16	100	19	100	13	100	62	100			
%	22.6	-	25.8	-	30.6	-	21.0	-	100	-					

Source: Field Survey Result, 2011 – 2013

Note: F-represents number of respondents, and % - Percentage to total of respective columns/rows.

From the above Table - 6.6, the highest card holders are male respondents in all the selected nine districts except in Chitradurga and Tumkur.

Table - 6.7: Plastic Money Convenience and Services

Factor	Public Sector Banks				Private Sector Banks				Grand Total	
	SBI		BOI		ICIC I		HDFC			
	N	%	N	%	N	%	N	%	N	%
Convenience	44	26.83	10	8.20	29	17.26	28	19.18	111	18.50
Reliability	33	20.12	26	21.31	23	13.69	19	13.01	101	16.83
Shopping Convenience	24	14.63	38	31.15	36	21.43	25	17.12	123	20.50
Easy and Fast Service	15	9.15	12	9.83	16	9.52	18	12.32	61	10.17
Withdrawal purposes	46	28.05	22	18.03	34	20.23	42	28.77	144	24.00
Helps family members	2	1.22	14	11.47	30	17.86	14	9.59	60	10.00
TOTAL	164	100	122	100	168	100	146	100	600	100

Sources: Field Survey Result, 2011 – 2013

In the above Table - 6.7 indicates that highest plastic money holders opined that they use their cards for withdrawal purposes which is clearly showed in the above table and about 144 (24.00 per cent) out of 600 respondents, 123 (20.50 per cent) use for shopping purposes, 111 (18.50 per cent) opined that it is very convenient, 101 (16.83 per cent) expressed that it is very reliable, 61 (10.17 per cent) felt holding and using is very easy and fast and finally 60 (10.00 per cent) felt that it helps the family members a lot.

Table - 6.8: Use of Plastic Money for Purchase

Factors	Public Sector Banks				Private Sector Banks				Grand Total	
	SBI		BOI		ICIC I		HDFC			
	N	%	N	%	N	%	N	%	N	%
Rarely (Few Times a year)	8	4.87	8	6.56	12	7.14	10	6.85	38	6.33
Occasionally (Once in a Month)	33	20.12	25	20.49	35	20.83	39	26.71	132	22.00
Frequently (Fortnightly)	56	34.14	36	29.51	56	33.33	35	23.97	183	30.50
Very Frequently (Almost Daily)	52	31.70	43	35.25	48	28.57	40	27.40	183	30.50
Can't Say	15	9.15	10	8.20	17	10.11	22	15.07	64	10.67
TOTAL	164	100	122	100	168	100	146	100	600	100

Sources: Field Survey Result, 2011 – 2013

From the Table – 6.8 it is indicated that 183 (30.50 per cent) Bank customers expressed that they use the Plastic Money very frequently (almost daily) or fortnightly. 132 (22.00per cent) said that they use occasionally or once in a month, 64 (10.67per cent) respondents doesn't express their opinion and 38 (6.33 per cent) said that they use cards very rarely.

Table - 6.9: Opinion Towards the Debit Cards

Plastic Money	Description	Public Sector Banks		Private Sector Banks		Grand Total	
		SBI	BOI	ICIC I	HDFC	N	%
Debit Cards	Economical	79	62	95	77	313	52.17
	Expensive	85	60	73	69	287	47.83
	TOTAL	164	122	168	146	600	100.00
Credit Cards	Expensive	112	68	103	96	379	63.17
	Economical	52	54	65	50	221	36.83
	TOTAL	164	122	168	146	600	100.00

Source: Field Survey Result, 2011–2013

The above table - 6.9 indicating the different opinion towards the debit and credit cards by the selected bank customers in the sample, clearly shows that the 313 (52.17 per cent)

respondents felt that holding the cards is economically good, whereas 287 (47.83 per cent) donot have any economic advantages. 379 (63.17 per cent) respondents said that credit cards are very expensive and on the other side 221 (36.83 per cent) expressed that it is not so expensive in holding or transacting with the Plastic Money.

Table - 6.10: Precautionary Measures While Using the Plastic Money Security

Precautionary Measures while using the Plastic Money Security	Response	Total	
		Total	Percent (%)
Knowledge about online threats	Yes	407	67.8
	No	193	32.2
	Total	600	100.0
Use of unsecured websites	Yes	390	65.0
	No	210	35.0
	Total	600	100.0
Written their PIN on their Card	Yes	373	62.2
	No	227	37.8
	Total	600	100.0
Change PIN once in two months	Yes	439	73.2
	No	161	26.8
	Total	600	100.0
Use birth date, Phone No., House No. as PIN	Yes	398	66.3
	No	202	33.7
	Total	600	100.0
Customer asked to update the information	Yes	386	64.3
	No	214	35.7
	Total	600	100.0
Avoiding carrying the Plastic money daily or regularly	Yes	417	69.5
	No	183	30.5
	Total	600	100.0
Limited use of Plastic Money	Yes	351	58.5
	No	249	41.5
	Total	600	100.0
Avoiding to carry or use on special occasions, crowds functions and festivals	Yes	360	60.0
	No	240	40.0
	Total	600	100.0
High secrecy in holding PIN or not disclosing the PIN	Yes	398	66.3
	No	202	33.7
	Total	600	100.0
Enabling the high security through the account	Yes	326	54.3
	No	274	45.7
	Total	600	100.0

Source: Field Survey Result, 2011–2013

The above table - 6.10, clearly indicates that the precautionary measures taken by the customers while using the Plastic Money is very high. 67.8 per cent are having thorough knowledge about the online threat and internet hacking while using their cards for various purposes in their daily life styles, 65.0 per cent agreed that they are not using the secured web portals for their online transactions when they use their debit and credit cards for their transactions and payments, 62.20 per cent write their PIN back of their cards which is insecure many a times, 73.20 per cent of the customers frequently change their PIN say two or three months once for their safety transactions and protect them from frauds and mishandling of the Plastic Money, 66.3 per cent of the respondents in the study use their birth date, Phone Number and House Number which indicates that it is insecure. 64.3 per cent of customers have agreed that they update the information, 69.5 per cent said that they avoid carrying the Plastic money daily or regularly, 58.5 per cent agreed that they use very limited plastic money for

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their routine activities, 60 per cent opined that they avoid carrying or using their bank cards on special occasions, crowd, functions and festivals, 66.3 per cent felt that the high secrecy in holding PIN or not disclosing the PIN to anyone and 54.30 per cent are enabling the high security through the account by the banks for their transactions.

Table - 6.11: Measures to be taken when Plastic Money Lost

Measures	Response	Total	
		Total	Percent (%)
Inform the bank officials	Yes	332	55.3
	No	268	44.7
	Total	600	100.0
Call to the toll Free Number	Yes	344	57.3
	No	256	42.7
	Total	600	100.0
Police Complaint	Yes	350	58.3
	No	250	41.7
	Total	600	100.0
Applying for new card	Yes	282	47.0
	No	318	53.0
	Total	600	100.0
Requesting the bank to block the Account immediately	Yes	366	61.0
	No	234	39.0
	Total	600	100.0
Immediately withdrawing the maximum amount deposited in the Bank account	Yes	397	66.2
	No	203	33.8
	Total	600	100.0
Transferring the amount to other bank account	Yes	321	53.5
	No	279	46.5
	Total	600	100.0
Asking the Banker to cancel the bank card	Yes	381	63.5
	No	219	36.5
	Total	600	100.0
Inform to Cyber Law Department to investigate	Yes	337	56.2
	No	263	43.8
	Total	600	100.0
Do Nothing	Yes	243	40.5
	No	357	59.5
	Total	600	100.0

Source: Survey Result, 2011 – 2013

The above figures help us to assess the customers to what an extent the customers are in trouble financially when they use Plastic Money for their payments, transactions, shopping, travel and dinner purposes. This in turn puts some of the customers into trouble psychologically and financially when they lose their money in their payment systems while making payments through National Electronic Fund Transfer(NEFT)/Real Time Gross Settlements (RTGS), internet banking, mobile banking activities etc., The above table - 6.11, shows the measures to be taken when the customers lose their Plastic Money. 55.3 per cent opined that they inform the bank officials immediately when they lose their Debit or Credit Cards to protect their accounts mishandling and fraudulent activities, 57.3 per cent felt to make a Call for the given number in fine Print/toll Free Numbers, 58.3 per cent opined to lodge Police Complaint, 47 per cent of the respondents felt that it's better to apply for a new card, 61 per cent customers opined that requesting the bank to block their account immediately, 66.2

per cent said that they immediately withdrawing the maximum amount deposited in the Bank account, 53.5 per cent expressed to transfer the amount to other bank account, 63.5 per cent felt to ask the banker to cancel the bank cards, 56.2 per cent felt to inform to the Cyber Law Department to investigate and only 40.5 per cent opined that nothing can be done. The above descriptive statistics indicates that to what extent the customers feel and get affected psychologically when they lose their cards. This helps the bankers as well as the customers to take the precautionary measures while using and carrying their Plastic Money for various purposes in their routine life.

Table - 6.12: Perception towards the Plastic Money

Area	Bank	HS	S	NSND	D	HD	Total
Bangalore Rural	State Bank of India	59	10	39	39	17	164
	Bank of India	58	5	23	27	9	122
	ICICI Bank	55	15	43	32	23	168
	HDFC	63	6	30	36	11	146
	Total	235	36	135	134	60	600
Bangalore Urban	State Bank of India	45	9	23	32	15	124
	Bank of India	77	9	38	40	20	184
	ICICI Bank	55	11	42	37	8	153
	HDFC	58	7	32	25	17	139
	Total	235	36	135	134	60	600
Chikkaballapur	State Bank of India	64	7	35	39	10	155
	Bank of India	54	13	36	34	17	154
	ICICI Bank	58	12	35	30	16	151
	HDFC	60	4	29	31	16	139
	Total	236	36	135	134	59	600
Davangere	State Bank of India	50	13	30	34	13	140
	Bank of India	72	10	47	39	17	185
	ICICI Bank	63	7	26	33	14	143
	HDFC	50	6	32	28	16	132
	Total	235	36	125	134	60	600
Chitradurga	State Bank of India	54	7	39	38	9	147
	Bank of India	70	11	43	42	18	184
	ICICI Bank	63	13	32	33	21	162
	HDFC	48	5	21	21	12	107
	Total	235	36	135	134	60	600
Kolar	State Bank of India	50	7	36	34	13	140
	Bank of India	72	13	40	43	16	184
	ICICI Bank	80	14	40	43	20	197
	HDFC	33	2	19	14	11	79
	Total	235	36	135	134	60	600
Ramanagar	State Bank of India	66	15	40	44	23	188
	Bank of India	81	11	44	40	13	189
	ICICI Bank	52	5	27	30	10	124
	HDFC	36	5	24	20	14	99
	Total	235	36	135	134	60	600
Shimoga	State Bank of India	58	13	38	38	29	176
	Bank of India	78	7	46	42	11	185
	ICICI Bank	64	8	27	34	11	144
	HDFC	35	7	24	20	9	95
	Total	235	36	135	134	60	600
Tumkur	State Bank of India	57	8	32	41	15	153
	Bank of India	62	14	31	34	19	160
	ICICI Bank	61	9	41	27	14	152
	HDFC	55	5	31	32	12	60
	Total	235	36	135	134	60	600

Source: Field Survey Result, 2011 – 2013, Note: HS – Highly Satisfied, S – Satisfied, NSND – Neither Satisfied nor Dissatisfied, D – Dissatisfied and HD – Highly dissatisfied

The above table presenting the perception towards the Plastic Money in selected public and private sector Banks, indicate that 235 respondents are strongly satisfied with the use of Plastic Money, 36 cardholders are just satisfied, 135 respondents are neither satisfied nor dissatisfied and these respondents are neutral, 134 cardholders are dissatisfied and 60 bank cardholders are strongly dissatisfied with the plastic money. By this statistics, it is clear that the Plastic Money holder's perception is positive.

Table - 6.13: Inconvenience and Problems Encounter with Use of ATMs by the Customers

Description	Almost Always	Often	Some times	Rarely	Almost Never	Total
ATM not able to print slips when demanded	60 (10.0%)	106 (17.7%)	152 (25.3%)	186 (31.0%)	96 (16.0%)	600 (100%)
ATM not releasing card	82 (13.7%)	76 (13.7%)	82 (13.7%)	248 (41.3%)	112 (13.7%)	600 (100%)
ATM running out of money	78 (13.0%)	82 (13.7%)	162 (27.0%)	214 (35.7%)	64 (10.7%)	600 (100%)
ATM working too slowly	136 (23.0%)	116 (19.3%)	110 (18.3%)	188 (31.3%)	48 (8.0%)	600 (100%)
Incorrect amount of Cash Dispensed	108 (18.0%)	114 (19.0%)	96 (16.0%)	226 (38.0%)	54 (9.0%)	600 (100%)
Inserting card incorrectly	108 (18.0%)	108 (18.0%)	134 (22.3%)	200 (33.3%)	50 (8.3%)	600 (100%)
Limit on daily withdrawal	78 (13.0%)	82 (13.7%)	162 (27.0%)	214 (35.7%)	64 (10.7%)	600 (100%)
No above problems	74 (12.3%)	90 (15.0%)	128 (21.3%)	218 (36.3%)	90 (15.0%)	600 (100%)
Non availability of Deposit Envelopes	64 (10.7%)	110 (18.3%)	144 (24.0%)	222 (37.0%)	60 (10.0%)	600 (100%)
Not being able to read from the screen well	60 (10.0%)	106 (17.7%)	152 (25.3%)	186 (31.0%)	96 (16.0%)	600 (100%)
Other ATM Problems	74 (12.3%)	90 (15.0%)	128 (21.3%)	218 (36.3%)	90 (15.0%)	600 (100%)
The print on the slip is too small to read	64 (10.7%)	110 (18.3%)	144 (24.0%)	222 (37.0%)	60 (10.0%)	600 (100%)
Unclear instructions / terms used on ATM	108 (18.0%)	108 (18.0%)	134 (22.3%)	200 (33.3%)	50 (8.3%)	600 (100%)
Wait in long queues	82 (13.7%)	76 (13.7%)	82 (13.7%)	248 (41.3%)	112 (13.7%)	600 (100%)

Source: Field Survey Result, 2011–2013

The above table clearly indicates that the customers of selected banks of southern region Karnataka, expressed that the problems are very rarely found, difficulties in the ATM counter, inconvenience and problems encountered while using ATMs by the customers are not very regularly affecting their operational activities.

Table - 6.14: Purpose of Plastic Money

Payment of Cards - Most Preferred	Public Sector Banks		Private Sector Banks		Total
	SBI Bank	BOI Bank	ICICI Bank	HDFC Bank	
Shopping	65 (39.63%)	46 (37.70%)	62 (36.91%)	35 (23.97%)	208 (34.67%)
Dinner	39 (23.78%)	26 (21.31%)	33 (19.64%)	39 (26.71%)	137 (22.83%)
Travelling	34 (20.73%)	40 (32.79%)	55 (32.73%)	42 (28.76%)	171 (28.50%)
Others if any specify	26 (15.85%)	10 (8.20%)	18 (10.71%)	30 (20.55%)	84 (14.00%)
Total	164 (100%)	122 (100%)	168 (100%)	146 (100%)	600 (100%)

Source: Field Survey Result, 2011 – 2013, Note: Numbers mentioned in the parenthesis represents the percentages and the % - Percentage to total of respective columns.

In the above Table – 6.14, the purposes of Plastic Money are mainly classified into three major categories viz shopping, dinner and travelling, of which the cardholders use their card for shopping which accounts to 208 (34.67 per cent), 137 (22.83 per cent) use for the purposes of dinner, 171 (28.50 per cent) use for the purposes of travelling and rest of the cardholders for other purposes which accounts to 84 (14.00 per cent).

Table - 6.15: Opinion about the Plastic Money

Description	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Total
Flawless/Correct Operations	248 (41.3%)	82 (13.7%)	76 (13.7%)	82 (13.7%)	112 (13.7%)	600 (100%)
Speed of Conducting operations	200 (33.3%)	108 (18.0%)	108 (18.0%)	134 (22.3%)	50 (8.3%)	600 (100%)
Easy Handling of Plastic Money	214 (35.7%)	78 (13.0%)	82 (13.7%)	162 (27.0%)	64 (10.7%)	600 (100%)
Knowledge about the products and Services	186 (31.0%)	60 (10.0%)	106 (17.7%)	152 (25.3%)	96 (16.0%)	600 (100%)
Understanding the benefits involved in operating with any ATMs	222 (37.0%)	64 (10.7%)	110 (18.3%)	144 (24.0%)	60 (10.0%)	600 (100%)
ATM Skills/Positive approach towards Plastic Money	218 (36.3%)	74 (12.3%)	90 (15.0%)	128 (21.3%)	90 (15.0%)	600 (100%)
General Assessment about the Service	188 (31.3%)	136 (23.0%)	116 (19.3%)	110 (18.3%)	48 (8.0%)	600 (100%)
Others if any	226 (38.0%)	108 (18.0%)	114 (19.0%)	96 (16.0%)	54 (9.0%)	600 (100%)

Source: Field Survey Result, 2011 – 2013

Note: Numbers mentioned in the parenthesis represents the percentages and the % - Percentage to total of respective columns/rows.

From the above table 6.15, the opinion about the plastic money are rated in the five likert scale method. It is clearly indicated from the above statistics that 41.3 per cent respondents strongly disagreed that use of Plastic Money is flawless/correct operations which is the opinioned high from the above data, followed by 37 per cent respondent opined that understanding the benefits involving in operation with any ATMs are not agreed. From the above table, it is notice that all the respondents strongly disagree with the plastic money's uses and benefits in different ways like speed of conducting operations, easy handling, knowledge about the products and services, ATMs skills/Positive approach towards Plastic Money and other general assessment about the services.

