

**A STUDY ON THE BANKING HABITS
OF THE PEOPLE OF KERALA**

THESIS SUBMITTED TO THE

UNIVERSITY OF CALICUT

FOR THE AWARD OF THE DEGREE OF

DOCTOR OF PHILOSOPHY

UNDER THE FACULTY OF COMMERCE

by

DEEPA PAUL

UNDER THE SUPERVISION AND GUIDANCE OF

Prof. (Dr.) K.P.MURALEEDHARAN

DEPARTMENT OF COMMERCE AND MANAGEMENT STUDIES

UNIVERSITY OF CALICUT, KERALA



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DECLARATION

I hereby declare that this thesis entitled '**A STUDY ON THE BANKING HABITS OF THE PEOPLE OF KERALA**' submitted to the University of Calicut, for the award of Degree of Doctor of Philosophy under the Faculty of Commerce, is an independent work done by me under the supervision and guidance of **Dr. K. P. MURALEEDHARAN**, Professor, Department of Commerce and Management Studies, University of Calicut.

I also declare that this thesis contains no material which has been accepted for the award of any other degree or diploma of any University or Institution and to the best of my knowledge and belief, it contains no material previously published by any other person, except where due references are made in the text of the thesis.

Calicut University Campus

02 November 2012



DEEPA PAUL

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Certificate

This is to certify that the work reported in this Thesis entitled '**A STUDY ON THE BANKING HABITS OF THE PEOPLE OF KERALA**' that is being submitted by Smt. DEEPA PAUL for the award of the Degree of Doctor of Philosophy, to the University of Calicut, is based on the bonafide research work carried out by her under my supervision and guidance in the Department of Commerce and Management Studies, University of Calicut. The results embodied in this Thesis have not been included in any other Thesis submitted previously for the award of any degree or diploma of any other University or Institution.


Dr. K. P. Muraleedharan
(Supervising Teacher)

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

Chapter No.	Particulars	Page No.
CHAPTER 1. INTRODUCTION		1-36
	1.1. Introduction	
	1.2. The Banking System's Dominance	
	1.3. Importance of Bank Marketing	
	1.4. Role of Technology in Banking	
	1.4.1. History of Adoption of Banking Technology in India	
	1.5. Electronic Banking	
	1.5.1. Automated Teller Machine	
	1.5.2. Internet Banking	
	1.5.3. Credit Card	
	1.5.4. Smart Card	
	1.5.5. Mobile Banking	
	1.6. Banking in Kerala	
	1.7. Banking Habits of the People of Kerala	
	1.7.1. E-Banking Habits of the People of Kerala	
	1.8. Significance of the Study	
	1.9. Scope of Study	
	1.10. Research Problem	
	1.11. Objectives	
	1.12. Hypothesis	
	1.13. Methodology	
	1.13.1. Secondary Data	
	1.13.2. Primary Data	
	1.13.3. Sample Design	

- 1.13.4. Tools of Data Collection
- 1.13. 5. Variables Used in the Study
- 1.13.6. Scaling Techniques
- 1.13.7. Method of Data Collection
- 1.13.8. Pilot Study
- 1.13.9. Reliability Analysis
- 1.13.10. Determination of Sample Size
- 1.13.11. Classification and Analysis of Data
- 1.13.12. Tools of Analysis
- 1.14. Period of the Study
- 1.15. Limitations of the Study
- 1.16. Chapterisation

CHAPTER 2. LITERATURE REVIEW

37-91

- 2.1. Introduction
- 2.2. Development of E-Banking Delivery Channels
- 2.3. Awareness and Adoption of E-Banking Delivery Channels
- 2.4. Factors Influencing the Adoption of ATMs
- 2.5. Factors Influencing the Adoption of Internet Banking
- 2.6. Factors Influencing the Adoption of Credit Cards
- 2.7. Factors Influencing the Adoption of Mobile Banking
- 2.8. Satisfaction and Experience of E-Banking Delivery Channels
- 2.9. Conclusion

CHAPTER 3. GENERAL BANKING HABITS OF THE PEOPLE OF KERALA 92-114

- 3.1. Introduction
- 3.2. Profile and Banking Habits of the Respondents
- PART A. Profile of the Respondents
- PART B. Banking Habits of the Respondents

- 3.2.1. Period of Association and Frequency of Visit with the Present Banker
- 3.2.2. Reasons for Bank Visit
- 3.2.3. Factors Influencing the Selection of a Bank

CHAPTER 4. ELECTRONIC BANKING HABITS OF THE PEOPLE OF KERALA 115-253

4.1. Introduction

4.2. Awareness, Adoption, Experience and Satisfaction of E-Banking Delivery Channels

Part A - Awareness of E-Banking Delivery Channels

4.2. 1.Hypothesis Testing of Awareness of E-Banking Delivery Channels

Part B - Adoption of E-Banking Delivery Channels

4.2.2. Influence of Demographic Factors on the Adoption of E-Banking Delivery Channels

4.2.3. Hypothesis Testing of Adoption of E-Banking Delivery Channels

4.2.4. A Summary of Demographic and Economic Factors Influencing the Adoption of E-Banking Delivery Channels

4.2.5. Influence of Perceptual Factors on the Adoption of E-Banking Delivery Channels

4.2.6. Hypothesis Testing of Influence of Perceptual Factors on the Adoption of E-Banking Delivery Channels

Part C - Experience of Using E-Banking Delivery Channels

4.2.7. Hypothesis Testing of User's Experiences Regarding E-Banking Delivery Channels

Part D - Customer Satisfaction of Branch Banking and E-Banking Delivery Channels

Part D1. Customer Satisfaction of Branch Banking

Part D2-Customer Satisfaction of E-Banking Delivery Channels

4.2.8. Hypothesis Testing-Satisfaction of Branch Banking and E-Banking Delivery Channels

5.1. Summary**5.2. Findings**

5.2.1. Period of Association with the Bank and Frequency of Visit

5.2.2. Reasons for Bank Visit

5.2.3. Factors Affecting Customers' Choice of their Banks

5.2.4. Awareness of E-Banking Delivery Channels

5.2.4.1. Bank Wise Awareness

5.2.4.2. Age Wise Awareness

5.2.4.3. Education Wise Awareness

5.2.4.4. Income Wise Awareness

5.2.5. Adoption of E-Banking Delivery Channels

5.2.6. Usage of E-Banking Delivery Channels

5.2.7. Transactions Performed Through E-Banking Delivery Channels

5.2.8. Bank Wise Classification of Adoption of E-Banking Delivery Channels

5.2.8.1. Age Wise Adoption

5.2.8.2. Education Wise Adoption

5.2.8.3. Income Wise Adoption

5.2.9. ATM Users' And Non-Users' Attitude towards Banking
Technology

5.2.10. Attitudinal Differences between Users and Non-Users of ATMs

5.2.11. Influence of Perceptual Factors on the Adoption of ATMs

5.2.12. Internet Bank Users' and Non-Users' General Perception of
Banking Technology

5.2.13. Attitudinal Differences between Users and Non-Users of Internet
Banking

5.2.14. Influence of Perceptual Factors on the Adoption of Internet
Banking

5.2.15. Attitudinal Differences between Users and Non-Users of Mobile
Banking

5.2.16. Attitudinal Differences between Users and Non-Users of Credit

Card

5.2.17. Users' Experience of ATMs

5.2.18. Users' Experience of Internet Banking

5.2.19. Users' Experience of Mobile Banking

5.2.20. Users' Experience of Credit Cards

5.2.21. Customers' Satisfaction of Branch Banking

5.2.22. Customers' Satisfaction of ATMs

5.2.23. Customers' Satisfaction of Credit Cards

5.2.24. Customers' Satisfaction of Internet Banking

5.2.25. Customers' Satisfaction of Mobile Banking

5.4. Conclusion

5.3. Suggestions

5.6. Scope for Further Research

BIBLIOGRAPHY

APPENDICES

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LIST OF TABLES

Table No	Particulars	Page No.
1.1.	Variables Used in the Study	29
1.2.	Tools Used for the Study	32
3.1.	Bank wise Distribution of the Sample Population	93
3.2.	Area wise Distribution of the Sample Population	93
3.3.	Gender wise Distribution of the Sample Population	94
3.4.	Age wise Distribution of the Sample Population	94
3.5.	Education wise Distribution of the Sample Population	95
3.6.	Occupation wise Distribution of the Sample Population	95
3.7.	Income wise Distribution of the Sample Population	96
3.8.	Mean and SD of Branch Banking	97
3.9.	Period of being the Bank Customer-Bank wise Classification	98
3.10	Frequency of Visit-- Bank wise Classification	98
3.11.	Period of being the Bank Customer-Age wise Classification	99
3.12	Frequency of Visit- Age wise Classification	99
3.13	Period of being the Bank Customer-Education wise Classification	100
3.14.	Frequency of Visit-Education wise Classification	101
3.15.	Period of being the Bank Customer-Income wise Classification	102
3.16.	Frequency of Visit-Income wise Classification	102
3.17.	Reasons for Bank Visit	104
3.18.	Bank wise Classification of Reasons for Bank Visit	105
3.19.	Age wise Classification of Reasons for Bank Visit	106
3.20.	Education wise Classification of Reasons for Bank Visit	107
3.21.	Income wise Classification of Reasons for Bank Visit	108
3.22.	Factors Influencing the Selection of a Bank	109
3.23.	Factors Influencing the Selection of a Bank-Bank wise Analysis	111
3.24.	Factors Influencing the Selection of a Bank-Age wise Analysis	112
3.25.	Factors Influencing the Selection of a Bank-Education wise Analysis	113

3.26.	Factors Influencing the Selection of a Bank-Income wise Presentation	114
4.1.	Level of Awareness of E-banking Delivery Channels	116
4.2.	Bank wise Awareness of E-banking Delivery Channels	117
4.3.	Age wise Awareness of E-banking Delivery Channels	118
4.4.	Education wise Awareness of E-banking Delivery Channels	119
4.5.	Income wise Awareness of E-banking Delivery Channels	121
4.6.	Bank wise awareness of E-banking Delivery Channels-ANOVA	122
4.7.	Age wise awareness of E-banking Delivery Channels-ANOVA	123
4.8.	Education wise Awareness of E-banking Delivery Channels-ANOVA	124
4.9.	Income wise Awareness of E-banking Delivery Channels-ANOVA	125
4.10.	Adoption of E-banking Delivery Channels	126
4.11.	Usage of E-banking Delivery Channels	127
4.12.	Droppage of E-banking Delivery Channels	127
4.13.	Period of being the User of E-banking Delivery Channels	128
4.14.	Frequency of Usage of E-banking Delivery Channels	129
4.15.	Transactions Performed Through ATMs	129
4.16.	Transactions Performed Through Internet Banking	130
4.17.	Transactions Performed Through Mobile Banking	131
4.18.	Adoption of E-banking Delivery Channels –Bank wise Classification	132
4.19.	Period of Being the User of E-Banking Delivery Channels-Bank wise Presentation	133
4.20.	Frequency of Usage of E-banking Delivery Channels-Bank wise Classification	134
4.21.	Adoption of E-banking Delivery Channels-Age wise Classification	136
4.22.	Period of Being the User of E-Banking Delivery Channels-Age wise Presentation	137
4.23.	Frequency of Usage of E-banking Delivery Channels-Age wise	138
4.24.	Adoption of E-banking Delivery Channels-Education wise Classification	140

4.25.	Period of Being the User of E-Banking Delivery Channels-Education wise Presentation.	141
4.26.	Frequency of Usage of E-banking Delivery Channels-Education wise Classification	142
4.27.	Adoption of E-banking Delivery Channels –Income wise Classification	144
4.28.	Period of Being the User of E-Banking Delivery Channels- Income wise Presentation	145
4.29.	Frequency of Usage of E-banking Delivery Channels-Income wise Classification	146
4.30.	Results of Chi-Square Test-Bank wise Classification	147
4.31.	Results of Chi-Square Test-Age wise Classification	148
4.32.	Results of Chi-Square Test-Education wise Classification	148
4.33.	Results of Chi-Square Test-Income wise Classification	149
4.34.	Period of Being the User of E-Banking Delivery Channels-ANOVA-Bank wise Presentation	150
4.35.	Period of Being the User of E-Banking Delivery Channels-ANOVA- Age wise Presentation	151
4.36.	Period of Being the User of E-Banking Delivery Channels-ANOVA Education wise Classification	151
4.37.	Period of Being the User of E-Banking Delivery Channels-ANOVA Income wise Classification	152
4.38.	Frequency of Usage of E-banking Delivery Channels-ANOVA-Bank wise	153
4.39.	Frequency of Usage of E-banking Delivery Channels ANOVA-Age wise	154
4.40.	Frequency of Usage of E-banking Delivery Channels-ANOVA-Education wise Classification	154
4.41.	Frequency of Usage of E-banking Delivery Channels- ANOVA- Income wise Classification	155

4.42.	Summary of the Results of Chi-square Test–ATMs	156
4.43.	Summary of the Results of Chi-square Test–Credit Cards	157
4.44.	Summary of the Results of Chi-square Test–Internet Banking	158
4.45.	Summary of the Results of Chi-square Test–Mobile Banking	158
4.46.	Perception of ATM Users and Non Users towards Technology in Banking	161
4.47.	Users’ and Non-Users’ Perception of Quality of ATM Facility by Banks	163
4.48.	Mean and SD of Perceptual variables of ATMs	164
4.49.	Estimated Factor Loadings-Perceptual variables of ATMs	165
4.50.	Internet Banking Users’ and Non-Users’ Perception of Technology used in Banking	168
4.51.	Users’ and Non-Users’ Perception of Quality of Internet Banking Facility Offered by their Banks	170
4.52.	Mean and SD of Perceptual variables on Internet Banking	172
4.53.	Estimated Factor Loadings- Perceptual variables of Internet banking	173
4.54.	Users’ and Non-Users’ Perception of Mobile Banking	175
4.55.	Users’ and Non-Users’ Perception of Credit Card	175
4.56.	Results of t-test: Perception of ATMs	176
4.57.	Results of t-test: Users’ and Non-Users’ Perception of ATMs	177
4.58.	Results of t-test: Internet Banking	178
4.59.	Results of t-test: Perception of Internet banking	179
4.60.	Results of Z Test: Perception of Mobile banking	180
4.61.	Results of Z Test: Perception of Credit cards	180
4.62.	Results of Regression Test: ATMs	181
4.63.	Beta Coefficients of Regression Equation	182
4.64.	Results of Regression Test: Internet banking	184
4.65.	Beta Coefficients of Regression Equation	184
4.66.	Users’ Experience with Regard to ATMs	188
4.67.	Users’ Experience with Regard to ATMs-Bank wise Presentation	189

4.68.	Users' Experience with Regard to ATMs -Age wise Presentation	190
4.69.	Users' Experience with Regard to ATMs-Education wise Presentation	191
4.70.	Users' Experience with Regard to ATMs-Income wise Presentation	192
4.71.	Users' Experience with Regard to Internet Banking	193
4.72.	Users' Experience with Regard to Internet Banking-Bank wise Analysis	194
4.73.	Users' Experience with Regard to Internet Banking-Age wise Presentation	195
4.74.	User's Experience with Regard to Internet Banking-Education wise Presentation	196
4.75.	Users' Experience with Regard to Internet banking-Income wise Presentation	197
4.76.	Users' Experience with Regard to Mobile Banking	198
4.77.	Users' Experience with regard to Mobile Banking-Bank wise Analysis	198
4.78.	Users' Experience with Regard to Mobile Banking-Age wise Presentation	199
4.79.	Users' Experience with Regard to Mobile Banking-Education wise Presentation	200
4.80.	Users' Experience with Regard to Mobile Banking-Income wise Presentation	201
4.81.	Users' Experience with Regard to Credit Cards	201
4.82.	Users' Experience with Regard to Credit Cards-Bank wise Analysis	202
4.83.	Users' Experience with Regard to Credit Cards-Age wise Presentation	203
4.84.	Users' Experience with Regard to Credit Cards-Education wise Presentation	204
4.85.	Users' Experience with Regard to Credit Cards-Income wise Presentation	205
4.86.	Users' Experience with Regard to ATMs	206
4.87.	Users' Experience with Regard to ATMs-Age wise Presentation	206
4.88.	Users' Experience with Regard to ATMs-Education wise Presentation	207

4.89.	Users' Experience with Regard to ATMs–Income wise Presentation	208
4.90.	ANOVA-Users' Experience with Regard to Internet Banking-Bank wise Analysis	209
4.91.	ANOVA-Users' Experience with Regard to Internet Banking-Age wise Analysis	210
4.92.	ANOVA-Users' Experience with Regard to Internet Banking-Education wise Analysis	210
4.93.	ANOVA-Users' Experience with Regard to Internet Banking-Income wise Analysis	211
4.94.	ANOVA-Users' Experience with Regard to Mobile Banking-Bank wise Analysis	212
4.95.	ANOVA-Users' Experience with Regard to Mobile Banking-Age wise Analysis	213
4.96.	ANOVA-Users' Experience with Regard to Mobile Banking-Education wise Analysis	213
4.97.	ANOVA-Users' Experience with Regard to Mobile Banking-Income wise Analysis	214
4.98.	ANOVA-Users' Experience with Regard to Credit Cards-Bank wise Analysis	215
4.99.	ANOVA-Users' Experience with Regard to Credit Cards–Age wise Analysis	215
4.100	ANOVA-Users' Experience with Regard to Credit Cards–Education wise Analysis	216
4.101.	ANOVA-Users' Experience with Regard to Credit Cards–Income wise Analysis	216
4.102.	Level of Satisfaction of Branch Banking	218
4.103.	Level of Satisfaction of Branch Banking-Bank wise Presentation	219
4.104.	Level of Satisfaction of Branch Banking-Age wise Presentation	220
4.105.	Level of Satisfaction of Branch Banking-Education wise Presentation	221