Table - 6.16: ANOVA Opinion about the Plastic Money

ANOVA						
A						
Opinion about the Plastic Money	Groups	Sum of Squares	df	Mean Square	F	Sig.
Flawless/Correct Operations	Between Groups	.001	2	.001	.000	(A).986
	Within Groups	1480.693	598	2.476		
	Total	1480.693	599			
Speed of Conducting operations	Between Groups	15.821	2	15.821	8.592	.004
	Within Groups	1101.053	598	1.841		
	Total	1116.873	599			
Easy Handling of Plastic Money	Between Groups	4.503	2	4.503	2.121	.146
	Within Groups	1269.737	598	2.123		
	Total	1274.240	599			
Knowledge about the products and Services	Between Groups	2.327	2	2.327	1.050	(D).306
	Within Groups	1324.767	598	2.215		
	Total	1327.093	599			
Understanding the benefits involved in operating with any ATMs	Between Groups	.003	2	.003	.002	(B).969
	Within Groups	1236.770	598	2.068		
	Total	1236.773	599			
ATM Skills/Positive approach towards Plastic Money	Between Groups	2.091	2	2.091	.917	(C).339
	Within Groups	1363.903	598	2.281		
	Total	1365.993	599			
General Assessment about the Service	Between Groups	9.285	2	9.285	5.419	.020
	Within Groups	1024.608	598	1.713		
	Total	1033.893	599			
Others if any	Between Groups	8.692	2	8.692	4.694	.031
	Within Groups	1107.308	598	1.852		
	Total	1116.000	599			

Source: Field Survey Result, 2011–2013

In this case, F statistic calculated from the data would arrive by chance if the null hypothesis was true with a probability of 0.008, will reject the null hypothesis and conclude that there are differences of some sort in opinion from the respondents towards the plastic money based on the degree of usage in the selected sample area,. By simply inspecting the means in the descriptive table, got with the ANOVA output, and should suspect that the difference between the low and high difference of opinions groups might be significant, since that is the biggest difference, but how about the difference between the low and the medium groups. This is the information that can be got from our multiple comparison tests.

From (A) in the table - 6.16, the p-value for the main effect of field of study is 0.986 and therefore the effect of field of study towards the Flawless/Correct Operations is not significant. It is concluded that on an average, the opinions of the respondents towards the plastic money both including debit and credit cards are the same. From (B), the p-value for proximity is 0.969, can be therefore concluded that the main effect of understanding the benefits involved in operating with any ATMs is significant. From (C), the p-value for the interaction is 0.339; the ATM Skills/Positive approach towards Plastic Money is significant and it can be concluded that the effect of understanding the benefits involved in operating with any ATMs are not the same and from (D) the p-value for the interaction is 0.306; Knowledge about the products and services is significant.

Table - 6.17: Plastic Money Security

Plastic Money Security	Public Sector Banks				Private Sector Banks				Grand Total	
	SBI Bank		BOI Bank		ICICI Bank		HDFC Bank			
	N	%	N	%	N	%	N	%	N	%
Not at all Secured	23	14.02	24	19.67	35	20.83	15	10.27	97	16.17
less Secured	36	21.95	26	21.31	33	19.64	32	21.91	127	21.17
Secured	25	15.24	12	9.84	25	14.88	32	21.91	94	15.66
Moderately Secured	34	20.73	48	39.34	36	21.43	32	21.91	150	25.00
Highly Secured	46	28.05	12	9.8	39	23.21	35	23.97	132	22.00
Total	164	100	122	100	168	100	146	100	600	100

Field Survey Result, 2011–2013

Note: Numbers mentioned in the parenthesis represents the percentages and the % - Percentage to total of respective columns/rows.

From the above Table – 6.17, 97 (16.17 per cent) of respondents opined that Plastic Money is not at all secured, 127 (21.17 per cent) expressed that less secured, 94 (15.66 per cent) felt that secured, 150 (25.00 per cent) said that moderately secured and 132 (22.00 per cent) Plastic Money holder felt highly secured.

Table - 6.18: ANOVA Plastic Money Security

ANOVA						
A						
Reasons for preferring the Bank Cards	Groups	Sum of Squares	df	Mean Square	F	Sig.
Less Processing Time	Between Groups	35.528	6	7.106	3.131	.008
	Within Groups	1348.065	594	2.269		
	Total	1383.593	600			
Convenient Branch Location	Between Groups	74.849	6	14.970	8.362	.000
	Within Groups	1063.445	594	1.790		
	Total	1138.293	600			
Security of Documents	Between Groups	58.749	6	11.750	5.684	.000
	Within Groups	1227.891	594	2.067		
	Total	1286.640	600			
Loyalty Rewards	Between Groups	63.136	6	12.627	6.192	.000
	Within Groups	1211.338	594	2.039		
	Total	1274.473	600			
Advisory Services	Between Groups	68.132	6	13.626	6.675	.000
	Within Groups	1212.528	594	2.041		
	Total	1280.660	600			
Brand Image	Between Groups	114.642	6	22.928	11.021	.000
	Within Groups	1235.831	594	2.081		
	Total	1350.473	600			
Quick Response	Between Groups	53.813	6	10.763	5.707	.000
	Within Groups	1120.181	594	1.886		
	Total	1173.993	600			
Friendly Staff	Between Groups	68.266	6	13.653	6.476	.000
	Within Groups	1252.394	594	2.108		
	Total	1320.660	600			
Wide Range of Services offered	Between Groups	98.519	6	19.704	10.804	.000
	Within Groups	1083.314	594	1.824		
	Total	1181.833	600			
Good Branch Network	Between Groups	22.513	6	4.503	2.412	.035
	Within Groups	1109.027	594	1.867		
	Total	1131.540	600			
High speed of Transaction	Between Groups	37.334	6	7.467	4.513	.000
	Within Groups	982.864	594	1.655		
	Total	1020.198	600			
High Security	Between Groups	11.421	6	2.284	1.561	(B).169
	Within Groups	868.952	594	1.463		
	Total	880.373	600			
International Presence	Between Groups	21.160	6	4.232	2.349	.040
	Within Groups	1070.173	594	1.802		
	Total	1091.333	600			
Private Banking	Between Groups	24.012	6	4.802	1.954	.084
	Within Groups	1459.828	594	2.458		
	Total	1483.840	600			
Better Pension Scheme	Between Groups	17.870	6	3.574	1.747	(C).122
	Within Groups	1215.128	594	2.046		
	Total	1232.998	600			
Insurance Services	Between Groups	4.566	6	.913	.521	(A).760
	Within Groups	1041.107	594	1.753		
	Total	1045.673	600			
Many cash –Machines (ATMs)	Between Groups	22.798	6	4.560	2.268	.046
	Within Groups	1194.067	594	2.010		
	Total	1216.865	600			
Others if any	Between Groups	15.855	6	3.171	1.874	.097
	Within Groups	1005.239	594	1.692		
	Total	1021.093	600			

From (A) in the table - 6.18, the p-value for the main effect of field of study is 0.760 and therefore the effect of field of study towards the Insurance Services is not significant. It can conclude that on average, the opinions of the respondents towards the reasons for preferring the Bank Cards are the same.

From (B), the p-value for High Security is 0.169; and from (C), the p – value for the interaction is 0.122; Better Pension Scheme is significant and thereason for preferring the Bank Cards is significant.

Testing of Hypothesis and Results

Statistical Analysis of Impact of Plastic Money on the selected bank Customers in Karnataka

A. Construction of Questionnaire

Based on suggestions given by experts from banking sector, the questionnaire was modified and the number of items was reduced to 65 variables to be responded on a five (5) point likert scale. Then, a pilot study was done in which the questionnaire was tried out on a sample of 50 Plastic Card holders of both private and public banks. The reliability and the validity of the questionnaire were thus established.

B. Scoring

The questionnaire consisted of 60 items/questions. No reverse scoring item is given in the questionnaire. The scoring was on a five point Likert scale from one (1) to five (5). For a response Level of Influence or Impact – the scoring was one (1), the response for Not at all Influential – the scoring was two (2), Slightly Influential – the scoring was three (3), Somewhat Influence – the scoring was four (4), Very Influential and Extremely Influential – the scoring was five (5). Whereas the responses for “Strongly Agree, the scoring was five (5), for the response of 'Agree' the scoring was four (4), for the response of 'Neutral' the scoring was three, for the response of 'Disagree' the scoring was two (2), for the response of 'Strongly Disagree' the scoring was one (1). On the other hand, for few items, the likert scale scoring is: for the response of “Not at all satisfied, the scoring was one (1), for the response of 'Moderately Satisfied' the scoring was two, for the response of 'Can't Say' the scoring was three (3), for the response of 'Satisfied' the scoring was four (4), for the response of 'Very Much Satisfied' the scoring was five (5).

C. Sample and Data Collection

The researcher personally collected data from a total of 600 respondents in which the selected Plastic Money holders of both Public Sector Banks and Private Sector Banks are considered. The questionnaire was personally administered to all of them. Clear-cut instructions were given to fill up the responses to the items in the tool. Respondents were

assured that the information that they share will be used for academic research purpose only and will be kept confidential. After collection of questionnaires, data was entered and systematically used for further analysis.

D. Item Analysis

The questionnaire initially had about 60 items capturing the data on a five point likert scale. However, it was felt that there were too many items for statistical test to allow for appropriate statistical analysis, and hence it was decided to drop certain items. Accordingly, on judgmental analysis, pair of items with same underlying meaning was chosen and dropped.

Table - 6.19: Total Number of Items Considered for Statistical Analysis

Sl. No.	Descriptions	No. of Items
01.	Total items considered for the study	60
02.	Items with more than 75 percent of respondents agreeing or disagreeing	06
03.	Pair of items with same underlying meaning and also not of higher importance to analysis	05
04.	Items with inter – correlation less than 0.25	06
05.	Sub – Total	17
Total items considered (Sl. No. (1) – Sl. No. (5) or [60 – 17 = 43]		43

Source: Survey Data, 2012 – 13

In addition, those items with lesser importance to analysis were dropped based on researcher judgement. Next, for those items where in more than 75 per cent of responses favouring either “Agree” or “Strongly Agree” was not considered. This is due to skewness [Non – Uniformity] of responses. Thus, a total of 43 items were finally included for analysis.

E. Data Reduction Technique – Factor Analysis

Factor analysis are of two forms; Exploratory factor analysis which tries to find the nature of the constructs influencing a set of responses and Confirmatory Factor Analysis which tests whether a specified set of constructs is influencing responses in a predicted way (De Coster, 1998, p.1). In present study, the Confirmatory Factor Analysis is used, as already the number of dimensions is decided.

F. Confirmatory Factor Analysis (CFA)

As pointed out earlier, by using the Confirmatory Factor Analysis (CFA) with the number of dimensions, it is possible to place substantively meaningful constraints on the factor model. Researchers can specify the number of factors or set the effect of one latent variable on observed variables to particular values. CFA allows researchers to test hypothesis about a

particular factor structure (e.g., factor loading between the first factor and first observed variable is zero). Unlike Exploratory factor Analysis (EFA), CFA produces many goodness-of-fit measures to evaluate the model but do not calculate factor scores.

G. Data Analysis

The measurement model, giving relationships between latent variables and observed variables, aims to provide reliability and validity based on these variables. A Confirmatory Factor Analysis (CFA) using AMOS 20.0 was conducted to test the measurement model. It is necessary to test that the measurement model has a satisfactory level of validity and reliability before testing for a significant relationship in the general regression model (Fornell & Larcker, 1981; Ifinedo, 2006). With this background, a CFA has been carried out and presented below.

Testing of Hypothesis - I

01. **H₁**: The changes in the duration of holdings of plastic money are significantly influenced by socio – cultural, psychological, economic and financial aspects.

(a) CFA for Socio Cultural Dimension

Firstly, CFA was conducted for the items for each unobserved or latent variable (unobserved) which is shown in CFA diagram (See Figure – 6.1) below. Accordingly, four factors or components have eigenvalues more than one. Hence, four (See Table – 6.20) are considered. Based on the underlying meaning of the item, the first component (comprising of three items) could be termed as “**Adverse Impact on Lifestyle (AILS)**”, the second factor (comprising of six items) as “**Social Diversity and Spending Behaviour (SDSB)**”, third factor (comprising of four items) as “**Cultural Sovereignty (CS)**” and Fourth factor (comprising of three items) as “**Cultural Affinity (CA)**”.

H_{1a}: **Adverse Impact on Lifestyle (AILS)** of cultural dimension has significant impact on usage of Plastic Money.

H_{2a}: **Social Diversity and Spending Behaviour (SDSB)** of cultural dimension has significant impact on usage of Plastic Money.

H_{3a}: **Cultural Sovereignty (CS)** of cultural dimension has significant impact on usage of Plastic Money.

H_{4a}: **Cultural Affinity (CA)** of cultural dimension has significant impact on usage of Plastic Money.

Figure 6.1: Measurement Model for Socio–Cultural Dimension

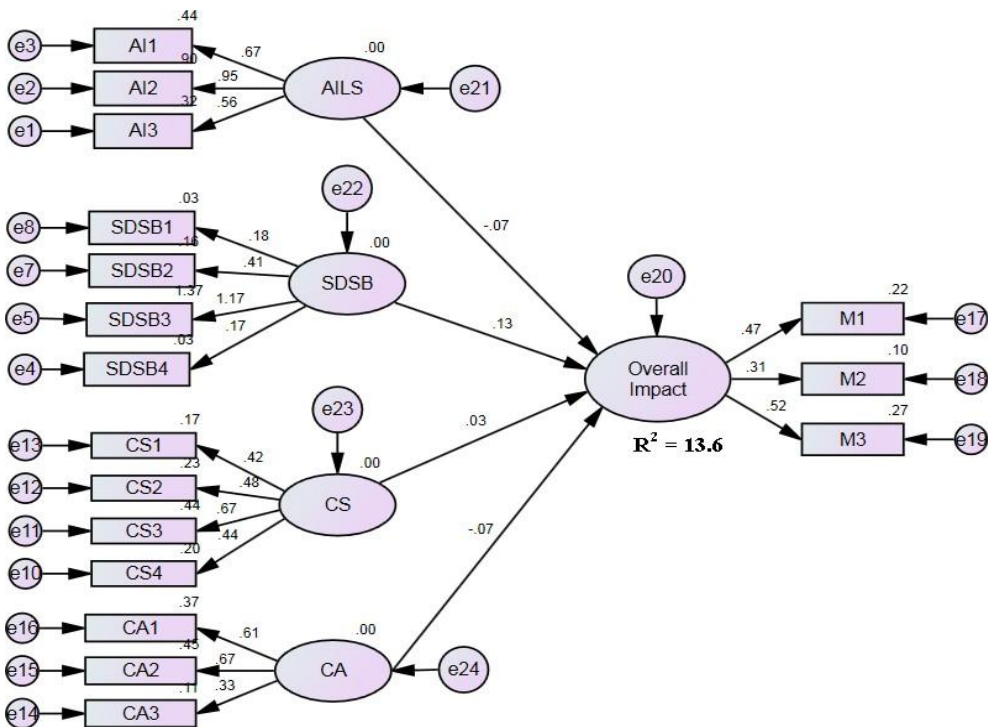


Table - 6.20: Measurement of Instruments

Adverse Impact on Life Style (AILS)		
AI1	:	Affect Family Relationship
AI2	:	Forcing to Disclose the Password
AI3	:	Increases the Credit Purchases
Social Diversity and Spending Behaviour (SDSB)		
SDSB1	:	Pride and Vanity
SDSB2	:	Social Diversity, Assets and Livelihood
SDSB3	:	Affects the spouse relationship
SDSB4	:	Increase the Spending habits
Cultural Sovereignty (CS)		
CS1	:	Increases the Cultural Freedom
CS2	:	Privacy as the control of Personal Identification Number (PIN)
CS3	:	User – Centered perspectives on social security
CS4	:	Effects of Globalisation on Macro – Economic Balances
Cultural Affinity (CA)		
CA1	:	Increases Socio – Culture Affinity
CA2	:	Change in Perception with the cultural resemblances
CA3	:	Strengthening civil society to enhance accountability of service
Overall Impact		
M1	:	Felt that there is negative impact on social life style while using plastic money
M2	:	Felt that with the increase in usage of plastic money, there is force in terms of cultural, economic and psychological change in traditional banking systems
M3	:	Feel that the satisfied Cultural, Economical and Psychological values have increased With holding of plastic money in their routine life styles

The Measurement Model

A Confirmatory Factor Analysis (CFA) using AMOS 20.0 was conducted to test the measurement model. It is necessary to test that the measurement model has a satisfactory level of validity and reliability before testing for a significant relationship in the structural model (Fornell and Larcker, 1981; Ifinedo, 2006). The psychometric properties of socio – cultural factors in the measurement model in terms of reliability, convergent validity and discriminate validity was evaluated and presented in the Table – 6.21.

Table - 6.21: (a). Reliability and Item Loadings Constructs

Measured Variables	Items	Standardized Loadings	Composite Reliability	Average Variance Extracted
Adverse Impact on Life Style (AILS)	AILS1	0.561	0.737	0.572
	AILS2	0.950		
	AILS3	0.665		
Social Diversity and spending Behaviour (SDSB)	SDSB1	0.185	0.716	0.479
	SDSB2	0.405		
	SDSB3	1.172		
	SDSB4	0.173		
Cultural Sovereignty (CS)	CS1	0.416	0.689	0.220
	CS2	0.481		
	CS3	0.665		
	CS4	0.442		
Cultural Affinity (CA)	CA1	0.605	0.602	0.387
	CA2	0.673		
	CA3	0.332		
Overall Impact (M) / (PMSC)	PMSC1	0.468	0.654	0.237
	PMSC2	0.310		
	PMSC3	0.524		

Table - 6.22: (b) Correlation between the Factors

Measured Variables	(1) AILS	(2) SDS B	(3) CS	(4) CA	(5) M
Adverse Impact on Life Style (AILS)	1.000				
Social Diversity and spending Behaviour (SDSB)	0.405*	1.000			
Cultural Sovereignty (CS)	0.073	0.198*	1.000		
Cultural Affinity (CA)	0.097*	0.223*	0.107*	1.000	
Overall Impact (M) / (PMSC)	0.013	0.058	0.028	-0.013	.000

* Significant at 5 % level

Construct Reliability (CR)

Composite reliability was used to measure the reliability of a construct in the measurement model. CR offers a more retrospective approach of overall reliability and estimates consistency of the construct itself including the stability and equivalence of the construct (Hair, Black,

Babin, Anderson, and Tatham, 2010). The formula to calculate CR is $(\sum \text{standardized loading})^2 / (\sum \text{standardized loading})^2 + \sum \epsilon_j$ (where ϵ = error variance and Σ is summation). A value of 0.70 or greater is deemed to be indicative of good scale reliability (Hair et al., 2010). Table – 6.21 portrays the result of the calculated composite’s reliability to support construct reliability. The reading of composite reliability of all latent variables is close to 0.70 and suggests that all latent variables have good reliability.

The Structural Model

The test of the structural model was performed using SEM in order to examine the hypothesized conceptual framework by performing a simultaneous test. Table – 6.23 depicts that the goodness – of – fit for the model was met, Chi – Square/df = 3.012, CFI = 0.897, GFI = 0.843, AGFI=0.807, NFI=0.916 and RMSEA=0.060. The overall values provided evidence of a good model fit. All of the model-fit indices exceed the respective common acceptance levels suggested by previous research, following the suggested cut – off value, demonstrating that the model exhibited a good fit with the data collected. Thus it was possible to proceed to examine the path coefficients.