4.106.	Level of Satisfaction of Branch Banking-Income wise Presentation.	222
4.107.	Level of Satisfaction of ATMs	223
4.108.	Level of Satisfaction of ATMs-Bank wise Analysis	224
4.109.	Level of Satisfaction of ATMs-Age wise Analysis	225
4.110	Level of Satisfaction of ATMs-Education wise Presentation	226
4.111	Level of Satisfaction of ATMs-Income wise Presentation	227
4.112.	Level of Satisfaction of Credit Card	228
4.113.	Level of Satisfaction of Credit Card-Bank wise Analysis	228
4.114.	Level of Satisfaction of Credit cards-Age wise Analysis	229
4.115.	Level of Satisfaction of Credit cards-Education wise Presentation	230
4.116.	Level of Satisfaction of Credit cards-Income wise Presentation	230
4.117.	Level of Satisfaction of Internet Banking	231
4.118.	Level of Satisfaction of Internet Banking-Bank wise Analysis	232
4.119.	Level of Satisfaction of Internet Banking-Age wise Analysis	233
4.120.	Level of Satisfaction of Internet banking-Education wise Presentation	234
4.121.	Level of Satisfaction of Internet Banking-Income wise Presentation	235
4.122.	Level of Satisfaction of Mobile Banking	235
4.123.	Level of Satisfaction of Mobile Banking-Bank wise Classification	236
4.124.	Level of Satisfaction of Mobile Banking-Age wise Analysis	237
4.125.	Level of Satisfaction of Mobile banking-Education wise Presentation	238
4.126.	Level of Satisfaction of Mobile Banking-Income wise Presentation	238
4.127.	Level of Satisfaction of Branch Banking-ANOVA--Bank wise Presentation	239
4.128.	Level of Satisfaction of Branch Banking-ANOVA--Age wise Presentation	240
4.129.	Level of Satisfaction of Branch Banking-ANOVA-Education wise Presentation	241
4.130.	Level of Satisfaction of Branch Banking-ANOVA-Income wise Presentation	242

4.131.	ANOVA-Level of Satisfaction of ATMs–Bank wise Analysis	242
4.132.	ANOVA-Level of Satisfaction of ATMs–Age wise Analysis	243
4.133.	ANOVA-Level of Satisfaction of ATMs–Education wise Analysis	244
4.134.	ANOVA-Level of Satisfaction of ATMs–Income wise Analysis	244
4.135.	Level of Satisfaction of Credit Card–ANOVA-Bank wise Presentation	245
4.136.	Level of Satisfaction of Credit Cards– ANOVA-Age wise Analysis .	246
4.137.	ANOVA-Level of Satisfaction of Credit Cards–Education wise Analysis	246
4.138.	ANOVA-Level of Satisfaction of Credit cards–Income wise Analysis	247
4.139.	ANOVA-Level of Satisfaction of Internet Banking–Bank wise Analysis	248
4.140.	ANOVA-Level of Satisfaction of Internet Banking–Age wise Analysis	248
4.141.	ANOVA-Level of Satisfaction of Internet Banking–Education wise Analysis	249
4.142.	ANOVA-Level of Satisfaction of Internet Banking– Income wise Analysis	250
4.143.	ANOVA-Level of Satisfaction of Mobile Banking–Bank wise Classification	250
4.144.	ANOVA-Level of Satisfaction of Mobile Banking–Age wise Classification	251
4.145.	ANOVA-Level of Satisfaction of Mobile Banking–Education wise Classification	252
4.146.	ANOVA-Level of Satisfaction of Mobile Banking–Income wise Classification	252
5.1	Result of Hypothesis Testing	263

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LIST OF FIGURES

1.1. Sample Design

4.1. Factors Influencing the Adoption of ATMs

4.2. Factors Influencing the Adoption of Internet Banking

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ABBREVIATIONS

AAA	Any time Any where Any how Banking
ANOVA	Analysis of Variance
ATM	Automated Teller Machine
BSE	Bombay Stock Exchange
CB	Commercial Bank
CSB	Catholic Syrian Bank
DD	Demand Draft
ECS	Electronic Clearing System
EDI	Electronic Data Interchange
EFT	Electronic Fund Transfer
EFTPOS	Electronic Fund Transfer at Point of Sale
EMI	Equated Monthly Installment
IAMAI	Internet and Mobile Association of India
IB	Internet Banking
IBA	Indian Bank Association
ICICI	Industrial Credit and Investment Corporation of India
IT	Information Technology
KSB	Kerala Based Scheduled Bank

MB	Mobile Banking
MICR	Magnetic Ink Character Recognition
NPCI	National Payment Corporation of India
NRIs	Non Resident Indians
NSE	National Stock Exchange
PG	Post Graduate
PQ	Professional Qualification
RBI	Reserve Bank of India
RTGS	Real Time Gross Settlement
SBI	State Bank of India
SBT	State Bank of Travancore
S.D.	Standard Deviation
SIB	South Indian Bank
SIM	Subscriber Identification Module
SLBC	State Level Bankers Committee
Std.Dev	Standard Deviation
SMS	Short Message Service
TAM	Technology Acceptance Model
WAP	Wireless Application Protocol

**A STUDY ON THE BANKING HABITS
OF THE PEOPLE OF KERALA**

*THESIS SUBMITTED TO THE
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Chapter 1

INTRODUCTION

1.1 . INTRODUCTION

The banking system in India has played a critical role in the growth and development of the economy. The Indian banking system has been stable without any major crisis. It is relatively transparent in its operations and follows the internationally accepted best practices of disclosure, asset classification and provisioning norms. During the past three decades India's banking system has several outstanding achievements to its credit. The most important one is its extensive reach. It is no longer confined to metropolitans or cosmopolitans in India, but also reached even to the remote corners of the country. This is one of the main agents of India's growth process.

The banking sector is one of the leading users of information technology worldwide. Introduction of information technology has transformed banking system almost beyond belief in the last decade and a half. Most of all, customers have benefited, as have the banks themselves. There have been very significant gains in the efficiency of banks leading to greater potential for higher profitability and consequent benefit to the economy as a whole.

With the advancement of technology and increased competition, banks are in the race of becoming the best in the country. With an eye upon customer satisfaction policy, they are providing best of the best services with the minimum hazards. It may also be observed that the recent past has witnessed new concepts such as 'Anywhere Banking' and 'Any Time Banking' being adopted by Indian banks, which are but offshoots of technology implementation by banks. With the introduction of Automatic Teller Machine

(ATM)s customers can even go to any networked branch or networked ATMs, and carry out many banking transactions. With e-banking, many banking activities are carried out from within the customer's home. Such innovations have had a positive impact on customer service- besides the benefit that is derived by banks in terms of reduced costs of operation.

Information technology has also resulted in a major attitudinal change revolutionizing the concept relating to treatment of customers of banks; with the end of geographical distances, banks need to treat the customer as a customer of the bank and not as a customer of any particular branch. This is now possible because of the usage of IT on a large scale whereby centralized data base information are possible in a bank with decentralized access. Another option to achieve this objective is to have clustered solutions in a bank with data of customers residing in these systems. Banks need to constantly look for innovative services which offer customers the convenience of transacting from anywhere, at any time, and using delivery channels that are suitable for them. These are frontiers which would add value to the services offered to customers and at the same time act as a means for increasing the profits for banks too.

Indian banking industry is adopting technology at very fast rate to keep pace with the changing environment. It has embraced many new features like internet banking, mobile banking, ATMs, credit cards, debit cards etc. ATM is one of them which is widely accepted among the people and very much popular. It is the extension of banking services outside the banking premises.

Today, banks have to focus on smaller deposits and smaller advances and improve their operating efficiency substantially. Multiple banking choices have empowered the customer. Today most customers of the bank do not enter the branch premises for their basic transaction needs. Transactions are done through delivery channels such as ATMs, over the internet and even over the mobile. Today customers want banking services 24 hours a day, so, many banks have introduced extended business hours such as '8 to 8' banking and 'Sunday Banking'. Customers do not want to carry cash and this has led to the usage of various forms of plastic cards such as credit cards, debit cards and smart cards. Few banks have introduced world ATM card to make travelers across the globe more safe and secure.

1.2. THE BANKING SYSTEM'S DOMINANCE

¹Across the world, in every economy, banks and capital markets have both played a critical role in connecting savers with investors and thereafter allocating resources among competing users efficiently. However the relative importance of the two has varied. In countries such as the United Kingdom, the United States and Australia, the capital market has been the main driver of the intermediation process, while in Germany, Japan, India and a few other countries, it is the banking system that have played a dominant role.

Despite all the commendable achievements of the capital market in India, its role in the intermediation process continues to be far smaller than that of the banking system. The banking system in India has been the traditional provider not only of working capital but of term loans also. In India as well as in other emerging economies the banking system is better equipped to protect the saving class because of its superior database about the borrowers.

Perhaps the most important reason for its dominance is that the household sector, which contributes the most to gross domestic savings, has been showing a marked preference for bank deposits. According to the Reserve Bank of India (RBI) report in 2006, between 2001 and 2006, out of every Rs.100 saved by this sector, bank deposits accounted for almost Rs.41, while barely Rs.3.2 went into shares, debentures and mutual fund instruments.