Table - 6.23: (a). Goodness–of–fit Indices for Structural Model

Fit Indices	Accepted Value	Model Value
Absolute Fit Measures		
χ^2 (Chi-square)		430.94
df (Degrees of Freedom)		138
Chi-square/df (χ^2/df)	< 3	3.012
GFI (Goodness of Fit Index)	> 0.9	0.807
RMSEA (Root Mean Square Error of Approximation)	< 0.10	0.060
Incremental Fit Measures		
AGFI (Adjusted Goodness of Fit Index)	> 0.80	0.832
NFI (Normed Fit Index)	> 0.90	0.916
CFI (Comparative Fit Index)	> 0.90	0.897
IFI (Incremental Fit Index)	> 0.90	0.861
RFI (Relative Fit Index)	> 0.90	0.857
Parsimony Fit Measures		
PCFI (Parsimony Comparative of Fit Index)	> 0.50	0.612
PNFI (Parsimony Normed Fit Index)	> 0.50	0.796

Properties of the causal paths for the structural model (standardized path coefficients (β), standard error, and hypotheses result) are signified in Table – 6.24. The square multiple correlations for the structural equations index connotes that the predictors **Adverse Impact on Life Style, Social Diversity and Spending Behaviour, Cultural Sovereignty and Cultural Affinity** have together explained only 13.1 per cent of the variance in Cultural Impact.

Table - 6.24: (a). Summary of Hypotheses Testing Results

Path			Estimate (β)	S.E.	C.R.	<i>p</i>	Results
Cultural Impact (H ₁)	<--	AILS	-0.007	0.066	-1.231	0.218	Not Supported
Cultural Impact (H ₂)	<--	SDSB	0.136	0.208	1.939	0.053*	Supported
Cultural Impact (H ₃)	<--	CS	0.030	0.119	.070	0.944	Not Supported
Cultural Impact (H ₄)	<--	CA	-0.073	0.124	-1.012	0.312	Not Supported
Overall PM on SC	<--	Socio – Culture	0.674	0.184	3.663	0.000*	Supported

Note: β = standardised beta coefficients; S.E. = standard error; C.R. = critical ratio; * $p < 0.05$

Hypotheses H_{1a}, H_{2a}, H_{3a} and H_{4a} postulate the associations between cultural impact with the Plastic Money and four predictors of culture dimension namely **Adverse impact on Life Style (AILS)**, **Social Diversity and Spending Behaviour**, **Cultural Sovereignty** and **Cultural Affinity**.

As evident from Table – 6.24, cultural impact is not significantly ($p > 0.05$) influenced by any of the predictors of cultural dimensions except for one predictor namely **Social Diversity and Spending** ($\beta_2 = 0.136$) which had significant cultural impact on usage of plastic money at 5 per cent level of significance.

(b) CFA for Economic Dimension

Similar to the cultural impact dimension, the economic dimension has also been derived using CFA and the grouping of items is presented in table – 6.25 mentioned below. Based on the underlying meaning of each item, the first component (comprising of three items) is termed as “**Impact on Economy (IoE)**”, the second factor (comprising of four items) as “**Scarcity of Funds (SoF)**”, third factor (comprising of four items) as “**Economic Recession (ER)**” and fourth factor (comprising of four items) as “**Consumption Habit (CH)**”. The measurement model is depicted in Figure – 6.2.

H_{1b} : Impact on Economy (IoE) of Economic dimension has significant impact on usage of Plastic Money.

H_{2b} : Scarcity of Funds (SoF) of Economic dimension has significant impact on usage of Plastic Money.

H_{3b} : Economic Recession (ER) of Economic dimension has significant impact on usage of Plastic Money.

H_{4b} : Consumption Habit (CH) of Economic dimension has significant impact on usage of Plastic Money.

Table - 6.25: Measurement of Instruments of Economic (Financial aspects) Dimension

Impact on Economy (IoE)	
IoE1	: Credit Card/Debit cards transaction in country over cash transaction will help to curb black Money circulation in economy.
IoE2	: In future the Plastic Money penetrations will be more in the society.
IoE3	: The Plastic money will affect the economy and growth of the nation.
Scarcity of funds (SoF)	
SoF1	: Due to lack of funds the card holders may not be able to utilize their Plastic Money services effectively provided by the banks.
SoF2	: The scarcity of funds is a major problem to the Plastic Money holders.
SoF3	: The scarcity of Plastic Money among the customers affects the economic Development.
SoF4	: The economic development of the plastic Money affects the financial inclusion of the Country.
Economic Recession (ER)	
ER1	: Thinking that the turndown value of economic affect the policy makers in designing the cards to the bank customers.
ER2	: The Economic recession leads to the financial problems among the customers.
ER3	: The unemployment affecting the purchasing power of the cardholders.
ER4	: Felt that unemployment leads to difficulty in getting cards and find complicity in holding the credit and debit cards.
Consumption Habits (CH)	
CH1	: Due to lack of saving habits among the card holders leads to the difficulties in possession and usages of cards.
CH2	: Feeling that the consumption pattern changes if you use the Plastic Money Frequently.
CH3	: Thinking and the consumption of the different cards lead to improve in your economic status.
CH4	: Feeling of skillfulness in performing tasks and perception of impacting work outcomes in employees lead to high level of commitment of employees with Organization.
Overall Impact (M)	
M1	: Felt that there would be negative impact on social life style using Plastic Money.
M2	: Felt that with increase in usage of plastic money, there is an impact of change in traditional banking.
M3	: Felt that the satisfaction of Cultural, Economical and Psychological values has increased with holding of Plastic Money.

Figure 6.2: Measurement Model for Economic Dimension (Financial Aspects)

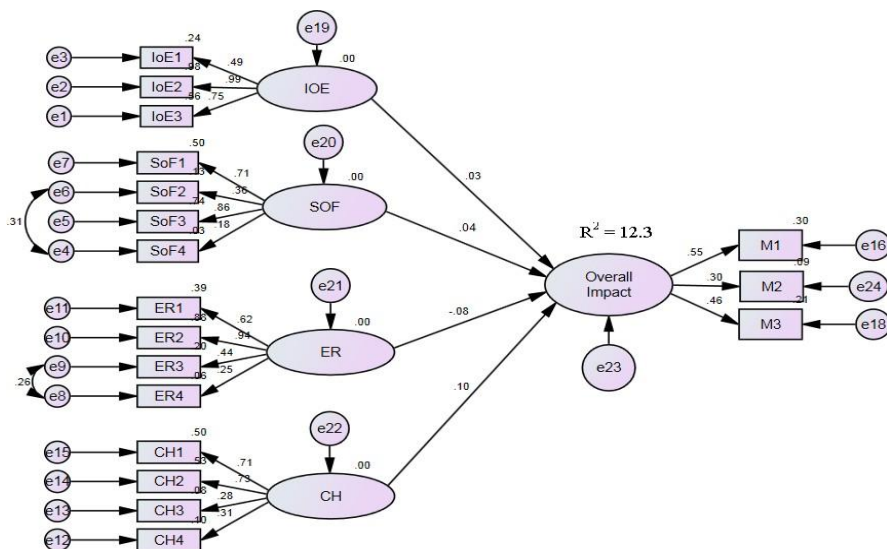


Table - 6.26: (b) Reliability and Item Loadings Constructs

Measured Variables	Items	Standardized Loadings	Composite Reliability	Average Variance Extracted
Impact on Economy (IoE)	IoE1	0.514	0.772	0.684
	IoE2	0.948		
	IoE3	0.775		
Scarcity of funds (SoF)	SoF1	0.703	0.636	0.598
	SoF2	0.358		
	SoF3	0.863		
	SoF4	0.176		
Economic Recession (ER)	ER1	0.621	0.666	0.535
	ER2	0.940		
	ER3	0.444		
	ER4	0.255		
Consumption Habits (CH)	CH1	0.706	0.558	0.432
	CH2	0.729		
	CH3	0.281		
	CH4	0.315		
Overall Impact (M) / (PMSE)	PMSE1	0.456	0.401	0.452
	PMSE2	0.296		
	PMSE3	0.549		

Table - 6.27: (b) Correlation between the Factors

Measured Variables	(1) IoE	(2) SoF	(3) ER	(4) CH	(5) (M)
(1) Impact on Economy (IoE)	1.000				
(2) Scarcity of funds (SoF)	- 0.091*	1.000			
(3) Economic Recession (ER)	0.031	0.012	1.000		
(4) Consumption Habits (CH)	- 0.075	0.093*	0.010	1.000	
(5) Overall Impact (M)/(PMSE)	0.035	- 0.040	- 0.049	- 0.049	1.000

Construct Reliability

Table - 6.26 portrays the result of the calculated composite’s reliability to support construct reliability. The reading of composite reliability of all latent variables is close to 0.70 and suggests that all latent variables have good reliability.

The Structural Model

The test of the structural model was performed using SEM in order to examine the hypothesized conceptual framework by performing a simultaneous test. Table – 6.28 depicts that the goodness – of – fit for the model was met, Chi – square/df = 1.783, CFI = 0.952, GFI = 0.813, AGFI = 0.785, NFI = 0.898 and RMSEA = 0.036.

Table - 6.28: (b) Goodness-of-fit Indices Economic Dimension (Financial Aspects)

Fit Indices	Accepted Value	Model Value
Absolute Fit Measures		
χ^2 (Chi-square)		222.848
df (Degrees of Freedom)		125
Chi-square/df (χ^2/df)	< 3	1.783
GFI (Goodness of Fit Index)	> 0.9	0.813
RMSEA (Root Mean Square Error of Approximation)	< 0.10	0.036
Incremental Fit Measures		
AGFI (Adjusted Goodness of Fit Index)	> 0.80	0.785
NFI (Normed Fit Index)	> 0.90	0.898
CFI (Comparative Fit Index)	> 0.90	0.952
IFI (Incremental Fit Index)	> 0.90	0.958
RFI (Relative Fit Index)	> 0.90	0.875
Parsimony Fit Measures		
PCFI (Parsimony Comparative of Fit Index)	> 0.50	0.531
PNFI (Parsimony Normed Fit Index)	> 0.50	0.487

The overall values provided evidence of a good model fit. All of the model-fit indices exceed the respective common acceptance levels suggested by previous research, following the suggested cut-off value, demonstrating that the model exhibited a good fit with the data collected. Thus it was possible to proceed to examine the path coefficients.

Properties of the causal paths for the structural model (standardized path coefficients (β), standard error, and hypotheses result) are signified in Table - 6.29. The square multiple correlation for the structural equations index connotes that the predictors **Impact on Economy (IoE), Scarcity of funds (SoF), Economic Recession (ER) and Consumption Habits (CH)** have together explained only 12.3 per cent of the variance in Economic (Financial aspects) Impact.

Table - 6.29: Summary of Hypotheses Testing Results

Path	Estimate (β)	S.E.	C.R.	p	Results
Economic Impact <--- IoE	0.026	.048	.407	0.684	Not Supported
Economic Impact <--- SoF	0.040	.666	.057	0.955	Not Supported
Economic Impact <--- ER	-0.085	.424	-1.260	0.208	Not Supported
Economic Impact <--- CH	0.099	.343	1.298	0.194	Not Supported
PM on SE <--- Socio – Economic	0.456	.048	.407	0.684	Not Supported

Note: β = standardised beta coefficients; S.E. = standard error; C.R. = critical ratio; * $p < 0.05$

As evident from Table - 6.29, Economic impact is not significantly ($p > 0.05$) influenced by any of the Predictors of Economic dimensions (Financial aspects) on usage of Plastic Money. All in all, Hypothesis H_{1b}, H_{2b}, H_{3b} and H_{4b} targeting the Economic and financial dimension,

which then impacts on usage of Plastic Money. Hence, the proposed hypothesis is not supported, $p > 0.05$.

(c) Psychological Dimension

Similar to the Economic impact dimension, the psychological dimension has also been derived using CFA and the grouping of items is presented in table - 6.30. Based on the underlying meaning of each item, the first component (comprising of four items) is termed as “**Psychosomatic Common Position (PCP) or (Emotional Status)**” the second factor (comprising of three items) as “**Security and Verification Issues (SVI)**”, third factor (comprising of four items) as “**Authority of the Plastic Money holders (APM)**”. The measurement model is depicted in Figure 6.3.

Table - 6.30: Measurement of Instruments of Psychological Dimension

Psychosomatic Common Position (PCP) or (Emotional Status)	
PCP1	: Due to the low level income, it is not able to use your plastic money effectively to the maximum benefits in you routine transactions and activities and it will affect you mind set.
PCP2	: The usage of Plastic Money (Debit and Credit Cards) increase you social status.
PCP3	: Are you completely satisfied with the use of the Plastic Money?
PCP4	: The thinking pattern will be change and in turn their life style also changes when you use different types of Cards.
Security and Verification Issues (SVI)	
SVI1	: The low level verification regarding the usages of the cards lead to security problems.
SVI2	: The plastic money always will be a problem with respect to the handling the credit or debit Balances.
SVI3	: The Credit card accesses a customer’s financial resources.
Authority of the Plastic Money holders (APM)	
APM 1:	The cardholders’ authority and attention will change when you possess it.
APM 2:	The need for alters to your mail account, mobiles and intimation about the usages alters need separate concentrations on your Plastic Money
APM 3:	The customers felt that the using of Plastic Money is unethical
APM 4:	The advertisement on Television convinced by direct selling associates and benefits offered by credit card agency affect the customers.

H_{1c}: **Psychosomatic Common Position (PCP) or (Emotional Status)** of Psychological dimension has significant impact on usage of plastic money.

H_{2c}: **Security and Verification Issues (SVI)** of Psychological dimension has significant impact on usage of plastic money.

H_{3c}: **Authority of the Plastic Money holders (APM)** of Psychological dimension has significant impact on usage of plastic money.

Figure 6.3: Measurement Model for Psychological Dimension

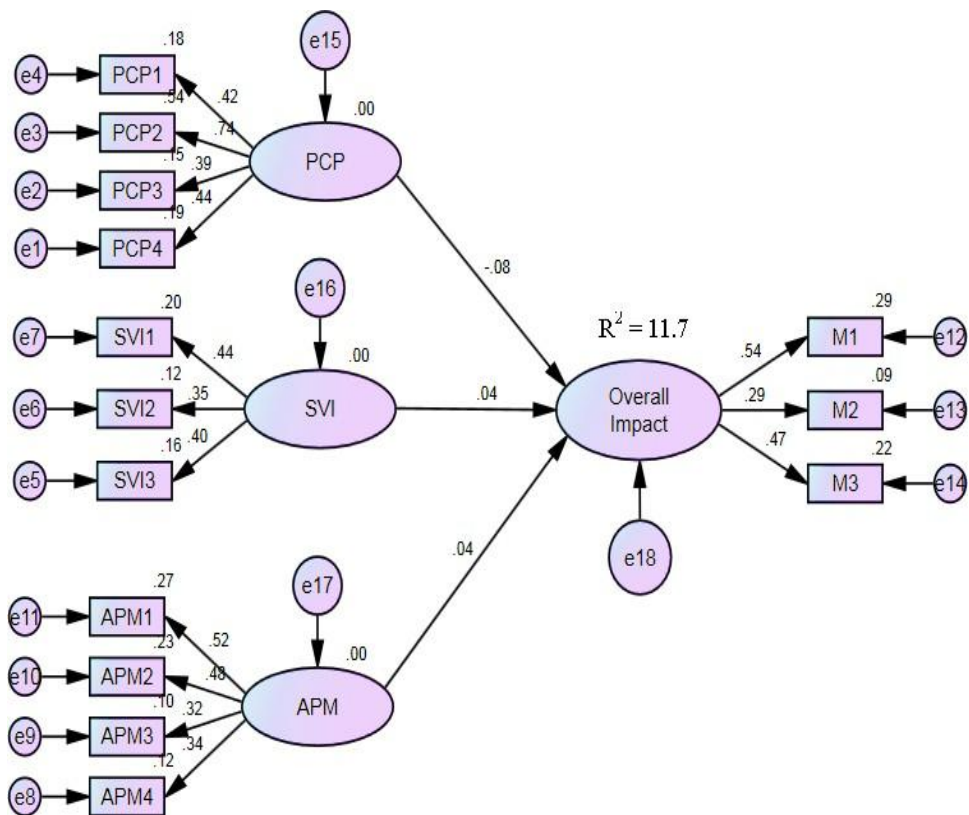


Table - 6.31: (c). Reliability and Item Loadings Constructs

Measured Variables	Items	Standardized Loadings	Composite Reliability	Average Variance Extracted
Psychosomatic Common Position (PCP)	PCP1	0.419	0.690	0.489
	PCP2	0.738		
	PCP3	0.392		
	PCP4	0.441		
Security and Verification Issues (SVI)	SVI1	0.443	0.534	0.447
	SVI2	0.352		
	SVI3	0.396		
Authority of the Plastic Money holders (APM)	APM1	0.520	0.572	0.411
	APM2	0.476		
	APM3	0.316		
	APM4	0.345		
Overall Impact (M) / (PMPF)	PMPF1	0.471	0.543	0.467
	PMPF2	0.293		
	PMPF3	0.535		

Table - 6.32: (c). Correlation between the Factors

Measured Variables	(1) PCP	(2) PMSVI	(3) APM	(4) M
(1) Psychosomatic Common Position (PCP)	1.000			
(2) Plastic Money Security and Verification Issues (PMSVI)	- 0.042	1.000		
(3) Authority of the Plastic Money holders (APM)	- 0.030	- 0.052	1.000	
(4) Overall Impact (M) / (PMPF)	- 0.024	0.021	0.015	1.000

Construct Reliability

Table - 6.31 portrays the result of the calculated composite’s reliability to support construct reliability. The reading of composite reliability of all latent variables is less than 0.70 and suggests that all latent variables have no good reliability.

The Structural Model

The test of the structural model was performed using SEM in order to examine the hypothesized conceptual framework by performing a simultaneous test.

Table - 6.33: (d). Goodness-of-fit Indices– Psychological Dimension

Fit Indices	Accepted Value	Model Value
Absolute Fit Measures		
χ^2 (Chi-square)		79.992
df (Degrees of Freedom)		74
Chi-square/df (χ^2 /df)	< 3	1.081
GFI (Goodness of Fit Index)	> 0.9	0.843
RMSEA (Root Mean Square Error of Approximation)	< 0.10	0.0378
Incremental Fit Measures		
AGFI (Adjusted Goodness of Fit Index)	> 0.80	0.865
NFI (Normed Fit Index)	> 0.90	0.830
CFI (Comparative Fit Index)	> 0.90	0.984
IFI (Incremental Fit Index)	> 0.90	0.985
RFI (Relative Fit Index)	> 0.90	0.791
Parsimony Fit Measures		
PCFI (Parsimony Comparative of Fit Index)	> 0.50	0.800
PNFI (Parsimony Normed Fit Index)	> 0.50	0.675

Table - 6.33, depicts that the goodness-of-fit for the model was met, Chi-square/df = 1.081, CFI = 0.984, GFI = 0.843, AGFI = 0.865, NFI = 0.830 and RMSEA = 0.038. The overall values provided evidence of a good model fit. All of the model-fit indices exceed the respective common acceptance levels suggested by previous research, following the suggested cut-off value, demonstrating that the model exhibited a good fit with the data collected. Thus it was possible to proceed to examine the path coefficients.

Properties of the causal paths for the structural model (standardized path coefficients (β), standard error, and hypotheses result) are signified in Table - 6.34. The square multiple correlation for the structural equations index connotes that the predictors *Psychosomatic Common Position (PCP)*, *Plastic Money Security and Verification Issues (PMSVI)* and *Authority of the Plastic Money holders (APM)* have together explained only 11.7 per cent of the variance in Psychological Impact.

Table - 6.34: (c). Summary of Hypotheses Testing Results

Path		Estimate (β)	S.E.	C.R.	<i>p</i>	Results	
Psychological Impact	<---	PCP	- 0.082	.116	-1.048	0.294	Not Supported
Psychological Impact	<---	PMSVI	0.040	.434	.388	0.698	Not Supported
Psychological Impact	<---	APM	0.040	.311	.450	0.653	Not Supported
PM on PF	<---	Psychological factors	0.555	.289	3.006	0.003*	Supported

Note: β = standardised beta coefficients; S.E. = standard error; C.R. = critical ratio; * $p < 0.05$

As evident from Table – 6.34, Psychological impact is not significantly ($p > 0.05$) influenced by any of the Predictors of Psychological dimensions on usage of plastic money. All in all, hypothesis H_{1c} , H_{2c} and H_{3c} targeting the Psychological Dimension, which then impacts on usage of Plastic Money. Hence, the proposed hypothesis is not supported, $p > 0.05$.

Testing of Hypothesis -II

02. **H₂**: The intensity of Plastic Money holders' satisfaction with their transactions is different in terms of aforesaid four dimensions in the study.

Ordinal Logistic Regression

The logical model for the several predictor variables is as follows.

The model estimates the probability that the dependent variable be one ($Y=1$) i.e. the probability that a person finds a job through informal method. Since logit coefficients are in log – odd units, they cannot be read as regular Ordinal Least Square (OLS) coefficients. Hence, the interpretations are based on the odds ratio.

The odds ratio (OR) represent the odds of $Y=1$ when X increases by one unit. These are the $\exp(\text{logit coefficient})$. If the $OR > 1$, then the odds that $Y=1$ increases. If the $OR < 1$, then the odd that $Y=1$ decreases. The sign of the logit coefficient corroborates that. A negative sign of the coefficient implies an odds ratio of less than 1 whereas a positive sign implies an odds ratio of greater than one.

Variable descriptions

Dependent Variable: Satisfaction level

$$Y_i = \begin{cases} 0 = \text{Not at satisfied (rating scores with 3 – Neutral)} \\ 1 = \text{Satisfied to some extent (rating scores 1 and 2 combined)} \end{cases}$$

Independent Variables

$$\begin{matrix} \text{Income} \\ \text{Age} \end{matrix} \begin{cases} 1 = \text{Below 25,000} \\ 2 = \text{25,000 to 50,000} \\ 3 = \text{More than 50,000} \\ \\ 1 = \text{less than 30 Yrs} \\ 2 = \text{30 to 50 Yrs} \\ 3 = \text{Greater than 50 Yrs} \end{cases}$$

AILS, SDSB, CS, CA, PCP, PMSVI, APM, IoE, SoF, ER and CH variables.

Table - 6.35: Ordinal Logit Regression Results–Dependent Variables–Satisfaction Level

Independent variable	Co – efficient (B)	Odds Ratio	Robust Std. Error	Z	p – value
Intercept					
Cut_1	- 0.223	-	0.985	-	-
Cut_2	2.083	-	0.995	-	-
Age	0.141	1.151	0.072	1.96	0.050*
Income	0.073	1.076	0.055	1.33	0.185
AILS	0.035	1.036	0.028	1.23	0.217
SDSB	- 0.049	0.952	0.025	-1.90	0.057**
CS	0.027	1.027	0.026	1.01	0.311
CA	0.041	1.042	0.033	1.25	0.210
PCP	- 0.173	0.982	0.032	-0.53	0.598
PMSVI	- 0.756	0.927	0.087	-0.87	0.386
APM	- 0.178	0.982	0.067	-0.26	0.793
IoE	0.073	1.076	0.029	2.48	0.013*
SoF	- 0.059	0.942	0.059	-1.01	0.311
ER	- 0.633	0.938	0.052	-1.20	0.229
CH	0.124	1.132	0.046	2.68	0.007*
Likelihood = -0.603 , N =600, Psuedo R ² = 0.182 , chi-square= 26.53 p=value=0.02					

Source: Survey Data, 2012 – 13

* Significant at 5% level. ** Significant at 10 % level.

Results and Interpretation

Among the socio cultural dimension variables, it can be observed that the logit coefficient for *Social Diversity and Spending Behaviour* (SDSB) is negative and the odds ratio is lesser than one. This implies that items under SDSB have a lesser likelihood of having changes in the level of satisfaction. In other words, it means that with one unit increase in SDS dimension score (the scale rating increasing from one to two or two to three and so on), the odds of **not at**

all satisfied versus the *satisfied to some extent* and *completely satisfied* combined customers will decrease by a factor of 0.952 (See Table - 6.35) given that all other factors are held constant. Likewise, the odds of the combined of *Satisfaction to some extent* and *completely satisfied* versus *not at all satisfied* will decrease by a factor of 0.952. The result is statistically significant at 5 per cent level. This perhaps reflects the pessimistic attitude of low level verification regarding the usages of the cards lead to security, the problem of handling the credit or debit balances and also the psychological fear that Credit card accesses a customer's financial resources. In essence, the probability of a new customer having Plastic Cards with complete satisfaction is still at a lower level. The negative Perception about the Plastic Money not being adequately insulated against fraud, against the handling and also against any illegal accesses towards account still haunt the customers.

Another statistically significant factor that is having influence on the levels of customers' satisfaction is Impact on Economy (IoE) dimension. It can be seen that the logit coefficient for IoE is positive and the odds ratio is greater than one. This implies that items under IoE have a higher likelihood of having changes in the level of satisfaction. In other words, it means that with one unit increase in IoE dimension score (the scale rating increasing from one to two or two to three and so on), the odds of *not at all satisfied* versus the *satisfied to some extent* and *completely satisfied* combined customers will increase by a factor of 1.076 (See Table – 6.35) given that all other factors are held constant. Likewise, the odds of the combined of *Satisfaction to some extent* and *completely satisfied* versus *not at all satisfied* will increase by a factor of 1.076. This dimension seem to be well accepted by customers that more Credit Card / Debit cards transaction in country over cash transaction will help to curb black money circulation in economy and also the perception of penetration of plastic cards in society more in future. This dimension is statistically significant at 5 per cent level. In simple words, there is a statistical evidence to say that to conclude that higher usage of plastic cards, there is likelihood of curb on black money circulation in the economy and other factors threatening the economy.

Similarly, another significant factor that is having influence on the levels of customers' satisfaction is Consumption Habit (CH). It can be seen that the logit coefficient for CH is positive and the odds ratio is greater than one. This implies that items under CH have a higher likelihood of having changes in the level of satisfaction. In other words, it means that with one unit increase in CH dimension score (the scale rating increasing from one to two or two to three and so on), the odds of *not at all satisfied* versus the *satisfied to some extent* and *completely satisfied* combined customers will increase by a factor of 1.132 (See Table – 6.35)

given that all other factors are held constant. In essence, the consumption pattern in terms of usage more frequently and also consumption of different cards leading to improve of economic status has an influence on positive side of the satisfaction level. Finally, with respect to age, the odds of *not at all satisfied* versus the *satisfied to some extent* and *completely satisfied* combined customers will increase by a factor of 1.152 (See Table – 6.35) with every unit increase in age as seen by the positive sign of the coefficient and the odds ratio which is greater than one. A one unit increase in age is estimated to increase the likelihood of *not at all satisfied* versus the *satisfied to some extent* and *completely satisfied* combined by a factor of 1.152. The result is statistically significant at 5 per cent level.

Dependent Variable – Duration of Possession plastic card

$$Y_i = \begin{cases} 0 = \text{Less than One year} \\ 1 = \text{One to three Years} \\ 2 = \text{More than three years} \end{cases}$$

Table - 6.36: Ordinal Logit Regression Results–Dependent Variable–Duration of Possession of Plastic Money

Independent variable	Co-efficient (B)	Odds Ratio	Robust Std. Error	Z	p-value
Intercept					
Cut_1	-0.192	-	1.133	-	-
Cut_2	3.270	-	1.143	-	-
Age	0.016	1.016	0.072	0.23	0.819
Income	-0.005	0.994	0.057	-0.09	0.930
AILS	0.005	0.902	0.035	-2.88	0.004*
SDSB	0.023	1.004	0.089	0.05	0.962
CS	0.009	1.014	0.063	0.22	0.827
CA	-0.002	1.036	0.029	1.20	0.228
PCP	-0.102	0.968	0.061	-0.53	0.598
PMSVI	0.004	1.004	0.057	0.08	0.936
APM	0.013	1.051	0.048	1.04	0.297
IoE	0.035	1.005	0.028	0.21	0.836
SoF	-0.032	1.023	0.026	0.89	0.376
ER	0.004	1.001	0.029	0.32	0.749
CH	0.050	0.997	0.035	-0.07	0.945
Likelihood = -0.603 , N =600, Psuedo R ² = 0.182 , chi-square= 26.53 p=value=0.02					

Source: Survey Data, 2012 - 13

* Significant at 5% level.

** Significant at 10 % level.

Among the socio – cultural dimension variables, it can be seen that the logit coefficient for *Adverse Impact on Lifestyle* (AILS) is positive and the odds ratio is greater than one. This implies that items under AILS have a lesser likelihood of having changes in the level of

duration of possession of plastic cards. In other words, it means that with one unit increase in AILS dimension score (the scale rating increasing from one to two or two to three and so on), the odds of *less than one year* versus the *one to three years* and *more than three years* combined customers will increase by a factor of 0.902 (See Table - 6.36) given that all other factors are held constant. The result is statistically significant at 5 per cent level. Likewise, the odds of the combined of *one to three years* and *more than three years* versus *less than one year* will increase by a factor of 0.902. This dimension of adverse impact on life style (Affecting family relationship, forceful disclosure of password and increases the credit purchase) would increase with the increase in duration of possession of plastic card which seem to be obvious fact given the present life style of urban economy.

Testing of Hypothesis - III

03. **H₃**: The use of Plastic Money is not risky with the influential factors of socio – cultural, economic, psychological and financial in the selected sample study.

Test of Hypothesis: There is no association between the Risk levels and the duration of possessing the plastic card holding.

$$Y_i = \begin{cases} 0 = \text{Less Risk (rating scores of 1)} \\ 1 = \text{Moderate Risk (rating score 2 and 3 combined)} \end{cases}$$

Table - 6.37: Association between Risk Levels and Duration of Possessing the Plastic Money

Time	Levels of Risk			Total
	High Risk	Moderate Risk	Low Risk	
Less the one year	205 (87.7)	28 (11.9 %)	1 (0.4)	234 (100)
One to Three year	12 (3.5)	298 (88.4)	27 (8.1)	337 (100)
More than three year	2 (6.9)	6 (20.7)	21 (72.4)	29 (100)

Source: Survey Data, 2012–13

Note: Figures in parenthesis is the percentage

Chi-Square Tests (Table – 6.37)

Pearson Chi-Square Value = 590.86

Asymptotic significance (Fischer’s exact test) = 0.000

Having classified the customers at different levels based on their rating on risk levels (See Table - 6.37), it is examined, using Chi – Square (**X²**) statistics the level of association between risk levels and duration of possession of Plastic Money by the respondents. It is highlighted

that level of risk levels play one of the most important roles in possession or the impact of plastic money.

As it can be seen while only 0.4 per cent of respondents are having of the opinion that there is low level of risk within one year of possession of plastic money, this percentage is as high as 87 per cent of respondents. But, the level of risk reduces with the increase in duration of possession of Plastic Money (See last column of Table - 6.37).

Tests carried out to check association shows significant association between the variables indicating that as level of possession increases, extent of risk levels moves from higher to lower risks about Plastic Money.

Testing of Hypothesis -IV

04. **H₄**: The priority and preferences of the Plastic Money strongly influence the bank customers and the value addition—measured in terms of security features provided on plastic money differs with type of bank.

Test of Hypothesis: There is no significant in mean rank scores on service delivery of plastic card utility between nationalized and private banks.

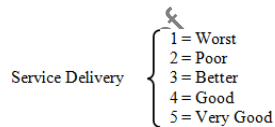


Table - 6.38: Descriptive Statistics on Service Delivery With Respect to Private and Public Sector Sectors Banks

Type of bank	N	Mean Rank	Sum of Ranks
Public Sector Bank	286	315.33	90184.00
Private Sector Bank	314	286.99	90116.00
TOTAL	600	-	-

Source: Survey Data, 2012–13

Table - 6.39: Mann–Whitney U test Result on Service Delivery with respect to Private and Nationalized Banks

Test	Service of the Selected Bank
Mann – Whitney U	40661.000
Wilcoxon W	90116.000
Z – Value	-2.069
Asymp. Sig. (2 – tailed)	0.039*

Source: Survey Data, 2012 – 13

One of the objectives of the study was to analyse the services delivery (in terms of value addition) provided by Public Sector Bank and private banks to its customers. Respondents were asked to rate the overall service delivery of banks on a scale of one to four with one being worst and four being very good. Non parametric Mann–Whitney U Test was applied to test the difference of ranking between customers holding Plastic Money from both private and public banks. Observing the result [See Table - 6.39], the p–value (0.039) is less than the significance level(0.05). Hence, the null hypothesis would be rejected and alternative hypothesis of existence of significant (statistically) difference between private and public banks customers regarding service delivery on plastic money. Now, looking at the mean rank scores, it is observed from Table - 6.38 that the mean rank score of public bank (mean=315.33) is higher than private bank (mean=286.99). Hence, it can concluded that respondents possessing plastic money of public bank are rating better as compared to their private bank counterparts in terms of service delivery.

Conclusion

To sum up, the data and analysis presented this chapter gives clear picture of Plastic Money awareness among the customers of both selected public sector and private sector banks in the selected sample size. It provides a detailed insight about the Plastic Money (Both Debit and Credit Cardholders) perception, attitude, satisfaction, usages, and other problems involved in using the Plastic Money. The study also covers the ATM – cum – Debit cards and Credit card transactions among the Cardholders, prevention of theft, fraudulent activities and the measures to be taken while using the Plastic Money. Perceptions and the impact of Plastic Money users are studied in three dimensions such as Socio – culture, Economic (Financial aspects) and Psychological. The suitable tests are applied to test the formulated hypothesis and identified to check whether the objectives are achieved or not. The socio–economic profile of the selected bank customers of Karnataka State has been presented systematically. In this present study, to test the consistency level of data the statistical tools and techniques, reliability scale has been implemented.

- (a) Interestingly, the negative impact of holding possessing plastic card has emerged as the first factor. In essence, it is seen that component namely “*Adverse impact on lifestyle*” basically comprising of pessimistic attitude related questions such as affecting the family relationship, increase credit purchase, change in behaviour and attitude and so on. Thus, the inference that could be drawn is that usage or possession of plastic money card has not helped—at least psychologically the respondents an improved

lifestyle. Perhaps, due to decision making and agenda setting, personal use of force for coercion or social constraints, the Plastic Money has been adversely affecting the family structure and relationship. It also affects the individual power between the members of the family such democratic process, group charisma, persuasion and other social factors;

- (b) Furthermore, another critical component from a pessimistic perceptive has emerged as a second component namely “*Social Diversity and Spending*”. The high inter – correlation among each item within this component based on responses of sample respondents under study indicates that there is not much of positive implication of possessing the Plastic Card. The degree of social identity and personal identity is more when they use plastic money such as debit or credit cards for various routine activities in their life style. In addition to it, ethnicity of culture, behaviour etc., might have resulted in more of spending rather than savings.
- (c) The affirmative related items or questions have been loaded (based on inter-correlation) with lower ranking order. In other words, the lateral component such as *Saving Habits* has been loaded as third factor, Robust Security as fourth and cultural affinity as the fifth and last factor. It could be inferred that usage of different Plastic Money of any banks, it largely sets a pattern of good cultural affinity of human activity within a society or group of customers which symbolic structures that provides a greater significance.
- (d) From statistical analysis, it is further established that pessimistic attitude of low level verification regarding the usages of the cards lead to security, the problem of handling the credit or debit balances and also the psychological fear that Credit card accesses an individual financial resources still persists with customers. Although, enough steps have been taken by banking sector with regard to security features pertaining to Plastic Money, yet there is a need for the Banking Sector to build more confidence in addressing the myths or negative perception towards Plastic Money.
- (e) Likewise, the odds of the combined of *Satisfaction to some extent* and *completely satisfied* versus *not at all satisfied* will increase by a factor of 1.076. This dimension seem to be well accepted by customers that more Credit Card/Debit Cards transaction in country over cash transaction will help to curb black money circulation in economy and also the perception of penetration of Plastic Money in society more in future. Furthermore, there is a statistical evidence to say that to conclude that higher usage of Plastic Money, there is likelihood of curb on black money circulation in the economy

and other factors threatening the economy. Similarly, the consumption pattern in terms of usage more frequently and also consumption of different cards leading to improve of economic status has an influence on positive side of the satisfaction level.

- (f) Looking at the mean rank scores, it is observed from Table - 6.38 that the mean rank score of public bank (mean = 315.33) is higher than private bank (mean = 286.99). Hence, it is conclude that respondents possessing Plastic Money of public bank are rating better as compared to their private bank counterparts in terms of service delivery.

Chapter - VII

CHAPTER - VII

Summary of Major Findings, Suggestions and Conclusion

Introduction

This chapter reports the major findings of the study. First of all, a description of the sample is provided. Then, data comparing the sample Bank Customers of the selected Public and Private Sector Banks in the Southern Zone of Karnataka, focusing on Bangalore division covering 53 taluks (Bangalore Urban (05) Bangalore Rural (04) Chikkaballapur (06) Chitradurga (06) Davanagere (06) Kolar (05) Ramanagara (04) Shimoga (07) Tumkur (10) [Numbers mentioned in the parenthesis represents the taluks] and it takes into consideration the selected bank customers those who holding the bank cards of State Bank of India (SBI), Bank of India(BOI), Industrial Credit Investment Cooperation of India (ICICI) and Housing Development Finance Cooperation (HDFC) Banks in Karnataka state under study is provided. Finally, the analysis of the four null hypotheses is reported.