1.3. IMPORTANCE OF BANK MARKETING

²The success of any business including banking depends on customer satisfaction, as customer is the king. Mahathma Gandhi, Father of Indian Nation said, *"Customer is the most important visitor in our premises. He is not dependent on us. We are dependent on him. He is not an interruption on our work. He is the purpose of it. He is not an outsider on our business. He is a part of it. We are not doing him a favor by serving him. He is doing us a favor by giving us an opportunity to do so."* This is applicable in both manufacturing as well as in service industry including banking. No service sector can exist without customer. Customer satisfaction is a critical factor for survival and growth

of any banking companies and thus fulfilling its objective of maximization of profit and growth.

Bank marketing is the creation and delivery of financial services suitable to meet the customer's needs at a profit to the bank. Two important functions of bank marketing are to interact and mobilize deposits on one hand and to attract borrowers and users of services on the other. The need for the application of marketing concept in banks arises due to the intense competition faced by banks, increased sophistication of the bank customers, improvement in work technology and increased cost of meeting customer's needs.

Customer perception has been regarded as an indicator of the marketing effectiveness of the firm. The success of any marketing strategy lies in the post purchase experience as delivered through the product/service and as perceived by the customers. Many companies now consider customer perception as crucial. To achieve favorable customer perception about bank services and offers, identification of customer's expectation and actual delivery of services are essential elements of marketing strategy.

1.4. ROLE OF TECHNOLOGY IN BANKING

Over the years, organizations around the world have experienced a huge transformation in the way in which business is done. This is because of the ubiquitous phenomenon called technology. To respond to the rapidly changing external environment all industries have turned to technology to improve their productivity and competitiveness. The adoption of technology in the services industry is becoming a significant trend as service providers are now being urged to invest in technology as a way of making their future secure.

The banking industry in India is no different from any other service industry in terms of deployment of technology. The constructive and progressive measures taken by the Government of India and the growth of telecommunication infrastructure helped banks to build robust data communication networks.

Commercial banking is undergoing rapid change, as the international economy expands and advances towards institutional and market completeness. A major force behind these developments is technology, which is conquering geographical, industrial

and regulatory barriers, creating new products, services and market opportunities, and developing more information-and systems-oriented business and management processes. Effective customer service would imply that a bank should attract a customer to its services and then retain him/ her there. To do this, a bank has not only to identify and understand the customer's requirements but also to render services to meet those requirements. In other words, a bank has not only to be aware of the divergent needs of its customer, but has to be sensitive to them. It should be properly understood that in the wake of opening of market economy and deregulation, the needs of Indian customers are no longer different from the needs of the bank customers the world over. The needs are assurance of safety, error free entries, ability to access funds wherever required, at low costs and with some amount of personalised attention.

In a tight competitive environment where banks are making a thrust towards technology to provide superior services, customers stand to gain the most. The customers are now in an enviable position where he can demand superior services at competitive prices. Those banks that have been able to realize the importance of technology in the day to day operations, have witnessed a sharp increase in their overall performance. Given the online communication explosion in the recent past years, it is increasingly apparent that banks and other financial services firms will have to adjust to a rapidly changing competitive environment in which technology will play a critical role.

1.4.1. History of Adoption of Banking Technology in India

³The Information Technology (IT) revolution had a great impact in the Indian banking system. The use of computers had led to introduction of online banking in India. The use of the modern innovation and computerization of the banking sector of India has increased many fold after the economic liberalization of 1991 as the country's banking sector has been exposed to the world's market. The Indian banks were finding it difficult to compete with the international banks in terms of the customer service without the use of IT and computers.

The RBI in 1984 formed a Committee on Mechanization in the Banking industry under the chairmanship of Dr. C. Rangarajan, the then Deputy Governor, RBI. The major recommendation of this committee was introducing MICR (Magnetic Ink Character

Recognition) technology in all the banks in the metropolis in India. This provided use of standardized cheque forms and encoders.

In 1988, the RBI set up a committee on computerization in banks headed by Dr. C. R. Rangarajan which emphasized that settlement operation must be computerized in the clearing houses of RBI in Bhubaneswar, Guwahati, Jaipur, Patna and Thiruvananthapuram. It further stated that there should be National Clearing of Inter-city Cheques at Kolkata, Mumbai, Delhi, Chennai and MICR should be made operational. It also focused on computerization of branches and increasing connectivity among branches through computers. It also suggested modalities for implementing on-line banking. The committee submitted its reports in 1989 and computerization began from 1993 with the settlement between Indian Bank's Association and bank employee's association.

In 1994, a committee was set up on Technology Issues relating to Payment System, Cheque Clearing and Securities Settlement in the Banking Industry under the chairmanship of Shri. W. S. Saraf, Executive Director, RBI. It emphasized on Electronic Funds Transfer (EFT) system with the banknet communications network as its carrier. It also said that MICR clearing should be set up in all branches of all banks with more than 100 branches. Electronic banking refers to doing banking by using technologies like computers, internet, and networking, MICR, Electronic Fund Transfer so as to increase efficiency, quick service, productivity and transparency in the transaction.

During the recent years, the pace and quality of banking was changed by the technological advancements made in this area. Computerization as well as the adoption of core banking solutions was one of the major steps in improving the efficiency of banking services. The new private sector banks and most of the foreign banks which started their operations in the mid nineties were the front runners in adopting technology. For old private sector banks and public sector banks, adoption of technology was an arduous job because of the historical records and practices. However, it is important to note that presently almost 98 per cent of the branches of public sector banks are fully computerized, and within which almost 90 per cent of the branches are on core banking platform.

1.5 ELECTRONIC BANKING

⁴ Electronic banking is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution. Terms like ATM banking, personal computer (PC) banking, Internet banking, virtual banking, online banking, home banking, remote electronic banking, phone banking and mobile banking refer to one form or another form of electronic banking. PC banking and Internet or online banking are the most frequently used designations. It should be noted, however, that the terms used to describe the various types of electronic banking are often used interchangeably.

Hours of waiting in a long queue to get to the counter, filling and signing a lot of documents to make a deposit or withdrawal or to get a cheque book or Demand Draft (DD), waiting weeks or months to get an urgent loan were the inevitable features of the Indian banking till recently. Now, with the large scale integration of technology, banking is possible by a few clicks of mouse in the PC of the customer. This is the kind of transformation taking place in the banking sector. This modern concept of banking with broad support of latest technology is popularly called 'hi-tech banking'. The invasion of banking by technology has created an information age, and efficient banking services. E-banking is becoming more and more popular today, as is banking via digital television. Beyond doubt, a substantial part of the future of banking business lies in a banking environment that is less and less branch based and where customers are able to access banking services remotely.

India is still in the early stage of growth and development of e-banking. Competition and changes in technology and lifestyle in the past few years have changed the face of banking. Electronic banking is likely to bring a host of opportunities as well as unprecedented risks to the fundamental nature of banking in India.

Most of the Indian banks have been retails banks in their business composition. The term retail banking encompasses various financial products, different type of account, housing, consumer auto and other type of loan accounts demat facility, insurance, Mutual funds, Credit and Debit cards, ATMs, stocks broking, payment of utility bills and other technology based services addressed to individuals and households. Banks has evolved from Ugly Duckling to the Golden Goose. This paradigm shift in the

role of banking sector is evident from the focus of banks on customer centre innovations in the Bankers Kitty. A customer is no more a Customer of the branch; he is the customer of the bank. The new definition of customer has become irrelevant without the advent of AAA (any time, any where, anyhow banking) banking catering to diverse customer groups, simply speaking, it take care of diverse banking needs of an individual.

A decade before, it was tough to belief that banking sector will be at a finger tip. Now it is possible. A mobile hand set with a connection is the only instrument needed to make a gateway to your banking transaction, the latest innovation of technology.

Apart from the Mobile Banking, including of Short Message Service (SMS) Banking, Net Banking and ATMs are the major steps taken by the banks in India towards modernization. With all these devices and systems, there is a complete freedom to experience.

Check your account, transfer your fund, make payments and what more, do anything of everything what has been followed in physical banking since ages. But this time no standing for hours in front of cash counter and no time boundation in withdrawing your own money.

PC banking is a form of online banking that enables customers to execute bank transactions from a PC via a modem. In most PC banking ventures, the bank offers the customer a proprietary financial software program that allows the customer to perform financial transactions from his or her home computer. The customer then dials into the bank with his or her modem, downloads data, and runs the programs that are resident on the customer's computer. Currently, many banks offer PC banking systems that allow customers to obtain account balances and credit card statements, pay bills, and transfer funds between accounts.

The following developments in the Indian banking system have made it possible to use electronic technology to each banking transaction like cash receipts, cash payments, transfer of funds, payment of utility bills and payment of dividend and interests etc:

1. Automated Teller Machine
2. Electronic Funds Transfer
3. Electronic Data Interchange (EDI)

4. Electronic Clearing System (ECS)
5. Shared Payment Network System (SPNS)
6. Debit Cards/Credit Cards
7. Telephone Banking
8. PC Banking
9. Internet Banking
10. Mobile Banking

1.5.1. Automated Teller Machine

ATM is designed to perform the most important function of bank. It is operated by plastic card with its special features. The plastic card is replacing cheque, personal attendance of the customer, banking hours restrictions and paper based verification. There are debit cards. ATMs used as spring board for Electronic Fund Transfer. ATM itself can provide information about customers account and also receive instructions from customers- ATM cardholders. An ATM is an Electronic Fund Transfer terminal capable of handling cash deposits, transfer between accounts, balance enquiries, cash withdrawals and pay bills. It may be on-line or off-line. The on-line ATM enables the customer to avail banking facilities from anywhere. In off-line the facilities are confined to that particular ATM assigned. Any customer possessing ATM card issued by the Shared Payment Network System can go to any ATM linked to Shared Payment Networks and perform his transactions.

ATM has been playing a vital role in enhancing the service level of commercial banks. It has simplified the work of both the banker and the customer, and almost all the banks are concentrating on providing competitive ATM services to their customers.

An ATM is the terminal of bank's computer network which is available to the customer for various operations such as withdrawal of cash, deposit of cash, balance enquiry, mini statements, cheque book request, bill payment etc. ATM has given the bank customers the facility of round the clock banking.

The customers are issued ATM cards while opening their accounts. Name of the account holder and account number is magnetically recorded on the card. Apart from the card, the customer is given a personal identification number that is known only to him/her and without it ATM service cannot be availed.

History of ATM

Internationally, the first ATM was installed on June 27, 1967 by Barclays Bank, London. The invention of ATM by John Shepherd Baron has helped the banks to provide high quality and timely services to their customers. The availability of online technology has helped the banks to further simplify their task of providing efficient ATM services.

In India, HSBC was the first bank to offer ATM facilities to its customers in 1987. By the end of 1990, Indian private and public sector banks have come up with their own ATM network under the initiative of Indian Banks Association in Mumbai. The Bank of Baroda is the first nationalized bank to provide ATM facilities to the customers in Mumbai. ATMs have brought about a great change in the quality of service and gaining popularity among customers. The number of ATMs is increasing rapidly and these have now made in-roads even into the comparatively smaller towns and villages in the country. ATMs have gained prominence as a delivery channel for banking transactions in India. Banks have been deploying ATMs to increase their reach. From first day of April 2009 onwards, entire ATM network is now available to the customers from any bank for transactions for no fee at all for the first five transactions in a month, irrespective of the banks in which they have their accounts. Now customers will not be levied any fee on cash withdrawals (up to five transactions in a month) using ATM and debit cards issued by other banks. This will in turn increase usage of ATMs in India. More people are now moving towards using ATMs for their banking needs. ⁶According to a survey conducted by Banknet India, 95% of people now prefer this modern channel to traditional mode of banking. Almost 60 percent of people use ATM at least once in a week.

⁵In 2010-11 the number of ATMs witnessed a growth of 24 per cent over the previous year. However, the percentage of off-site ATMs to total ATMs witnessed a marginal decline to 45.3 per cent in 2010-11 from 45.7 per cent in 2009-10. More than 65 per cent of the total ATMs belonged to the public sector banks as at end March 2011. During 2010-11, the number of debit cards grew at the rate of 25 per cent over the previous year. In sync with the trend observed in case of ATMs, nearly three fourths of the total debit cards were issued by Public Sector Banks (PSBs) as at end March 2011. The share of PSBs in outstanding debit cards witnessed an increase during the recent

years, while that of new private sector banks and foreign banks witnessed a decline over the same period. However, in absolute terms, the number of outstanding debit cards witnessed an increase for new private sector banks during the recent years.

⁶ As per the report of National Payment Corporation of India, the number of ATMs in India covered the margin of one lakh in June 2012. Exactly 1,01,400 ATMs are operating in India. During the first half of the year 2012, more than 10,000 ATMs were started in different parts of the country. State Bank Group tops with 27,778 ATMs, followed by AXIS bank with 10729 ATMs, House Development Financial Corporation (HDFC) bank with 10079 banks, and Investment Credit and Industrial Corporation of India (ICICI) bank with 9406. Average number of daily transactions done through ATMs is nearly 60 lakh, out of this about 45 lakh transactions are done for the withdrawal of cash. Nearly 1500 crore rupees were withdrawn through ATMs daily. Average amount of daily cash withdrawal is Rs. 3286. The other major transactions are taking mini statements, changing PIN and balance enquiry.

⁷ As per the Report of RBI, in June 2012, Maharashtra has the highest number of ATMs with 12,133 followed by Tamilnadu with 10524, and Karnataka with 8516.

These statistics witnessed the tremendous growth of ATMs in India which proves that the Indian bank customers have embraced this technology wholeheartedly which has high growth prospects in the near future. The number of ATMs, Credit Cards and Debit Cards issued by scheduled commercial banks in India is given in Report of RBI 2011 (Table are given in appendices).

1.5.2. Internet Banking

⁸ Internet banking is the use of internet as a delivery channel for the banking services, including traditional services, such as opening an account, or transferring funds among different accounts, as well as new banking services such as electronic bill presentment and payment, which allow the customers to pay and receive the bills on a bank's web site.

There are two ways to offer internet banking. First, an existing bank with physical offices can establish a web site and offer internet banking in addition to its traditional delivery channels. Second, a bank may be established as a 'branchless', 'Internet only',

or 'virtual' bank. The Reserve Bank of India constituted a working group on Internet Banking. The group divided the internet banking products in India into 3 types based on the levels of access granted. They are:

i) **Information Only System-** General purpose information like interest rates, branch location, bank products and their features, loan and deposit calculations are provided in the banks website. There exist facilities for downloading various types of application forms. The communication is normally done through e-mail. There is no interaction between the customer and bank's application system. No identification of the customer is done. In this system, there is no possibility of any unauthorized person getting into production systems of the bank through internet.

ii) **Electronic Information Transfer System-** The system provides customer- specific information in the form of account balances, transaction details, and statement of accounts. The information is still largely of the 'read only' format. Identification and authentication of the customer is through password. The information is fetched from the bank's application system either in batch mode or off-line. The application systems cannot directly access through the internet.

iii) **Fully Electronic Transactional System-** This system allows bi-directional capabilities. Transactions can be submitted by the customer for online update. This system requires high degree of security and control. In this environment, web server and application systems are linked over secure infrastructure. It comprises technology covering computerization, networking and security, inter-bank payment gateway and legal infrastructure.

Internet banking, sometimes called online banking, is an outgrowth of PC banking. Internet banking uses the Internet as the delivery channel for conducting banking activity. For example, transferring funds, paying bills, viewing and checking the savings account balances, paying mortgages, and purchasing financial instruments and certificates of deposit. An Internet banking customer accesses his or her accounts from a browser— software that runs Internet banking programs resident on the bank's World

Wide Web server, not on the user's PC. Net Banker defines a "true Internet bank" as one that provides account balances and some transactional capabilities to retail customers over the World Wide Web. Internet banks are also known as virtual, cyber, net, interactive, or web banks.

The Indian banking system too can boast of internet banking. India has more than one million active internet banking users, representing about 15% of the internet-user population in the country. The ICICI bank was the first to kick off online banking in 1996. Since then, other private sector banks started offering internet banking facilities to their customers. Public sector banks lagged in the race for adopting internet banking facilities. SBI took the lead in introducing internet banking facilities in 2001 while others also launched their services during the same time.

To date, more banks have established an advertising presence on the Internet—primarily in the form of informational or interactive web sites—than have created transactional web sites. However, a number of banks that do not yet offer transactional Internet banking services have indicated on their web sites that they will offer such banking activities in the future.

Although Internet banks offer many of the same services as do traditional brick-and-mortar Banks, analysts view Internet banking as a means of retaining increasingly sophisticated customers, of developing a new customer base, and of capturing a greater share of depositor assets. A typical Internet bank site specifies the types of transactions offered and provides information about account security. It also offers high efficiency at lower cost than traditional brick- and- mortar banking.

1.5.3. Credit Card

The Credit Card holder is empowered to spend wherever and whenever he wants with his Credit Card within the limits fixed by his bank. Credit Card is a post paid card. Debit Card, on the other hand, is a prepaid card with some stored value. Every time a person uses this card, the Internet Banking house gets money transferred to its account from the bank of the buyer. The buyers account is debited with the exact amount of purchases. An individual has to open an account with the issuing bank which gives debit card with a Personal Identification Number (PIN). When he makes a purchase, he enters

his PIN on shops PIN pad. When the card is slurped through the electronic terminal, it dials the acquiring bank system - either Master Card or VISA that validates the PIN and finds out from the issuing bank whether to accept or decline the transactions. The customer can never overspend because the system rejects any transaction which exceeds the balance in his account. The bank never faces a default because the amount spent is debited immediately from the customers' account.

Outstanding number of credit cards declined

The issuance of credit cards facilitates transactions without having to carry paper money. Despite the decline in the number of outstanding number of credit cards, the volume and value of transactions with credit card recorded a growth of 13 per cent and 22 per cent, respectively in 2010-11. New private sector banks and foreign banks accounted for more than 80 per cent of the total outstanding credit cards as at end March 2011.