Major Findings of the Study

Major findings of the study are presented as follows:

01. The survey on Plastic Money (Both Debit and Credit Cards) in the selected region indicates that out of 600 customers from banks in the selected districts, when it is tabulated the data bank wise, the results of the respondents represented as follows i.e. about 164 (27.33 per cent) respondents from SBI, 122 (20.33 per cent) from BOI, 168 (28.00 per cent) from ICICI and 146 (24.34 per cent) from HDFC banks.
02. In the study, 286 (47.67 per cent) are public sector bank customers and 314 (52.33 per cent) are from Private sector bank customer out of 600 customers who possess both the debit and credit cards of selected banks in the southern region of Karnataka.
03. It is clearly indicated that 52.17 per cent (313) of Males are Plastic Money holders and 47.83 per cent (287) are females are Plastic Money holders among the 412 selected banks in Southern zone of Karnataka state.
04. Overall male debit card holders out of 600 are 52.17 per cent and female debit card holders are 47.83 per cent where as male credit card holders are about 63.17 per cent and female 36.83 per cent in the selected districts.

05. Out of 600 customers in each selected district, 222 respondents use their plastic Money for payment purposes and mostly prefer the payment cards for their routine activities who use the Debit Cards, 170 customers use Credit cards and remaining 208 prefer both Debit and Credit for their payment system.
06. The opinion about the Plastic Money in the present study shows that about 41.3 per cent felt that Plastic Money is flawless/correct operations, 33.3 per cent for speed of conducting operations, 35.7 per cent for easy handling, 31.0 per cent for knowledge about the products and services, 37.0 is for understanding the benefits involved in operating with any ATMs, 36.3 per cent for ATM Skills/Positive approach towards Plastic Money and 31.3 per cent for general assessment about services and they strongly agree with this.
07. Plastic Money is the safest mode for the transaction, less time processing, convenient, loyalty rewards, quick response, brand image, advisory services, friendly staff, better network, high speed in the transactions, international presence, private banking facilities, better pension plan/schemes, ATMs and it provide security.
08. The factors influencing the customers to use the Plastic Money is through the family members. The factors to choose the Bank cards are mainly for the withdrawal purposes, easy and fast service, shopping convenience and reliability; it is evidenced that 208 (34.67 per cent) of the shopping alone which is very high when compared to dinner, travel and any other purposes, and the respondents of ICICI opined that 17.86 per cent of Plastic Money helps the family members. [See Table - 6.14]
09. The customers of the selected banks in all the southern zone uses the Plastic Money for their routine activities is very frequently i.e. almost daily.
10. It is evidenced that, 399 customers preferred Add – on cards by the selected bank customers in the southern zone of Karnataka, 163 do not prefer the add - ons and 38 customers did not have any opinion out of the sample customers, out of which 304 preferred the Debit Add–on Cards and 93 preferred Credit cards.
11. It is a surprise that the highest cards are used by friends/relatives which account to 124 credit cards and 234 debit cards, next parents, major is sons or daughters, spouse and others.
12. It is evident from the present study that 320 customers are sure about their balance on the credit cards by the selected banks, 271 don't have balance on their cards and only 8 customers don't express about this.

13. In all the selected districts it is proved that debit cards are economical which in the present study indicates that about 313 expressed positively and 287 expressed negatively on this. And 379 said it is not expensive and 221 said Debit Cards are expensive.
14. In the present study, it is evidenced that most of the customers are using the Debit Cards for long period, i.e., 337 customers are using them from last one to three years, 233 customers using it for less than one year and only 30 customers are using for more than three years; and at the same time it is evidenced that most of the customers are using the Credit Cards for long period; say 404 customers are using from last one–three years, 160 customers using it for less than one year and only 36 customers use for more than three years.
15. From the study, it is very clear that 238 customers felt that to bear the expenses in case default bank cards, 362 did not give positive opinion on Plastic Money.
16. It is evidenced that, 326 customers are well aware of the terms and conditions of Debit Cards and 274 customers are not aware of these; and at the same point i t is also found that, 232 customers are well aware of the terms and conditions of Credit Cards and 368 customers are not aware of these.
17. In the selected region, it is evident that 273 customers opinion towards the service provided by the Plastic Money is positive and 263 felt that is not so good and 64 have any opinion on this.
18. In the present study 278 customers use their cards for spending purposes and only 265 not for this purposes and rest about 57 said that nothing.
19. Debit card usages and the transaction will help to overcome the Black Money Problem in the Indian Economy, majority of respondents (Selected Bank Customers) opinioned in the present study. About 307 customers gave positive opinion on this and 229 said negative. Only 64 were neutral.
20. The victim of Plastic Money in the study shows that 287 said it is a fact, 250 had negative impression and rest 63 had no opinion.
21. The financial loss from the usage of cards is large in number in the current scenario, it is clearly stated in the present study and the collected statistics also show the loss, i.e., about 286 customers felt that there is a loss, 259 said it is not so, but 55 customers had no opinion on these issues.

22. The customers opined that the precautionary measures to be taken for the use of Plastic Money and in case if lost, about 331 felt it is must, 183 said it is not necessary and 86 had no opinion on this issue.
23. The selected customers in the study opined that while using the Personal Identification Number (PIN) should be safe and they should not disclose PIN code in wallet should be avoided and also should not disclose to the friends/family members/relatives, even in some case to spouse also for the safer side.
24. Perception towards the use of Plastic Money are highly satisfied and strongly agreed by the customers. Among them ICICI bank customers are ranked first as the highest response on this which accounts to 168 customers, next SBI – 164, HDFC – 146 and BOI– 122 customers opined positively.
25. The convenience and service of SBI Plastic Money holders account to 26.83 per cent which indicates highest and best service provided among the selected public and private banks in the selected region; and The most reliability in their services provided is BOI which accounts to 21.31 per cent.
26. The highest plastic money used for withdrawal purposes, where 28.05 per cent are the customers of SBI in the study who are leading in this regard.
27. It is evidenced that 30.50 per cent of the respondents uses Plastic Money for the purchases fortnightly and daily in the current study.
28. The Plastic Money of the selected bank are taking the measures when they lose their card; [See Table - 6.11]
29. Only 25 per cent of the Plastic Money holders opined that the use both debit and credit cards is moderately secured.
30. The Socio–Cultural factors such as adverse impact on life style, social diversity and spending behavior, cultural sovereignty and cultural affinity has strong influence and has impact on the usage of the Plastic Money.
31. The economic and financial dimension evidenced that it has no significant impact on the Plastic Money holders of the southern region in the Karnataka. Where the impact of economy, scarcity of the fund, economic recession and consumer habits are the factors which is used to measure the economic and financial dimensions in the present study which is not all influence the customers.
32. Psychological dimensions of the Plastic Money holders in the study by using the CFA such as – Psychosomatic, common position/emotional status, security and verification issues and authority of the Plastic Money holder have no impact.

33. It is evidenced that the use of satisfied the level of the respondent from their dimension in the study.
34. The Plastic Money holder impact with respect to the socio – cultural, economic and psychological dimensions with the duration of possession of the Plastic Money shows strong impact.
35. HDFC Bank, Banking services require a high level of customer engagement and understanding of the requirements for a quality value proposition. These factors can be sustained long-term by adopting a customer-centric business strategy.
36. The rise of E – Money by volume of non – cash transactions indicates customer’s behavior is changing.

A. Bank–Wise Survey Results and Findings

a) Public Sector Banks

- (a) The survey result shows that majority of SBI and BOI Plastic Money holders fall in the age group of 40 – 49 and 50 – 59 which accounts to 38 (23.17 per cent) SBI customers and 32 (19.51 per cent) BOI customers respectively use Plastic Money out of 164 cardholders and 122 out of 600 irrespective of Plastic Money holders including the debit and credit cards in Karnataka state of southern zone.
- (b) It is clearly indicated that, 92 (56.10 per cent) males and 72 (43.90 per cent) females out of 164 customers hold the Plastic Money and they belong to the SBI Bank customers whereas 63 (51.64 per cent) male and 59 (48.36 per cent) female customers out of 122 customers account to the BOI group.
- (c) It clearly found that both the SBI and BOI Plastic Money holders are having highest qualification of Post – Graduation which account to 45 (27.44 per cent) customers and 40 (24.39 per cent) customers out of 164 are having the graduation in SBI whereas the BOI it is about 34 (27.87 per cent) graduates and second majority customers are Post – Graduates which accounts to only 22 (18.03 per cent) out of only 122 among the overall sample size.
- (d) Occupation wise cardholders of SBI accounts that majority fall in the group of students which indicates 29 (17.68 per cent) plastic money holders and in case of BOI the highest customers are 26 (21.31 per cent) who belongs to the public sector employees;
- (e) It is found that Plastic Money holders by income level, in both the SBI and BOI Bank, most of the customers fall in the income group of below `20,000–`30, 000 and the number of cardholders are 62 (37.80 per cent) and 42 (34.43 per cent) respectively.

- (f) The type of bank accounts of the selected bank customers are 89 (54.27 per cent) SBI customers have savings bank account out of 164 which is high when compared to other type of accounts and 66 (54.10 per cent) BOI customers out of 122 have the similar type of account for their transactions.
- (g) Awareness of Plastic Money holders in public sector banks are from friends which accounts to 62 (37.80 per cent) customers out of 164 and 42 (34.40 per cent) saving customers out of 122 in both SBI and BOI respectively.
- (h) Credit card awareness and possession are 68 (41.46 per cent) and 21 (12.80 per cent) out 89 customers in case of SBI Plastic Money holders and 40 (32.79 per cent) and 18 (14.75 per cent) out of 58 in BOI holders respectively; and ATM – Cum – Debit Card awareness and possession are 32 (19.51 per cent) and 79 (48.17 per cent) out 111 customers in case of SBI Plastic Money holders and 34 (27.87 per cent) and 30 (24.59 per cent) out of 64 in BOI holders respectively.

b) Private Sector Banks

- (a) It is evidenced that the majority of ICICI and HDFC Plastic Money holders fall in age group of 40 – 49 which accounts to 40 (23.81 per cent) customers in both the respective banks who use the bank cards out of 168 and 146 cardholders 600 customers respectively including the debit and credit cards in southern zone.
- (b) In the selected Private Sector Banks, 99 (58.93 per cent) male and 83 (56.85 per cent) females are holding the cards and they belong to the ICICI Bank whereas 69 (41.07 per cent) male and 63 (43.15 per cent) female customers account to the HDFC group out of 168 and 146 cards holders respectively.
- (c) It indicates that ICICI bank had the highest Post – Graduates who are possessing the Plastic Money holders, which accounts to 40 (23.81 per cent) customers out of 168 cardholders whereas in the HDFC the highest qualification among the customers upto SSLC which accounts to 39 (26.71 per cent) customers out of 168 and 146 cardholders.
- (d) Occupation wise cardholders of ICICI Bank has very less number of professionals which indicates 32 (19.05 per cent) out of 168 Plastic Money holders and in case of HDFC the highest number of customers are 29 (19.86 per cent) out of 146 customers who belong to the public sector employees.
- (e) The cardholders by income level, in ICICI and HDFC Banks fall in the income group of below ` 20,000– ` 30,000 and the number of cardholders are 35 (20.83 per cent) where as in the HDFC bank, it is 46 (31.51 per cent).

- (f) The type of customers bank accounts shows that 72 (42.86 per cent) ICICI customers are having savings bank account out of 168 which is high when compared to other type of accounts and 59 (40.41 per cent) HDFC customers out of 146 respectively having the similar type of accounts for their transactions.
- (g) Awareness of Plastic Money holders in the private sector banks are from newspapers which accounts to 40 (23.81 per cent) customers and 41 (28.08 per cent) customers in both ICICI and HDFC respectively.
- (h) Credit card awareness and possession are 57 (33.93 per cent) and 42 (25.00 per cent) out of 99 in case of ICICI Plastic Money holders and 42 (28.77 per cent) and 19 (13.01 per cent) out of 61 in HDFC holders respectively.
- (i) ATM – Cum – Debit Card awareness and possession are 81 (48.21 per cent) and 61 (36.31 per cent) out of 142 customers in case of ICICI Plastic Money holders and 47 (52.80 per cent) and 42 (47.20 per cent) out of 89 in HDFC holders respectively.

B. District – Wise Survey Results and Findings

a) Bangalore Rural

- (a) It is found that, 11.58 per cent (19) Plastic Money holders are from SBI, 09.02 per cent (11) from BOI, 14.29 per cent (24) from ICICI and 09.59 per cent (14) from HDFC out of 11.33 per cent (68) customers.
- (b) Usage of Plastic Money in SBI accounts to 50 out of 164 when compared to usage of Paper Money. In this case about 64 customers use paper money/Rupee currency which is high among the public sector banks. Similarly in the BOI also majority prefer Paper Money users which accounts to 54 in number and only 37 customers prefer and use Plastic Money. In case of private sector banks such as ICICI (66) and HDFC (44) bank customers also are using paper money/Cash and only 55 and 40 customers use Plastic Money respectively in case of private sector banks also.
- (c) The trend and the purpose of usage of Plastic Money (Both Debit and Credit Cards) in Bangalore rural shows that high use of cards for shopping is about 72 in SBI, 44 customers use for travelling in BOI, 57 customers use for shopping in ICICI as well as 64 in case of HDFC bank.
- (d) The highest payment cards are preferred from the ICICI bank which accounts to 168 out of 600, when compared to other banks. In SBI is about 164, 122 in BOI and HDFC it is about 146 customers use for the payment system.

b) Bangalore Urban

- (a) It clearly indicates that, 12.80 per cent (21) Plastic Money holders are from SBI, 09.84 per cent (12) from BOI, 15.48 per cent (26) from ICICI and 06.85 per cent (10) from HDFC out of (11.50 per cent) 69 customers.
- (b) In Bangalore urban also majority of both Public and Private Sector Bank customers are using paper money/Rupee currency which comes to SBI (51), BOI (67), ICICI (54) and HDFC (56) are using the Paper Money then Plastic Money of SBI (35), BOI (57), ICICI (43) and HDFC (47) customers are using Plastic Money out of overall usage of both debit and credit cards.
- (c) The trend and the purpose of usage of Plastic Money (Both Debit and Credit Cards) in the Bangalore urban shows that high use of cards for shopping is about 43 customers in SBI, 70 customers in BOI, 67 customers in ICICI as well as 50 in case of HDFC banks.
- (d) In this case, the highest preferred bank card is BOI which accounts to 184 customers who use their plastic Money for payments out of overall 600 samples. On the other hand, only 125 in SBI, 153 in ICICI and 138 in HDFC prefer for payment purposes.

c) Chikkaballapur

- (a) From the study, it is evidenced that, 12.20 per cent (20) Plastic Money holders from SBI, 11.48 per cent (22) from BOI, 13.10 per cent (22) from ICICI and 10.27 per cent (15) from HDFC out of (11.83 per cent) 71 customers.
- (b) In Chikkaballapur also majority of both Public and Private Sector Bank customers are using paper money/Rupee currency which comes to SBI (69), BOI (53), ICICI (58) and HDFC (48) are using the Paper Money which very high in SBI (37), followed by BOI (50), ICICI (49) and HDFC (46) customers are using Plastic Money out of overall usage of both debit and credit cards.
- (c) The trend and the purpose of usage of Plastic Money (Both Debit and Credit Cards) in Chikkaballapur shows that high use of cards for shopping is about 50 customers in SBI, 60 customers use for travelling in BOI, 66 customers use for shopping in ICICI as well as 54 in case of HDFC bank.
- (d) In chikkaballpur, 155 customers from SBI use their Bank Cards for payment where others like BOI – 154, ICICI – 151 and HDFC – 140 prefer for their payment.

d) Chitradurga

- (a) In the study, about 10.98 per cent (18) Plastic Money holders are from SBI, 08.20 per cent (10) from BOI, 09.52 per cent (16) from ICICI and 10.96 per cent (16) from HDFC (10.00 per cent).
- (b) In Chitradurga district both the Public and Private Sector Bank customers are using paper money/Rupee currency which in case of SBI (41), BOI (54), ICICI (52) and HDFC (35) then Plastic Money, SBI (63), BOI (61), ICICI (64) and HDFC (40) customers.
- (c) The trend and the purpose of usage of Plastic Money (Both Debit and Credit Cards) in the Chitradurga shows that high use of cards for shopping is about 63 in SBI, 69 customers use for travelling in BOI, 55 customers uses for shopping in ICICI as well as 43 in case of HDFC bank.
- (d) In this case, the cardholders first prefer the Payment of cards of BOI, followed by the SBI – 147, ICICI – 162 and HDFC – 106 customers.

e) Davangere

- (a) It is evidenced that, 11.58 per cent (19) Plastic Money holders are from SBI, 09.84 per cent (12) from BOI, 07.14 per cent (12) from ICICI 15.07 per cent (22) from HDFC (10.83 per cent).
- (b) The use of Paper Money/Rupee currency when compared to the Plastic Money in the Davangere district shows the majority of both the public and private sector selected banks which indicate the preference of large users are paper money. It is SBI (47), BOI (59), ICICI (41) and HDFC (35) are using the Plastic Money. SBI (45), BOI (77), ICICI (57) and HDFC (49) customers are using Paper Money out of overall usage of both debit and credit cards.
- (c) The trend and the purpose of usage of Plastic Money (Both Debit and Credit Cards) in Davanagere shows that high use of cards for shopping is about 55 in SBI, 74 customers use for travelling in BOI, 56 customers use for shopping in ICICI as well as 45 in case of HDFC bank.
- (d) The Customers of Davangere prefer the Plastic Money for the payments in many aspects out of which the highest use of the Plastic Money is from the BOI which account to 185, followed by SBI – 141, ICICI – 143 and HDFC – 131 which is very less compared with BOI.

f) Kolar

- (a) It is evidenced that, 08.54 per cent (14) Plastic Money holders are from SBI, 11.46 per cent (14) from BOI, 07.14 per cent (12) from ICICI and 14.38 per cent (21) from HDFC 10.17 per cent (61) customers.
- (b) The use of Paper Money/Rupee currency when compared to the Plastic Money in the Kolar district shows the majority of both the public and private sector selected banks indicate that large users prefer paper money. It is in the SBI (53), BOI (65), ICICI (77) and HDFC (33) are using the Paper Money which is very high. Then the Plastic Money user of SBI(42), BOI(56), ICICI(59) and HDFC (25) customers are using Plastic Money out of overall usage of both debit and credit cards.
- (c) The trend and the purpose of usage of Plastic Money (Both Debit and Credit Cards) in the Kolar district shows that high usage of cards for shopping is about 57 in SBI, 76 customers use for travelling in BOI, 71 customers use for shopping in ICICI as well as 26 in case of HDFC banks.
- (d) The ICICI Bank's Plastic Money is mostly preferred by the selected customers in Kolar, where it indicates that majority customers of 197 use for the payment purpose, only 140 customers in SBI, BOI it is about 185 and HDFC only 78 use for payment of cards.

g) Ramanagar

- (a) It is evidenced that, 09.76 per cent (16) Plastic Money holders are from SBI, 14.75 per cent (18) from BOI, 08.93 per cent (15) from ICICI and 15.75 per cent (23) from HDFC out of 12.00 per cent (72) customers.
- (b) The use of Paper Money/Rupee currency when compared to the Plastic Money in the Ramanagar district shows the majority of both the public and private sector selected banks indicate that large users prefer paper money. It is therefore in SBI (65), BOI (49), ICICI (34) and HDFC (34) are using the Plastic Money which is very less in number. Then the Plastic Money user of SBI(63), BOI(80), ICICI(53) and HDFC(32) customers are using Plastic Money out of overall usage of both debit and credit cards of 600 customers.
- (c) The trend and the purpose of usage of Plastic Money (Both Debit and Credit Cards) in Ramanagara shows that high use of cards for shopping is about 69 in SBI, 75 customers use for travelling in BOI, 43 customers uses for shopping in HDFC and 45 in case of ICICI use for Dinner purposes.