1.5.4. Smart Card:

Banks are adding chips to their current magnetic stripe cards to enhance security and offer new service, called Smart Cards. Smart Cards allow thousands of times of information storable on magnetic stripe cards. In addition, these cards are highly secure, more reliable and perform multiple functions. They hold a large amount of personal information, from medical and health history to personal banking and personal preferences.

1.5.5. Mobile Banking

The internet and the mobile technologies are transforming the banking industry in terms of nature of core products and services and the way these are offered, delivered and consumed. Subsequently, consumer's adoption of mobile banking has received tremendous attention from theorists as well as practitioners. Driven by competition and transaction cost control, banks too have been effectively embracing the new technology viz. mobile commerce to attract new business and sustain customers.

With mobile technology banks can offer a wide range of services to their consumers viz. Wireless Application Protocol (WAP) banking, SMS-banking, Subscriber

Identification Module (SIM)-toolkit and facilities like fund transfer while travelling, receiving online updates of stock price or even performing stock trading while being stuck in traffic. The net banking introduced by most of the banks requires access to website of the banks; mobile banking on the other hand offers ease and convenience. It is this value proposition of anywhere, anytime access provided by cell phone that is believed to trigger adoption. Since there has been an explosive growth in mobile phone with its number reaching 800 million, the mobile handset has emerged as an invertible accessory not only for entertainment, but also for doing online transaction, which includes banking. Over the last few years, the mobile and wireless market has been growing at a rapid pace and has opened new opportunities for the banking sector. Mobile banking is a subset of electronic banking wherein the customer uses mobile communication techniques in conjunction with the mobile devices. This does not include notebooks, which are easily transportable, but whose use is typically stationary.

As the mobile technology is evolving, banks can offer increasingly sophisticated mobile banking services like smart phone devices, which are available in developed countries. A smart phone is a device that can take care of all handhold computing and communication needs in a single small package. Smart phone allows individual users to install, configure and run an application, making it feasible to initiate transaction while online as well as offline. It can be observed that the market for mobile banking is still in its nascent stages in India. None of the technologies can provide a mobile banking solution that works completely without problems and satisfies the customer.

1.6. BANKING IN KERALA

⁴Kerala boasts of a well developed banking infrastructure. With progressing time, Kerala banking system has attained a high growth with a number of nationalized, commercial and new generation banks. In addition to this a large number of Gramin banks have also sprung up within the state. In fact, there was a surge of banks following the nationalization of the banks in 1969. The State Bank of India (SBI), Canara bank and Syndicate bank are the principal nationalized banks in Kerala. Apart from them, private commercial banks like Federal bank, South Indian bank, Catholic Syrian Bank, Dhanalakshmi Bank and new generation banks like ICICI, HDFC; etc also offer

commendable financial intermediation facilities. Besides there are about two thousand Primary Agricultural Credit Co-operative Banks in Kerala.

The great exodus of Keralites to the Gulf Countries during the 1970s oil boom was to a large extent possible because of the benefits these workers had gained from growing up in Kerala (better health and education, and more awareness of opportunities beyond their state). The money they send back today makes up 25% of the state budget, and one third of all remittances to India. It has not only helped to stimulate consumption levels of the people of Kerala, which are among the highest in country, but it has also kick-started the boom in the tertiary (or service) sector of industry –IT, tourism, banking, private health care, etc. that has been the driving force behind Kerala's economic growth spurt. While neither the manufacturing industry nor agriculture has experienced any significant growth over the past decade, the service sector now makes up something like 65% of the state economy, and has since 1986 until today gone from a growth rate of 3.25% to 7.5%. The remittances also probably served to underestimate Kerala's economy throughout the financial dark ages, since they do not count directly towards the GDP.

Kerala has its share of banking and financial institutions. Besides the PSUs, a number of leading private banks such as HDFC Bank, ICICI Bank, ABN Amro Bank etc have set up a network of retail branches and ATMs for the residents of the state. Besides traditional products these offer a plethora of financial services especially Non-Resident Indians (NRI) services owing to the extent of Malayali Diaspora. Mutual funds, financial lending institutions and other such services are easily available in the state.

Total number of commercial bank branches in Kerala was 3479 in September 2004 which was increased to 4220 in March 2010 and 4527 in March 2011. Last year witnessed an increase of 300 bank branches in the state. Of the 4527 branches, 348 are rural branches, 3048 are semi urban branches and 1131 are urban branches. Kerala has the largest number of semi urban branches compared with the other 14 major states in India. It's per bank branch population is 8820. If co-operative branch network is taken into account there were only 5362 persons per branch of the bank in the state.

Total deposits in Kerala banks during the period 2010 to 2011 increased by Rs.19928 crores from Rs.150619 crores to Rs.170547 crores. State Level Bankers

Committee (SLBC) report reveals that the annual growth rate of deposits in commercial banks in Kerala during 2011 was 12.66% with a total deposit of Rs.161562 crores.

Kerala is experiencing better growth economy in the banking sector which has an enviable credit – deposit ratio of 75.5% in March 2011 which is 67.63% in March 2010.

Keralites now enjoys a better standard of living. Its economy is progressing to greater heights. A key contributor towards this progression is the increased number of NRIs in the state. Kerala's total number of emigrants increased from 1.36 million in 1998 to 1.83 million in 2003 and among them, close to 90% is in Middle East. A lion's share of their savings is deposited in banks here. The non-resident deposits increased to Rs.32955 crores constituting 38.42% of the total deposits of the banks in the state. With an abundance of NRI deposits, the mobilization of home deposits seems to have taken a back seat.

The states poverty ratio is now 12.72% down from 60% in the early seventies. Its per capita income is at Rs.22000, exceeds the national average. If remittance income is included per capita income is 60% above the national average.

1.7. BANKING HABITS OF THE PEOPLE OF KERALA

Kerala has a long history of strong banking habits. The repayment culture in Kerala is very good compared to that of other states. The response to ATMs, even from rural folk and those like autorikshaw drivers has been amazing.

Kerala achieved the status of a 'Total Banking State' in the year 2011. This means that every household in the state has at least one bank account and would be eligible for a rural purpose loan up to Rs.25000.

Palakkad in Kerala has made history; the district is in the record book with a unique banking initiative that has made it possible for every household here to have its own Savings Account. Palakkad has become the first district in the country to achieve cent percent financial inclusion. Having successfully reached out to a large number of poor families that previously were out of banking purview, the district now proves that banking will no longer be the exclusive right of the privileged. Palakkad's five lakh families now enjoy the benefits of a bank account.

Tremendous changes are being taken place in the savings patterns of the people of Kerala. Earlier people were 'debt shy' i.e., they saved and bought a two wheeler or a car or a house. But now people buy first and pay Equated Monthly Instalment(EMI)s later i.e., they have become 'debt loving'. That is the main difference. While it was infrading to borrow earlier, today, there is hardly anybody without a loan. The first the youngsters do when they get a job is to take a loan and buy a vehicle. When all their essential needs are met, they start saving. That is why, banks are targeting the youth now. Conventional banks are also changing to fit into the scene by opening some branches till 8pm, to face the competition from new generation banks.

1.7.1. E-Banking Habits of the People of Kerala

⁹Technology is sweeping the banking sector in the state, bringing more efficient services to its customers. The marriage of information technology with the age old business in money has produced waves after waves of changes. Using IT as a strategic tool, banks in Kerala are providing inter-connected branches, anywhere banking, internet banking, tele-banking, mobile banking and mobile alerts.

Federal bank was the first Kerala based bank which introduced electronic banking in the state and bagged the prestigious Indian Bank Association (IBA) award for the best use of IT in retail banking for the two consecutive years. The bank also has the unique distinction as the first traditional bank to network all its branches and attach 100 percent connectivity. Kerala based banks offer almost all new banking products in all their branches. In fact, the robust business practices and steady growth have made Kerala based banks darlings of the stock market and targets of takeover tycoons. Most of the branches of commercial banks in the state are connected to the Real Time Gross Settlement (RTGS) mechanism, which allows an account holder to transfer money instantly to any other account which is connected to the network. Federal bank is the first bank in the country to implement RTGS facility in all the branches.

For one, the new technology has de-clogged bank counters. Students, industrialists, traders and housewives have welcomed the changes for the convenience they provide. Technology is driving new services in everything from salary disbursals to utility bill payments. Non Resident Indians find the new technology just tailor made for

them. Money transfer does not even take a fraction of the time it used to take five years ago. Global debit cards, Credit Cards, Kisan cards and facilities to pay bills without leaving ones home are forcing bank customers to think differently.

¹⁰The acceptance of the new technology is fast turning Kerala into one of the fastest growing ATM user societies outside the metros. The proliferation of ATMs and the increasing acceptance of the concept of anywhere banking make some ponder over the very future of branch based banking. It is the State Bank of India which introduced the first ATM in Kerala at Munnar on August 2000. Kerala's number of ATMs is also a record. The state had close to 1600 ATMs in 2007. Now it has been increased to 4516 ATMs in June 2012 which is very high as compared to other states in the country. Federal Bank has the largest number of ATMs in Kerala covering almost all towns.

Kerala has discovered that new generation banking, helped by technology, is very convenient. Youngsters come to the bank riding on a bike, park it by the side of the bank, withdraw Rs.100 and rush back. It has become a fashion statement of sorts. At least 15% of bank transactions in certain bank branches are for just Rs100, the lowest possible amount.

Most banks, especially the new generation banks, have integrated themselves with the fast changing banking technology and deliver faster products to customers. It is the customer care that has forced bankers to embrace technology. For old generation banks technology was the only drawback but now they have almost caught up with the new in that area. Transition phase, though tough, is inevitable. Driven by the challenges of competition, rising customer expectations and shrinking margins, banks have been using technology to reduce cost and enhance efficiency, productivity and customer conveyance. Technology- intensive delivery channels like internet banking, tele-banking, mobile banking, ATMs etc; have created a win-win situation by extending greater convenience and multiple options for customers while providing tremendous cost advantages to the banks.

Internet banking is a recent phenomenon in Kerala. The spread of internet banking culture depends on the facilities offered by banks. Greater facilities can always attract more customers. In this matter it can always be seen that private banks are ahead of public sector banks. ICICI bank introduced internet banking in Kerala in the year

1997. Federal bank started offering internet banking services in the year 2000 through Fednet. It was the first Kerala based bank to offer internet banking services in the state. In Cochin the pioneers in offering internet banking services are the ICICI and the Federal bank. Among the PSBs, SBI and State Bank of Travancore (SBT) are the leading bankers. SBI provides online banking services through Online SBI. It has started functioning in the year 2004. As compared to new generation and Kerala based banks, nationalized banks have few online banking customers.

Mobile banking is the recently introduced e-banking delivery channel in the state. It is the new generation banks who are the pioneers in providing mobile banking services. SBI, SBT, Federal bank and South Indian banks are now providing mobile banking services in the state. Other banks are in the process of making this service available to their customers as fast as possible.

Customers coming to the banks in Kerala now are quite different, compared to the one in the past. They expect quality service, respect, courtesy and elegance. The customer knows more about banking, he knows about his alternatives, he is more demanding, he is aware of his bargaining capacity. Loyalty to a particular bank is a thing of past. Expectations of different types of customers are varied and are ever increasing. The customer is more conscious of quality services; they are expecting speed, convenience at low cost. Some of the customers know that they can get better service from private and foreign banks. Banks offer tangible services but which cannot satisfy the customers, who need intangible services, which could be experienced like behavior and efficiency of staff, speed of transactions and the ambience. When the customer experience the widening gap between the expectations and experience, the result is raising customer complaints about the banks. While computerization has been made instrumental in achieving a higher level of probity, accountability and transparency in their operations, banks have adopted computers basically to secure improvement in the level and quality of services rendered by them to their customers.

1.8. SIGNIFICANCE OF THE STUDY

The pace of change in banking sector is getting faster day by day. The most important change is the introduction of modern technology in banking sector. In order to

make this change sustainable and contribute to the growth process of the nation, we have to understand the perception of people toward this change. This study focus on examining the level of awareness and adoption of selected electronic bank delivery channels such as ATMs, internet banking, mobile banking and credit cards. The driving force behind the use of technology in banking relates to the ever increasing expectations of the customers. Today's bank customers are more demanding and are also more techno savvy compared to their counterparts of the yester years.

The present day customers demand instant, anytime and anywhere banking facilities. Unless the banks recognize this and reorient themselves, they will have no future. It is information technology which enables banks in meeting such high expectations of the customers. A detailed study is highly imperative to identify how far technology has influenced the banking habits of the people of Kerala. For the banking sector also, it is very essential to know whether there is a gap between adopters and non adopters of e-banking delivery channels introduced by them, if so what is its width? This study is more relevant as it makes an in-depth examination of the demographic characteristics of the adopters and non adopters of e-banking delivery channels. Further, it also reveals the perceptual differences between these two groups which also exert great influence on the adoption of e-banking delivery channels. The user's degree of satisfaction and experiences regarding the above mentioned delivery channels were also analyzed in this study.

1.9. SCOPE OF THE STUDY

The scope of the study is confined to an indepth analysis of the banking habits of the selected household bank customers belonging to three districts; Kozhikode, Ernakulum and Pathanamthitta of Kerala state. The present study started with an analysis of the general banking habits of the respondents. Later, it focused its attention on the electronic banking habits of the respondents. Even though a variety of multiple e-banking delivery channels are operating in the state, the scope of the study is confined to four popular e-banking delivery channels namely; ATMs, internet banking, mobile banking and credit card.

1.10. RESEARCH PROBLEM

Technological advancements have brought about various changes in the way in which banking products and services are delivered to the customers by the banks. Technology has resulted in the computerization of the bank branches and has given rise to electronic banking channels like ATMs, internet banking, mobile banking, telephone banking, debit cards, credit cards etc. The modern banking has become wholly customer-driven and technology-driven. During the last decade, technology has been dramatically transforming the banking activities in the state. It extends greater convenience and multiple options for customers.

Electronic banking services are still in their infancy while traditional banking services are more mature. It seems that only a small subset of consumers has adopted certain e-banking channels. Non-adopters still comprise the majority of the bank customers. Awareness of e-banking delivery channels is an essential pre-requisite for the adoption of the same. So there is a need to identify the awareness, reasons for the adoption, non-adoption and rejection of these multiple e-banking delivery channels. Again it is necessary to find out whether there is a wide gap between users and non-users of various e-banking channels.

There are a number of factors which influence the customer adoption of bank delivery channels such as demographic and psychographic variables. There is a need to investigate which factors are more influential in taking the decision whether to adopt or not to adopt different banking channels.

After having identified the level of adoption and usage of e-banking channels, it is essential to study whether the users are satisfied with these delivery channels or not. It is also necessary to explore the difficulties faced by the users of e-banking delivery channels.

1.11. OBJECTIVES

The main objectives of the present study are,

1. To study the role of technology in encouraging the banking habits of the people of Kerala.
2. To find out the level of awareness of bank customers regarding various e-banking delivery channels such as ATMs, credit cards, internet banking and mobile banking and the variability of awareness according to type of bank, age, education and income.
3. To examine the level of adoption of various technology-driven banking channels such as ATMs, credit cards, internet banking and mobile banking and the variability of adoption according to type of bank, age, education and income.
4. To analyze the significant differences between users' and non-users' perception of e-banking delivery channels and list out the reasons for why some consumers are not using e-banking facilities.
5. To examine the influence of perceptual factors on the adoption of multiple bank delivery channels.
6. To study the consumer preferences of various banking channel attributes and to evaluate the level of satisfaction of customers and to enumerate the reasons for their dissatisfaction, if any, and
7. To assess the difficulties faced by the users of e-banking delivery channels and to make suitable suggestions.

1.12 HYPOTHESES

Based on the objectives set for this study, the following hypotheses have been formulated and tested in this study.

1. Bank customers in Kerala has a reasonable degree of awareness about various technology driven banking channels and the level of awareness is independent of type of bank which they maintain account, their age, education and income.

2. Bank customers in Kerala has adopted various technology driven banking channels at a reasonable rate and the level of adoption is independent of type of bank which they maintain account, their age, education and income.
3. The period of association with multiple bank delivery channels is independent of the type of bank, age, education and income.
4. The usage frequency of multiple bank delivery channels is independent of the type of bank, age, education and income.
5. There is no difference between users' and non users' perception of various technology driven banking channels.
6. There is no association between perceptual factors and the adoption of multiple bank delivery channels.
7. Users' different experiences regarding e-banking delivery channels are independent of the type of bank which they maintain account, their age, education and income.
8. Users have a reasonable degree of satisfaction of branch banking and various e-banking delivery channels and the level of satisfaction is independent of type of bank, age, education and income.

1.13. METHODOLOGY

This study is designed as a descriptive one based on both secondary and primary data.

1.13.1. Secondary Data

Secondary data necessary for the study has been gathered from the published sources such as quarterly and annual reports of RBI, SBI, various Commercial banks, reports of the Finance Ministries of Central and State governments, findings of the State Level Banker's Committees, newspapers, magazines, business journals, e-journals, reports of Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) and websites of RBI and other banks operating in Kerala. Some of the important secondary sources used are as follows:

1. RBI report on Trends and Progress of Banking in India–various issues.
2. Economic Reviews of Kerala Planning Commission-various issues.
3. Reports of Internet and Mobile Association of India.
4. Report of National Payment Corporation of India
5. International Journal of Bank Marketing–various issues.
6. International Journal of Information Management–various issues.
7. Journal of Management Science–various issues.
8. Journal of Financial Services Marketing–various issues.
9. Journal of Services Marketing–various issues.
10. Indian Journal of Banking and Finance–various issues.
11. Indian Journal of Marketing–various issues.