- (d) In Ramanagar district, it is noticed that 190 customers preferred BOI cards for their payment, 188 of SBI, 124 of ICICI and only 98 from HDFC customers use their payment cards.

h) Shimoga

- (a) It is evidenced that, 14.02 per cent (23) Plastic Money holders are from SBI, 12.30 per cent (15) from BOI, 13.10 per cent (22) from ICICI and 08.22 per cent (12) from HDFC out of 12.00 per cent (72) customers.
- (b) The use of Paper Money/Rupee currency when compared to Plastic Money in the Shimoga district shows that the majority of both the public and private sector selected banks indicate that large users are paper money users. It is in SBI (65), BOI (70), ICICI (53) and HDFC (32) are using the Plastic Money which is very less in number. Then the Plastic Money users of SBI (61), BOI (55), ICICI (53) and HDFC (40) customers are using Plastic Money out of overall usage of both debit and credit cards.
- (c) The trend and the purpose of usage of Plastic Money (Both Debit and Credit Cards) in Shimoga shows that high use of cards for shopping is about 61 in SBI, 86 customers use for travelling in BOI, 54 customers use for shopping in ICICI as well as 29 in case of HDFC banks.
- (d) In Shimoga district, majority of customers preferred the BOI's Bank cards for their payment which accounts to 186, where as 176 from SBI, 144 of ICICI and only 94 from HDFC banks.

i) Tumkur

- (a) It is evidenced that, 08.54 per cent (14) Plastic Money holders are from SBI, 13.11 per cent (16) from BOI, 11.31 per cent (19) from ICICI and 08.90 per cent (13) from HDFC out of 10.33 per cent (62) customers.
- (b) The use of Paper Money/Rupee currency when compared to Plastic Money in the Tumkur district shows the majority of both the public and private sector selected banks indicate that large users prefer paper money users. It is therefore in SBI (50), BOI (63), ICICI (64) and HDFC (51) who use the Plastic Money which is very less in number. Then the Plastic Money user of SBI (53), BOI (47), ICICI (43) and HDFC (39) customers are using Plastic Money out of overall usage of both debit and credit cards.
- (c) The trend and the purpose of usage of Plastic Money (Both Debit and Credit Cards) in Tumkur shows that high use of cards for shopping is about 66 in SBI, 58 customers use

for Dinner purposes in BOI, 56 customers use for shopping in ICICI as well as 52 in case of HDFC bank.

- (d) Overall, 160 customers preferred BOI's Plastic Money for their payments which is very high compared with the other selected banks such as SBI – 154, ICICI – 152 and HDFC – 134.

Suggestions of the Study

The suggestions in the present research based on the findings and analysis made by using the statistics provided by the reports of banks in India.

This is divided into two ways namely customer point of view and from the bankers point of view to make better utilisation of new banking technology products.

- (a) In the present study, it is identified that their strong impact on the use of plastic money on the customers, so, it's better that from the Economic - financial dimension plastic money users have ensured banking and financial institutions to meet business challenges with more vigor and confidence.
- (b) Plastic Money affects the financial risks and hence proper precautionary measures to be taken from both the bankers and the customers.
- (c) The concept of innate and inhibited risk in consumers behavior in the use of Plastic Money should be avoided and Perceived Risk as an obstacle for the application of Cards in electronic trade should also be minimized.
- (d) Fear of crime, poverty line, rigid thinking style, damp conditions, low level of assertion, financial problems, unrealistic beliefs and expectations, bereavement, inconsiderate people, discipline and focus, alertness and concentration and many other social activities/interest should be handled carefully while using the Plastic Money.
- (e) In case if any customers are possessing the less degree of fashion consciousness and personal financial literacy, pride and vanity, superior qualities like durability resistance to deterioration, change in behavior and attitude, increases the credit purchase and affecting the family relationships or forcing to disclose the password, in such case it should be handled carefully with the cardholders.
- (f) Encouraging more adults to use Plastic Money rather than the other groups to avoid financial risks; The role of bankers in creation of awareness about the banking technology products should be enhanced.

- (g) Educating the cardholders about safety handling of the cards while doing shopping, online purchase or credit purchases is necessary; To create awareness about the cards swallow problems and trust in holding the cards.
- (h) Measures to identify the theft or damage while in use of Plastic Money are instructing the customers to enable high security through the accounts by banks and providing the knowledge about the cyber law among the cardholders.

Plastic Money is the major tendency of clearings development in bank activity. There are about billions of Plastic Cards all over the world now. For clients it is convenience, reliability, economy of time and cash – out. Indian banking industry, today is in the midst of an IT revolution. A combination of regulatory and competitive reasons has led to increasing importance of total banking automation in the Indian Banking Industry. The following are the few other suggestions based on the statistics and informations provided by the bank reports in India are mentioned below:

- (a) To develop and ratify the concept of payment cards technologies development. It allows making this process as organized, uniform system or the program of cooperation between all banks, engaged in plastic business.
- (b) To develop a line of laws on the confidential information that would serve as protection for the investor and as additional argument for the benefit of payment cards as a way of non–cash payments, and also would secure other participants of plastic money circulation.
- (c) Set up an Electronic Banking Group to provide guiding principles for prudent risk management of e-banking activities.
- (d) Convert branches into boutiques catering to the requirements of clients and re-engineer the functions of branch banking using technology and delivery channels.

It is rightly observed in the study, all the customers have a role to play in minimizing the cardholder's problems and ATM frauds in Karnataka. The results were identified by the research are listed below:

a) Suggestions for Customers

- Customers must ensure that they are not careless about their Personal Identification Number and must not release their cards or delegate anyone to ATM machine;
- To protect themselves from shoulder surfing, customers must ensure that those who are on the queue for similar transaction are far away from where they are doing transaction with ATM machine.

b) Suggestions for Banks

- Creating a designated time for the card users. The customers can choose times for using ATM on phone, thus once anybody comes outside the designated time of the customer, he could be arrested.
- The ATM cards (debit and credit cards) can be provided with microchip technology that will make it difficult to forge.
- Banks can monitor the ATMs (Plastic Money) continuously by installing closed-circuit cameras and other devices.
- The banks can employ customized software that records relevant information on ATM cards so that banks can establish whether unauthorized transaction has taken place or not.
- The banks must alert customers on any suspicious and unusual transaction on their accounts.
- There must be adequate security around the ATM.
- Biometric tokens are the safest means of preventing ATM frauds. The most widely used biometric tokens are finger prints, irises, faces and palms. The fraudster may match everything but they can never match the biometric peculiarities; and banks must cooperate together to fight this menace of ATM frauds.

Scope for Future Research in the area of the Present Study

The following area are suggested for further research:

- (a) The study can be further elaborated with bigger sample group to look into the Impact of bank cards on the customers focusing on different zones of Karnataka.
- (b) New Banking Frontiers—IT Innovation, Green Banking, Information Security and Big Data to drive the next phase of growth and efficiency.
- (c) Mobile Payment based on Near Field Technology (NFC) to counter stiff competition from mobile phone companies whose money transfer and mobile payments services have gained wide consumer acceptance.
- (d) The Digital Ecosystem Bank, where Mobile Bank become the centre of an ecosystem powered by Mobile Selling Financial and Non Financial Services.
- (e) Virtual Wallets/E-Wallets or Digital Wallet users and its importance by the Plastic Money holders.

Conclusion

On the whole, it is observed that every customer is selective in holding different bank cards and ATM services in the present days. The new banking technology products and its e-banking has great impact and possibilities of fraudulent activities in the current scenario, but that would be dependent on the extent to which the cardholders use, and their perception towards plastic money, ATMs frauds can be controlled. There are many other products that are ATM related that have been developed in developed countries. For such products to have a hold in Karnataka, the Plastic Money (both debit and credit cards) ATM fraud – related problems must be solved. Such products are electronic fund transfer at the point of sale and electronic card products.

This study presents valuable empirical evidences of the impact of Plastic Money (only debit and credit card holders) of the Selected Bank Customers of both public and private sector banks in the southern region of the Karnataka state. It also provides the ATM service perception in Indian banking system, satisfaction level, and impact of plastic money from different dimensions such as socio-cultural, economical, financial and psychological factors. The private sector banks are providing more satisfactory usage of Plastic Money and the ATM service as compared to public sector banks in the study area. Therefore public sector banks viz SBI and BOI should concentrate more and to pay special attention to the card holders to provide better ATM services, quality to improve customers' satisfaction.

However, Empirical evidences show that the impact of the Plastic Money towards the selected respondents and their perception about efficiency, security and responsiveness, cost effectiveness, problem handling and compensation and Contact service related to ATM service is low in both public and private sector banks. Hence, both public and private sector bank's should to enhance customers' or cardholders satisfaction and loyalty to their level best. Cost effectiveness is one of the most important service quality dimensions which is adversely affecting on customers' satisfaction. Therefore bank should reduce charges related ATM service and credit card usages to provide cost effective ATM service to their customers.

Establishing a Plastic Money history which is very important to the bank customers in the present changing environment where the customers has to upgrade themselves in adopting towards the using of new banking technology products. By understanding Plastic Money and its payment practices, customers may make sound managerial and financial decisions when applying for, and using, their debit and credit cards. By better understanding the debit cards uses, the credit card payment practices among the public and private sector banks, Customer's

affairs practitioners may identify groups that are at higher risk to be affected by some of the dangers of credit cards and perceptions towards the debit cards. It also made a remarkable change among the users of the plastic money particularly with respect to the Credit Card companies may benefit from this research, as well.

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Annexure

Questionnaire

QUESTIONNAIRE

Dr. V. Vimala

Assistant Professor

Department of Commerce

Avinashilingam Institute for Home Science

and Higher Education for Women, Coimbatore– 641 043

Tamil Nadu, India.

Dear Sir/Madam,

May I ask your kind favour that would take only a few minutes of your precious time?

I am pursuing research on the topic **THE IMPACT OF PLASTIC MONEY ON BANK CUSTOMERS IN KARNATAKA: AN EMPIRICAL STUDY** leading to the award of Ph. D degree in Kuvempu University under the able guidance of *Dr. (Smt.) K. S. SARALA*, Associate Professor and Head, Department of Commerce and Management, Sahyadri Arts and Commerce College, (Constituent College of Kuvempu University), Shimoga – 577 203, Karnataka, India.

I solicit your co-operation and support in completing the enclosed questionnaire. Your response will be kept confidential and the results obtained from your responses will be used for the academic purpose only.

At your earliest convenience kindly return you're filled in questionnaire (completely)

Thanking you

Dr. V. Vimala

Questionnaire to the Bank Customers

Part I: Personal Details of the Customers

01. Age:

- | | | |
|------------------|-------------|-----------|
| (a) 20 – 30 | (b) 31 – 40 | [] |
| (c) 41 – 50 | (d) 51 – 60 | [] |
| (e) 60 and Above | | [] |

02. Gender:

- | | | |
|----------|------------|-----------|
| (a) Male | (b) Female | [] |
|----------|------------|-----------|

03. Qualification:

- | | | | |
|---------------------|-----------|-----------------------------|-----------|
| (a) Up to SSLC | [] | (b) PUC | [] |
| (c) Degree | [] | (d) Professional Degree | [] |
| (e) Post Graduation | | (f) Others (Please Specify) | [] |

04. Occupation:

- | | |
|--------------------------------|---|
| (a) Agriculturist | (b) Nature of own Business |
| (c) Employed in Private sector | (d) Employed in Public sector [] |
| (e) Homemaker | (f) Professional [] |
| (g) Retired Employee | (h) Student [] |
| (i) Others (Please Specify) | [] |

05. Monthly Income:

- | | |
|----------------------|-------------------------------|
| (a) Below 10,000 | (b) 100,000 – 20,000 |
| (c) 20,000 – 30,000 | (d) 30,000 – 50,000 [] |
| (e) 50,000 – 100,000 | (f) Above 100,000 [] |

06. Marital status:

- | | | |
|-------------------|-------------|-----------|
| (a) Single | (b) Married | [] |
| (c) Widower/Widow | | [] |

07. Type of Account held with bank:

- | | |
|---------------------------|------------------------------|
| (a) Saving Bank Account | (b) Current Account |
| (c) Fixed Deposit Account | (d) Other Accounts [] |

08. For what purpose do you prefer Plastic cards in your day to day activities? Please tick the following items. [MP/Most Preferred=1, P/Preferred=2, LP/Least Preferred=3, MLP/Most Likely to preferred=4, NAP/Not at all Preferred=5].

Sl. No.	Factor	Rank				
		1	2	3	4	5
01.	Payment purpose					
02.	Shopping					
03.	Dinner					
04.	Travelling					
05.	Others (if any specify)					

09. How would you describe your views about Plastic Money and its level of satisfaction?
Please rank the following items (1: Not at all satisfied / 2: Slightly Satisfied/ 3: Moderately Satisfied, 4: Very Satisfied/ 5: Extremely Satisfied).

Sl. No.	Description	Rank				
		1	2	3	4	5
01.	Easy handling					
02.	Flawless/correct operations					
03.	Speed of conducting operations					
04.	Knowledge about products and services					
05.	Understanding the benefits involved in operating with any ATMs					
06.	ATMs skills/positive approach towards Plastic Money					
07.	General assessment about the service					
08.	Others (Please specify)					

10. State the reasons for preferring Plastic Money by the ticking the following and accordingly rank them:[MP/Most Preferred=1, P/Preferred=2, LP/Least Preferred=3, MLP/Most Likely to preferred=4, NAP/Not at all Preferred=5].

Sl. No.	Reasons	Rank				
		1	2	3	4	5
01.	Less Processing Time					
02.	Convenient Branch Location					
03.	Security of Documents					
04.	Loyalty Rewards					
05.	Advisory Services					
06.	Brand Image					
07.	Quick Response					
08.	Friendly staff					
09.	Wide Range of services offered					
10.	Good branch network					
11.	High Speed of transactions					
12.	High Security					
13.	International presence					
14.	Private Banking					
15.	Better Pension schemes					
16.	Insurance services					
17.	Many Cash-Machines (ATMs)					
18.	Others (if any specify)					

11. Do you feel and satisfy that use of Plastic money is the safest mode of transaction? Please rank the following items. (1: Not at all Satisfied/2: Slightly Satisfied/3: Moderately Satisfied, 4: Very Satisfied/5: Extremely Satisfied).

Sl. No.	Description	Rank				
		1	2	3	4	5
a.	Easy withdrawal of money					
b.	Avoids the Queuing system in Banks					
c.	Time saving					
d.	Easy to carry					
e.	Anywhere, Anytime Transaction is possible					
f.	Smooth Shopping, travelling and purchasing					
g.	No Chance of Duplication					
h.	Easy Balance Enquiry					
i.	Unstable income					
j.	Lack of knowledge					
k.	Malpractice by shop owners					
l.	Mal practice by Bankers					
m.	Lack of Trust/ Misuse by others					
n.	Technical problems					
o.	Cards are not accepted everywhere					
p.	Restriction of withdrawal					
q.	Others (if any, specify)					

12. Rate the following in terms of risk associated with Plastic Money.

Instrument	Level of Risk associated with them				
	Very High Risky	High Risky	Moderately Risky	Less Risky	Very Less Risky
Forgetting Password (PIN)					
Frequent Changing of PIN					
Difficulties of ATM options in different Banks					
Difficulty to identify theft/Damage					
Expiry/Invalid date					
Incorrect Card Number					
Incorrect Visa or MasterCard logo					
Lack of Fraud Risk Identification Services (FRIS)					
Others,(if any Specify)					

13. How often do you use the following Plastic Money for purchases?

Sl. No.	Description	✓ / Tick	
		ATM-cum-Debit Cards	Credit Cards
a.	Rarely (Few times a Year)		
b.	Occasionally (Once in a Month)		
c.	Frequently (Once in a Week)		
d.	Very frequently (Almost daily)		

14. Since how long you have been using following cards?

Sl. No.	Description	Period		
		Less than 1 year	1 year - 3 years	More than 3 years
a.	Debit Card			
b.	Credit Card			

15. What is your perception towards the Plastic Money or ATM? (Use the Following Rating Scale)[HS – Highly Satisfied, S – Satisfied, NSNDS – Neither Satisfied nor Dissatisfied, DS – Dissatisfied, HDS – Highly Dissatisfied].

Sl. No.	Banks	HS	S	NSNDS	DS	HDS
a.	State Bank of India (SBI)					
b.	Bank of India (BOI)					
c.	Industrial Credit and Investment Corporation of India (ICICI)					
d.	Housing Development Finance Corporation (HDFC)					

16. How does the Plastic Money affect or influence the socio-culture in the state Rank the following (1 = Not at all Influential, 2 = Slightly Influential, 3 = Somewhat Influential, 4 = Very Influential, 5 = Extremely Influential).

Sl. No.	Description	Rank				
		1	2	3	4	5
01.	Pride and vanity					
02.	Change in behaviour and attitudes					
03.	Increases the credit purchases					
04.	Affect family relationship					
05.	Forcing to disclose the password					
06.	Undue influence by the family members to use cards by the third persons					
07.	Forcing to handover the cards to the third person					
08.	It affect the spouse relationship					
09.	Change in the perceptions					
10.	Reduces the saving habits					
11.	Increases the spending habits					
12.	Privacy as the control of personal information					
13.	User- Centered perspectives on security					
14.	Privacy, personalisation and responsiveness in the bank					
15.	Increases Socio – Cultural Affinity					
16.	Improve the Relations For Mutual Gains in the family and / or at work places					
17.	Understand the Contemporary Scenario And Rightly Suggest Some important issues in the family and/ or in the society wherever its applicable					
18.	Improves the Economic Partnership					
19.	Increases the Religious Freedom					
20.	Effects of Globalization on Macro-economic Balances, foreign sector, Effects of Globalization on Macro-Economic Balances					
21.	Social Diversity, Assets, and Livelihoods					
22.	Power, Institutions, and Governance					
23.	Joint Cooperation in personnel management in family and at work					
24.	Service Quality and its measurement					
25.	Strengthening civil society to enhance accountability of service providers and government institutions					
26.	Others (If any Specify)					

17. Is the Plastic Money (PM) affecting the customer's psychology? Rank the following (1 = Not at all Influential, 2 = Slightly Influential, 3 = Somewhat Influential, 4 = Very Influential, 5 = Extremely Influential)

Sl. No.	Description	Rank				
		1	2	3	4	5
PM Affecting the Customers Psychology						
01.	Fear of crime					
02.	Poverty Line					
03.	Rigid thinking style					
04.	Damp conditions					
05.	Low levels of assertion					
06.	Financial problems					
07.	Unrealistic beliefs					
08.	Unrealistic expectations					
09.	Bereavement					
10.	Inconsiderate people					
11.	Discipline and Focus					
12.	Alertness and Concentration					
13.	Many social activities/interests					
14.	Others (if any specify)					

18. Is plastic money having impact on the economic factors? Rank the following (1 = Not at all Influential, 2 = Slightly Influential, 3 = Somewhat Influential, 4 = Very Influential, 5 = Extremely Influential)

Sl. No.	Description	Ratings				
		1	2	3	4	5
01.	Perception of usage					
02.	Income Level of the customers					
03.	Scarcity of funds					
04.	Economic Recession					
05.	Unemployment					
06.	Savings					
07.	Consumption					
08.	Antecedent of Organizational Commitment in Baking Sector will affect					
09.	Autonomy in work					
10.	feeling of skillfulness in performing tasks and perception of impacting work outcomes in employees lead to high level of commitment of employees with organization					
11.	Generalizing the concept of innate and inhibited risk in consumers' behavior					
12.	Predicting the rate of the acceptance of E – Services presenting services through bank cards)					
13.	Perceived risk as an obstacle for the application of cards in electronic trade					
14.	Others (if any specify)					

19. How the Plastic money Support the financial sectors in the Indian Banks. Rate the following.(1 = Strongly Support, 2 = Somewhat Support, 3 = Neutral, 4 = Somewhat Favor, 5 = Strongly Favor)

Sl. No.	Description	Ratings				
		1	2	3	4	5
01.	Increases the performance of the e-banking turnover					
02.	Personal financial Literacy					
03.	Benefits the new users of Banking technology					
04.	It helps to improve the better banking services and products upgraded products					
05.	It helps banks to use technology to improve their business processes, reduce costs and increase efficiency					
06.	It helps predict and thus monitor the behavior of the credit card account over time					
07.	It increases Relationship Banking and Credit Card Utilization					
08.	Intuitive workflow management and time-saving					
09.	Others (if any specify)					

20. What are the changes that the plastic money brings? (Tick the appropriate one in the following by ranking or using the scale , (1 = Not at all Influential/Impact, 2 = Slightly Influential, 3 = Somewhat Influential, 4 = Very Influential, 5 = Extremely Influential)

21. Which of the following other factors affect the customers in using the Plastic Money /Bank Card?

Sl. No.	Description	1	2	3	4	5
01.	Superior qualities like durability, resistance to deterioration					
02.	Lesser degree a fashion consciousness					
03.	Change in the life style					
04.	Improve the economic status					
05.	Financial performance will increase					
06.	Affect the legal system in the society					
07.	Brings sociological challenges and opportunities					
08.	Affect the banking sector					
09.	Help the individuals to update themselves in adopting new technology					
10.	Change in attitude, behavior					
11.	Affect family relationship					
12.	Others (if, any specify)					

(a) Internal Factor

(b) External Factor

If your answer is 01 what factors influence you for such decisions or affect in using the cards? (1 = Not at all Influential, 2 = Slightly Influential, 3 = Somewhat Influential, 4 = Very Influential, 5 = Extremely Influential).

Sl. No.	Factors	Ratings				
		1	2	3	4	5
01.	Standardized contracts					
02.	Actual performance (Delivered/Cash settled)					
03.	Provides Liquidity					
04.	Transparent (information could be retrieved on their performance)					
05.	Helps in price discovery					
06.	Supplements the underlying asset performance in cash market					
If your answer is 02 what factors influence you for such decision? (1 = Not at all Influential, 2 = Slightly Influential, 3 = Somewhat Influential, 4 = Very Influential, 5 = Extremely Influential)						
07.	Customization					
08.	Convenience					
09.	Less stringent as they are not directly regulated					
10.	Less formal					
11.	No Margin required					
12.	Other please specify					

22. Please provide your valuable suggestions as to what steps have to be initiated to develop Plastic Money to help the bankers and Customers and others in Karnataka?

Thank you very much for sparing your precious time and contribution to my research work.

Dr. V. Vimala, Assistant Professor, Department of Commerce, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore – 641 043, Tamil Nadu, India.
vim2achar@gmail.com, (094819 69904/ 094429 44904).

Annexure - II

Scheduled Banks in India (Public Sector Banks)

Sl. No.	Banks	Sl. No	Banks
01.	State Bank of India	15.	Central Bank of India
02.	State Bank of Bikaner and Jaipur	16.	Corporation Bank
03.	State Bank of Hyderabad	17.	Dena Bank
04.	State Bank of Indore	18.	Indian Overseas Bank
05.	State Bank of Mysore	19.	Indian Bank
06.	State Bank of Patiala	20.	Oriental Bank of Commerce
07.	State Bank of Saurashtra	21.	Punjab National Bank
08.	State Bank of Travancore	22.	Punjab and Sind Bank
09.	Andhra Bank	23.	Syndicate Bank
10.	Allahabad Bank	24.	Union Bank of India
11.	Bank of Baroda	25.	United Bank of India
12.	Bank of India	26.	UCO Bank
13.	Bank of Maharashtra	27.	Vijaya Bank
14.	Canara Bank	28.	State Bank of India

Annexure - III

Scheduled Private Banks in India

Sl. No.	Banks	Sl. No.	Banks
01.	Vysya Bank Ltd	15.	Canara Bank
02.	Axis Bank Ltd	16.	Central Bank of India
03.	Indusind Bank Ltd	17.	Corporation Bank
04.	ICICI Banking Corporation Bank Ltd	18.	Dena Bank
05.	Global Trust Bank Ltd	19.	Vijaya Bank
06.	HDFC Bank Ltd	20.	Indian Bank
07.	Centurion Bank Ltd	21.	Indian Overseas Bank
08.	Bank of Punjab Ltd	22.	Oriental Bank of Commerce (OBC)
09.	IDBI Bank Ltd	23.	Punjab and Sind Bank
10.	Allahabad Bank	24.	Punjab National Bank (PNB)
11.	Andhra Bank	25.	Syndicate Bank
12.	Bank of Baroda	26.	UCO Bank
13.	Bank of India	27.	Union Bank of India
14.	Bank of Maharashtra	28.	United Bank of India (UBI)

Annexure - IV

Scheduled Foreign Banks in India

Sl. No.	Banks	Sl. No.	Banks
01.	American Express Bank Ltd.	07.	Citi Bank N.C.
02.	ANZ Gridlays Bank Plc.	08.	Deutsche Bank A.G.
03.	Bank of America NT and SA	09.	Hongkong and Shanghai Banking Corporation
04.	Bank of Tokyo Ltd.	10.	Standard Chartered Bank.
05.	Banque Nationale de Paris	11.	The Chase Manhattan Bank Ltd.
06.	Barclays Bank Plc	12.	Dresdner Bank AG

Annexure - V

Foreign Branches: SBI has branches in these countries

Sl. No.	Banks	Sl. No.	Banks
01.	Australia	11.	Japan
02.	Bahrain	12.	People's Republic of China
03.	Bangladesh	13.	Republic of Maldives
04.	Belgium	14.	Singapore
05.	Canada	15.	South Africa
06.	France	16.	Sri Lanka
07.	Germany	17.	Sultanate of Oman
08.	Hong Kong	18.	The Bahamas
09.	Israel	19.	United Arab Emirates
10.	U.K	20.	U.S.A

Annexure - VI

Bank – Wise and Category Wise Employees of Scheduled Commercial Banks (2011 to 2013)

Sl. No.	Banks	Officers			Clerks			Sub – Staff			Total		
		2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013
Public Sector Banks													
01.	SBI	79,728	80,404	80,796	1,02,701	95,715	109,686	40,504	39,362	37,814	2,22,933	21,5481	228,296
02.	BOI	14,824	16,849	17,127	17,216	16,833	17,332	7,748	7,855	7,889	39,788	41,537	42,348
	TOTAL (a)	94,552	97,253	97,923	17,216	112,548	127,018	48,252	47,217	45,703	39,788	257,018	270,644
Private Sector Banks													
03.	ICICI	26,799	25,135	28078	18	32,535	33,732	112	238	255	26,929	58,276	62,065
04.	HDFC	55,421	66,076	69098	166	154	150	165	162	153	55,752	66,076	69,401
	TOTAL (b)	82,220	91,211	97,176	184	32,689	33,882	277	400	408	82,681	124,352	131,466
	GRAND TOTAL [(a) + (b)]	176,772	188,464	195,099	17,400	145,237	160,900	48,529	47,617	46,111	122,469	381,370	402,110

Source: Indian Bank's Association.

Note:

01. \$ includes IDBI Bank Limited.
02. Sub–Staff of Canara Bank, Stat Bank of Hyderabad, Syndicate Bank includes part-time employees.
03. Sub–Staff of State Bank of Bikaner and Jaipur excludes 502 part time employees in 2010 –11 and 483 part time employees in 2011 –12.
04. Sub–Staff of Punjab National Bank excludes part time employees.
05. For Bank of America. Non official staff is 89 (2010 – 11), 103 (2011 – 12) and (2012– 13).

Annexure - VII

Branches and ATMs of Scheduled Commercial Banks (At end – March 2012)

Sl. No.	Banks	Branches					ATM		
		Rural	Semi - Urban	Urban	Metropolitan	Total	On - site	Off - site	Total
01.	Scheduled Commercial Banks	23,776	22,468	17,878	17,118	81,240	47,545	48,141	95,686
Public Sector Banks		22,188	17,773	14,248	13,257	67,466	34,012	24,181	58,193
02.	State Bank of India	5,250	3,956	2,442	2,214	13,862	12,198	9,943	22,141
03.	Bank of India	1,466	1,040	676	724	3,906	860	820	1,680
Private Sector Bank		1,581	4,687	3,569	3,615	13,452	13,249	22,830	36,079
04.	ICICI	285	913	721	827	2,746	3,032	5,974	9,006
05.	HDFC	177	913	654	768	2,512	3,823	5,090	8,913

Source: Master office file (latest updated version) on commercial banks

Notes:

01. Nationalised Banks include IDBI Bank Ltd.
02. Branches data exclude administrative offices.
03. Report on Trend and Progress of Banking in India for the year ended, June 30, 2012 submitted to the Central Government in terms of Section 36(2) of the Banking Regulation Act, 1949.

Annexure - VIII

Branches and ATMs of Scheduled Commercial Banks (As at end – March, 2013)

Sl. No.	Banks	Branches					ATM		
		Rural	Semi-Urban	Urban	Metropolitan	Total	On-site	Off-site	Total
Scheduled Commercial Banks		26,493	25,009	19,027	18,033	88,562	55,760	58,254	114,014
Nationalised Banks		17,036	13,539	11,320	10,585	52,480	21,533	15,528	37,061
Public Sector Banks		24,124	19,554	15,080	13,903	72,661	40,241	29,411	69,652
01.	State Bank of India	5,589	4,153	2,601	2,356	14,699	15,037	12,138	27,175
02.	Bank of India	1,594	1,156	714	769	4,233	1,103	1,030	2,133
Private Sector Bank		2,361	5,445	3,882	3,881	15,569	15,236	27,865	43,101
Old Private Sector Bank		1,069	2,332	1,514	1,132	6,047	4,054	3,512	7,566
03.	ICICI	428	1,106	705	793	3,032	4,344	6,399	10,743
04.	HDFC	436	989	786	884	3,095	3,322	7,159	10,481

Source: Report on Trend and Progress of Banking in India for the year ended, June 30, 2013 submitted to the Central Government in terms of Section 36(2) of the Banking Regulation Act, 1949.

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012.

Annexure - IX

Bank – Wise ATM and Card Statistics–December 2011

Bank Name	Number of ATMs		Number of POS terminals		Credit Cards				Debit Cards					
	On -site	Off -site	On -line	Off-line	No .of outstanding cards	No. of Transactions (Actual)		Amount of Transactions (₹. Millions)		No. of outstanding cards	No. of Transactions (Actual)		Amount of Transactions (₹. Millions)	
						at ATM	at POS	at ATM	at POS		at ATM	at POS	at ATM	at POS
	State Bank of India	11971	9803	0	0	2145084	22426	3327385	105.41	6695.65	86508000	162978000	5643000	433885.90
Bank of India	846	799	1930	501	119324	8985	89920	63.10	244.10	8451970	2206473	533240	7615.70	697.60
ICICI Bank Ltd.	2991	4611	144906	4526	2892502	8039	4376919	42.59	10041.57	15696191	25609879	4838468	111464.29	2991
HDFC Bank Ltd.	3363	3747	166145	0	5496726	64080	7163111	407.36	23389.96	13722502	24876045	5510860	102815.71	3363

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012.

Annexure - X
ATM and Card Statistics–December–2012

Bank Name	Number of ATMs		Number of POS terminals		Credit Cards				Debit Cards					
	On-site	Off-site	On-line	Off-line	No. of outstanding cards	No. of Transactions (Actual)		Amount of Transactions (₹. Millions)		No. of outstanding cards	No. of Transactions (Actual)		Amount of Transactions (₹. Millions)	
						at ATM	at POS	at ATM	at POS		at ATM	at POS	at ATM	at POS
State Bank of India	13696	11056	33759	0	2502860	30836	4768659	140.00	10370.00	105104000	175302000	8687000	500828.30	1298270
Bank of India	937	901	1916	500	121111	9321	99073	63.60	271.30	12676774	11557349	931275	24428.40	1140.00
ICICI Bank Ltd.	3261	6779	188140	6599	2824532	8347	5319875	41.2	12632.7	18006486	28381632	7410856	126600.00	1251000
HDFC Bank Ltd.	4124	6366	230973	0	6208875	77124	9883168	500	32580	14897289	30429476	7566251	132100.00	1165000

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012

Source: Report on Trend and Progress of Banking in India for the year 2012 – 2013

Annexure - XI

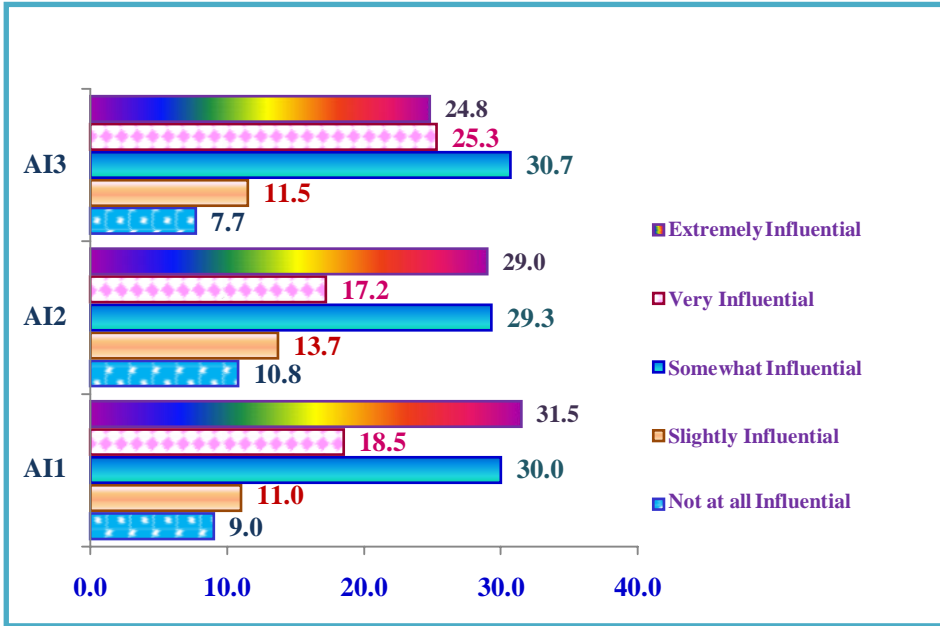
ATM and Card Statistics, November–2013

Bank Name	Number of ATMs		Number of POS terminals		Credit Cards				Debit Cards					
	On -site	Off -site	On -line	Off-line	No. of outstanding cards	No. of Transactions (Actual)		Amount of Transactions (₹. Millions)		No. of outstanding cards	No. of Transactions (Actual)		Amount of Transactions (₹. Millions)	
						at ATM	at POS	at ATM	at POS		at ATM	at POS	at ATM	at POS
Scheduled Commercial Banks														
Public Sector Banks														
State Bank of India	19687	15475	114406	0	2758042	42082	5439913	207.33	14069.16	127248000	203335000	11071000	58495980	1704880
Bank of India	1688	1526	2565	499	122841	8364	112022	54.60	299.30	15833596	13854347	1306316	34193.70	1547.70
Private Sector Banks														
ICICI Bank Ltd.	3692	7483	228686	9441	3094705	6633	5819504	31.60	13245.20	21014427	31328329	8783452	139124.25	1504503
HDFC Bank Ltd.	4651	6694	223006	0	5117856	69096	13197140	467.47	37382.52	17297969	30426316	8425986	131874.81	1357536

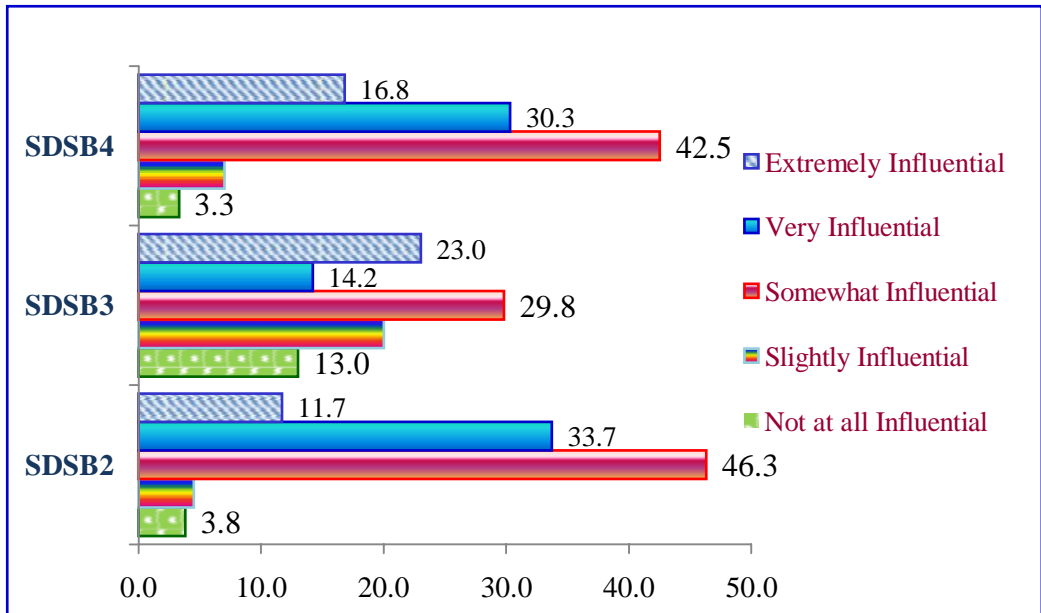
Source: Report on Trend and Progress of Banking in India for the year 2012 – 2013

Annexure - XII

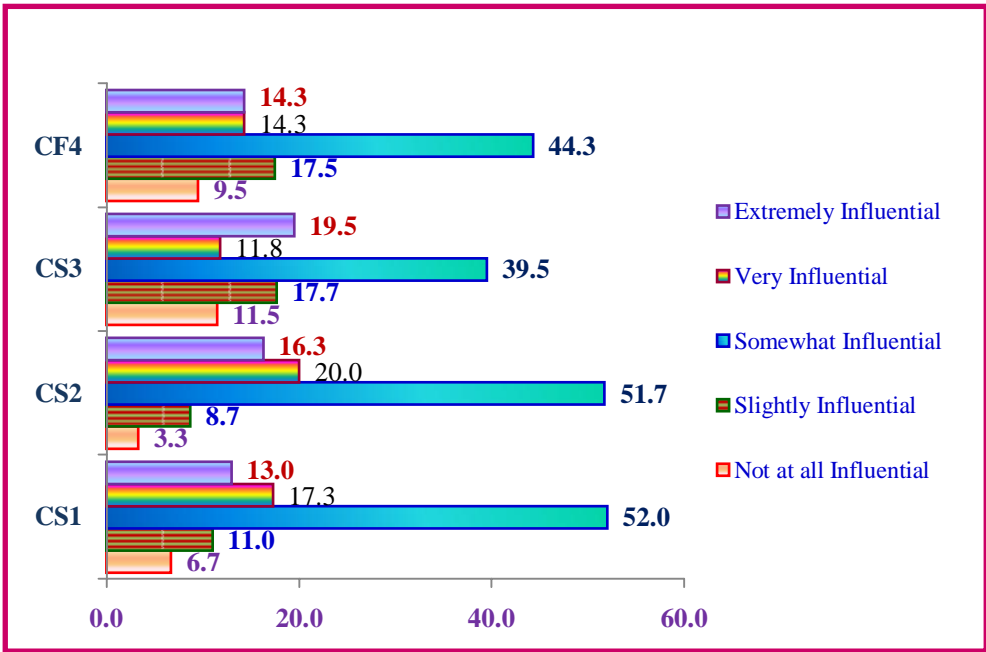
raphs of Items under Socio – Cultural, Economic and Psychological Dimensions



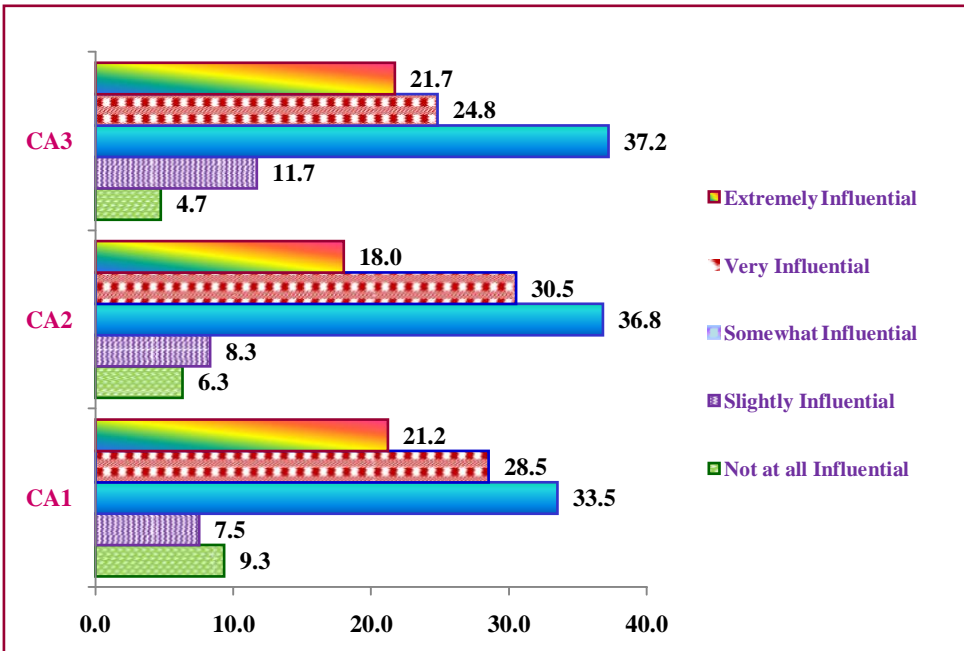
Graph (a): Percentage of Respondents Agreeing (from Not at all influential to Extremely influential) Under AI Cultural Dimension



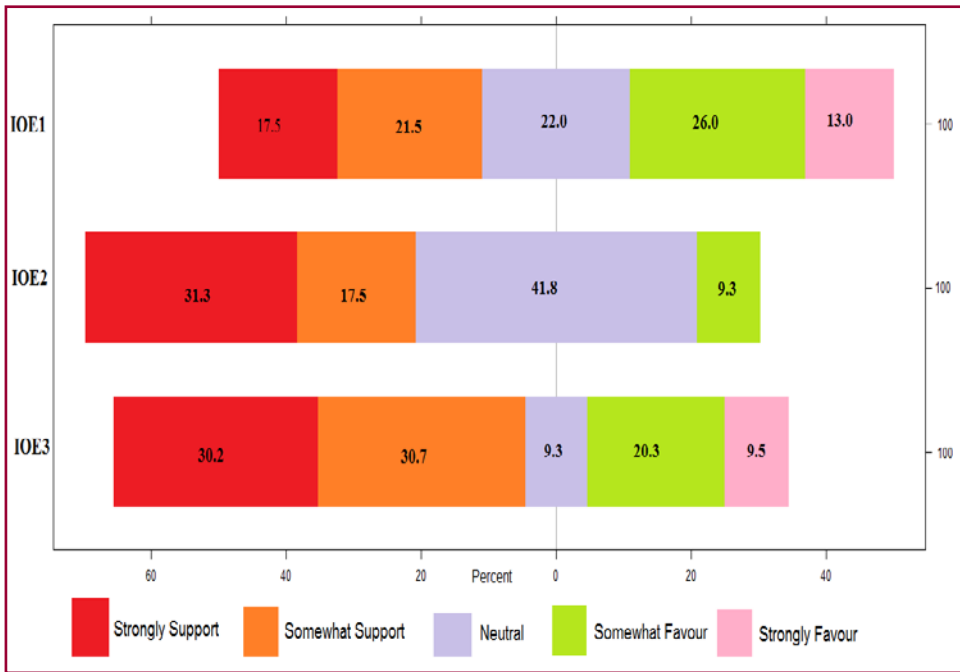
Graph (b): Percentage of Respondents Agreeing (from Not at all Influential to Extremely Influential) Under SDSB Cultural Dimension



Graph (c) : Percentage of Respondents Agreeing (From Not At All Influential to Extremely Influential) Under CS Cultural Dimension



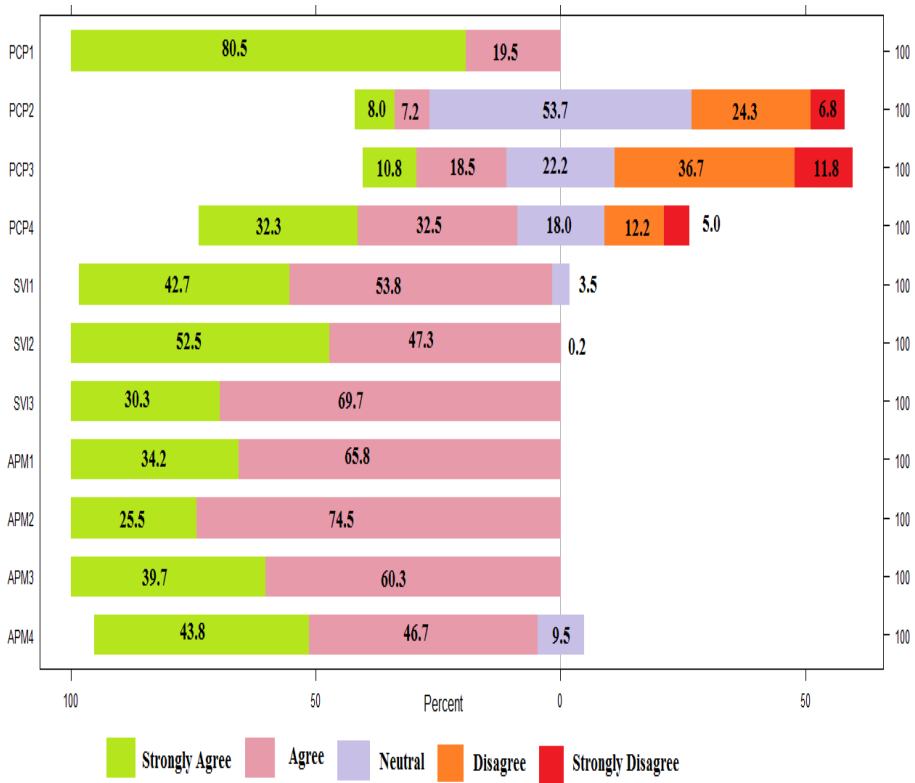
Graph (d): Percentage of Respondents Agreeing (From Not At All Influential To Extremely Influential) Under CA Cultural Dimension



Graph (e): Percentage of Respondents Agreeing (From Strongly Support to Strongly Favour) Under IOE Economic Dimension



Graph (f): Percentage of Respondents Agreeing (From Strongly Agree to Disagree) Under SOE, ER AND CH of Economic Dimension



Graph (g): Percentage of Respondents Agreeing (from Strongly Agree to Disagree) under PCP, SVI & APM of Psychological Dimension

List of Abbreviations

ACHs	Authorisation of the Cardholders
ADRs	American Depositary Receipts
AGFI	Adjusted Goodness of Fit Index
AILS	Adverse Impact on Lifestyle
AMOS	Analysis of Moment Structures
ANN	Artificial Neural Network
ANOVA	Analysis of Variance
APACS	<i>Association for Payment Clearing Services Report</i>
APM	Authority of the Plastic Money holders
APR	Annualized Percentages Rates
ASBA	Applications Supported by Blocked Accounts
ATM	Automated Teller Machine
ATRAC	<i>Australian Transaction Report and Analysis Centre</i>
AVS	Address Verification Service
BOI	Bank of India
BT	<i>Business Technology</i>
BTQ	Business Travel Quota
CA	Cultural Affinity
CAR	Capital Adequacy Ratio
CARD	Credit Card Accountability Responsibility and Disclosure Act of 2009
CBN	Central Bank of Nigeria
CDR	Credit Deposit Ratio
CFA	<i>Confirmatory Factor Analysis</i>
CFI	Comparative Fit Index
CH	Consumption Habits
CIBIL	Credit Information Bureau (India) Limited
CIR	Credit Information Report
CISP	Cardholder Information Security Program
CNP	Card/Cardholder Not Present
CRIS	Cardholder Risk Identification System
CRISL	Credit Rating Information and Services Limited
CRM	Customer Relationship Management
CS	Cultural Sovereignty

CSC	Card Security Code
CVV	Card Verification Value
DDA	Demand Deposit Account
DIR	Differential Interest Rate Schemes
DMA	Direct Marketing Agents
DNB	De Nederlandsche Bank
DNCR	Do Not Call Registry
DSA	Direct Selling Agents
EAD	Equal Monthly Installment Amount Due
EAD	Exposure at Default
EBPP	Electronic Bill Presentment And Payment
EBT	Electronic Benefit Transfer
ECS	Electronic Clearing Services
EDC	Electronic Data Capture
EDI	Electronic Data Interchange
EFT	Electronic Fund Transfer
EMI	Equal Monthly Installment
EMV Card	Europay , MasterCard and Visa Card
EPSO	E–Payment System Observatory
ER	Economic Recession
EU	European Union
FEMA	Foreign Exchange Management Act
FTC	Federal Trade Commission
FY	Financial Year
GCC	Gulf Corporation Council
GFI	Goodness of Fit Index
GTFL	Global Trade Finance Limited
HDFC	Housing Development Finance Corporation Limited
HSBC	Hongkong and Shanghai Banking Corporation
IADs	Independent ATM Deployers
IBA	Indian Bank's Association
ICBC	Industrial and Commercial Bank of China Limited
ICICI	Industrial Credit and Investment Corporation of India
IDBI	Industrial Development Bank of India (IDBI)
IDC	International Data Corporation
IFI	Incremental Fit Index
IMPS	Interbank Transfer Payment Service

IoE	Impact on Economy
IPO	Intellectual Property Office
IRDP	Integrated Rural Development Program
IS	Information System
ISOs	Independent Service Organisations
ISP	Internet Service Provider
IT	Information Technology
KCC	Kisan Credit Card Scheme
KYC	Know Your Customer
LGD	Loss given Default
LPG	Liberalisation, Privatisation and Globalisation
LSU	Louisiana State University
MAD	Minimum Amount Due
MCMP	Merchant Charge Back Monitoring Program
MDR	Merchant Discount Rate
MES	Merchant Establishments
MICR	Magnetic Ink Character Recognition
MIFs	Multilateral Interchange Fees
NBFC	Non – Banking Financial Corporation
NCR	National Cash Register
NEFT	National Electronic Fund Transfer
NFE	<i>Near Field Technology</i>
NFI	Normed Fit Index
NPCI	National Payment Corporation of India
NPRB	<i>New Private Bank</i>
NYSE	New York Stock Exchange
OCR	Optical Character Recognition
OECD	<i>Organisation for Economic Co – operation and Development</i>
PCA	Principal Component Analysis
PCE	Personal Consumption Expenditure
PCFI	Parsimony Comparative of Fit Index
PCP	Psychosomatic Common Position
PCs	Personal Computers

PD	Probability of Default
PDA	<i>Personal Digital Assistant</i>
PIN	Personal Identification Number
PM	Plastic Money
PNFI	Parsimony Normed Fit Index
PoP	<i>Point of Purchase</i>
PoS	Point of Sale
PPIs	Pre – Paid Payment Instruments
PSS	Payment and Settlement System
RBA	Reserve Bank of Australia
RBI	Reserve Bank of India
RFI	Relative Fit Index
RMSEA	Root Mean Square Error of Approximation
RRB	Regional Rural Banks
RTGS	Real Time Gross Settlement
SAMEA	South Asia, Middle East And Africa
SBI	State Bank of India
SBS	State Bank of Saurashtra,
SCF	Survey of Consumer Finances
SDSB	Social Diversity and Spending Behaviour
SEM	<i>Structural Equation Modeling</i>
SFMS	Structured Financial Message System
SGRF	State General Reserve Fund
SGSY	Swarnajayanthi Gram SwarojgarYojana
SHGs	Self Help Groups
SMEs	Small and Medium Enterprises
SoE	Scarcity of funds
SPNS	Shared Payment Network System
SVI	Security and Verification Issues
SWIFT	Society For World Wide Inter – Bank Financial Communication
TRAI	<i>Telecom Regulatory Authority of India</i>
US	United States
VSAT	Very Small Aperture Terminal
WLAs	White – Label ATMs

Author Profile



Dr.V.Vimala is the Assistant Professor (SS) of Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore [a Deemed University u/s - 3 of UGC Act of 1956]. She completed her Post-graduate degree in Master of Commerce (M.Com) in 2005, Post-graduate Diploma in Marketing Management (PGDMM) in 2006 from Kuvempu University, Tholunese Campus, Davangere. She got second rank in M.Com and first rank in PGDMM. And later obtained Master of Philosophy (M.Phil) in Commerce with distinction in 2008 and Doctor of Philosophy in Commerce (Ph.D.) with course work in 2015 from Kuvempu University, Jnana Sahyadri, Shankaraghatta, Shivamogga District, Karnataka State. In addition to this, she also obtained Honours Diploma in Web Application from NIIT centre, Bhadravathi.

She has a rich academic knowledge and teaching experience of 13 years and guided more than 20 masters level dissertations for last 10 years. She was a member of Committee of National Vocational Education Qualification Framework (NVEQF) Scheme at University level in 2013. She also served as a member in Board of Studies (BOS) in Commerce (Both UG and PG) for a period of two years for 2013 - 2014. She is a Placement Officer at department level and conducted many off-campus placement programmes, training and seminars.

She contributes actively in public life in various capacities. She served as National Service Scheme (NSS) Programme Officer since 2012. During this period, she has been instrumental in positioning the University as a driver of socio-economic prosperity and social responsibility in the adopted village called Vadamadurai, Kurudampalayam Panchayath, Coimbatore, with the NSS volunteers she created Rs. 81,250 worth of assets by construction flooring to the Primary Government school, contributed many books, sports materials, chairs, tables to that adopted school as well as to the village and also provided many basic needs to orphans (near Karunai Illam, near Goundam Palayam).

She is renowned scholar have affluent academic background and had specialized in Commerce and Management. She has published 21 research articles in reputed national and international referred and non-referred journals, her main area of research is Banking, Finance and Marketing, 10 seminar proceedings, presented 50 research papers in both national and international seminars/conferences, attended 25 workshops, one Book edited, participated and presented research papers in 10 International Conference, 04 State level seminars, 19 chapters in books and 48 National level seminars participated, since 2005. She authored and published a book titled on Impact of Plastic Money on Bank Customers in 2017. She also organized two National workshops and one National level conference. In the year 2011, to her credit, she won Best Paper Award from Kousali Institute of Management Studies (KIMS), Karnatak University, Dharward, in 2013, to her credit, she won the Citation of Award in the Name of Prof. Manubhai M. Shah Memorial Research Award and the Gold Medals and in 2016, she awarded as Best NSS Programme Officer and Best NSS unit at University level for her excellent service in the adopter village in Coimbatore District. She also received Best Faculty Award from Indian Academic Researchers Association (IARA) Award in 2017. Received Young Faculty in Management Award from Venus International Faculty Award (VIFA) 2017 at 3rd Contemporary Academic Meet 2017, Chennai, Tamil Nadu.



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