1.13.2. Primary Data

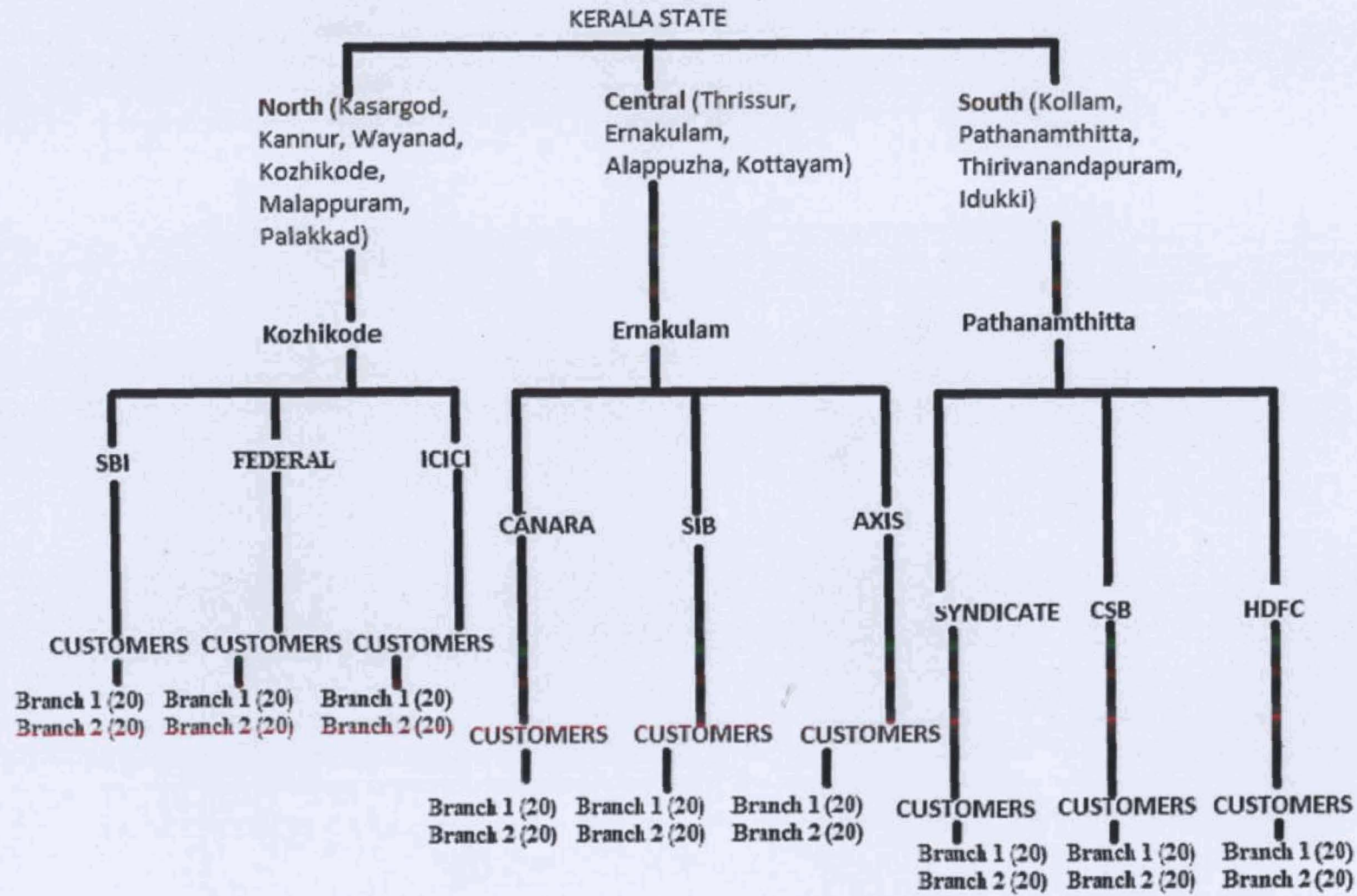
The study mainly used primary data for drawing inferences. The population of the study is the bank account holders of Kerala. Primary data was collected from 360 sample customers of selected banks operating in Kerala state. Customer perception was gathered through a detailed survey, using structured and pre-tested questionnaire. A good deal of information was also collected through direct personal interviews made with the top authorities of the prominent banks in Kerala. Discussions were held with scholars and experts in the field of banking to collect relevant information.

1.13.3. Sample Design

As this population is quite large and spread throughout the state of Kerala, it is not possible to conduct a population survey. Hence a sampling study has been conducted. Multi stage Sampling Technique was used in this study. In the first stage of sampling, the entire state is divided into three geographical regions such as Northern, Central and Southern regions. Northern region consists of six districts namely; Kasargod, Kannur, Wayanad, Kozhikode, Malappuram and Palakkad. Central region covers four districts namely; Trissur, Ernakulam, Alappuzha and Kottayam and Southern region covers Idukki, Kollam, Pathanamthitta and Thiruvananthapuram districts. Three districts, Kozhikode district from Northern region, Ernakulam from Central region and

Pathanamthitta from Southern region were selected randomly. In the second stage, banks in each district were divided into three groups such as Nationalized banks, Kerala based Scheduled banks and New generation banks. From each group, one bank was selected using simple random sampling technique applying lottery method. Accordingly, from Kozhikode district, State Bank of India, Federal bank and ICICI bank were selected. From Ernakulam, Canara bank, South Indian Bank (SIB) and Axis bank were chosen. Syndicate bank, Catholic Syrian bank (CSB) and HDFC bank were selected from Pathanamthitta district. In the last stage, 20 customers each were chosen from among the two bank branches of each banks using convenience sampling technique. Sampling design is diagrammatically presented in figure-1.1

Figure 1.1. Sample Design



1.13.4. Tools of Data Collection

A structured pre-tested questionnaire was used for collecting data from the selected bank customers. Firstly, a detailed questionnaire covering all aspects of the study was prepared in consultation with experts in the field and bank officials. Some customers were also contacted for this purpose. The questionnaire has two parts with a total of 26 questions. The draft questionnaire was pre-tested by way of conducting a pilot study among the selected bank customers. After the pre-test, questionnaire was modified by way of adding some relevant questions and deleting some unwanted questions. Finally, the questionnaire contains 22 questions.

1.13. 5. Variables Used in the Study

The demographic and perceptual variables used in the study are listed below in Table 1.1.

Table 1.1 Variables used in the study

No	Variables used	Purpose
1	Banks associated with	To analyse the three groups of bank customers' awareness, adoption, experience and satisfaction of the selected e-banking delivery channels.
2	Age	To analyse the different age groups' awareness, adoption, experience and satisfaction of the selected e-banking delivery channels
3	Education	To analyse the different education category's awareness, adoption, experience and satisfaction of the selected e-banking delivery channels
4	Income	To analyse the different income groups' awareness, adoption, experience and satisfaction of the selected e-banking delivery channels
5	Convenience	To analyse the users' and non users' perception of convenience of using ATMs, internet banking and mobile banking.
6	Accessibility	To analyse the users' and non users' perception of accessibility of ATMs, internet banking and mobile banking
7	Ease of use	To analyse the users' and non users' perception of ease of use ATMs, internet banking and mobile banking
8	Usefulness	To analyse the users' and non users' perception of usefulness of ATMs, internet banking and mobile banking
9	Perceived risk	To analyse the users' and non users' perceived risk of using ATMs, internet banking and mobile banking
10	Perceived need	To analyse the users' and non users' perceived need of ATMs and internet banking.
11	Personal contact	To analyse the users' and non users' perception of the importance of personal contact in banking.
12	Cost effectiveness	To analyse the users' and non users' perception of cost effectiveness of internet banking.
13	Reliability	To analyze the users' and non users' perception of reliability of using ATMs and internet banking.
14	Knowledge	To analyze the users' and non users' knowledge level of the way of using e-banking delivery channels.
15	Informativeness	To analyze the users' and non users' informativeness with respect to e-banking delivery channels.

1.13.6. Scaling Techniques

Most of the information required for the study is qualitative in nature. A Five point Likert continuous scale technique was used for quantifying various qualitative information necessary for the study such as the degree of awareness, experience of use, level of satisfaction of customers, customer's perception of the selected electronic banking delivery channels provided by the selected banks in Kerala.

1.13.7. Method of Data Collection

For the purpose of collecting primary data from the selected bank customers an undisguised personal interview method had been used. Informants were clearly given the information relating to the objectives of the study, purpose of it and given an undertaking that the information given by them will not be used for any purpose other than the research work.

1.13.8. Pilot Study

To test the reliability, variability and efficiency of the research instrument developed, a Pilot study was conducted among 35 selected bank customers of Kozhikode district. In this study information was gathered about the demographic characteristics of the respondents, their banking habits, awareness and adoption of e-banking channels. All the 84 scaled statements used to analyze the respondent's perception of the selected e-banking services were also tested to know the reliability of the scale used in the research instrument.

1.13.9. Reliability Analysis

In order to check the internal consistency of the scaled statements, reliability analysis using Cronbach's Alpha Reliability Test was done. Cronbach's Alpha for these 84 scaled statements was 0.9953 which is higher than the standard Cronbach's Alpha of 0.7. Hence it is proved that internal consistency of the scale as a whole is high and the questionnaire can be considered as highly reliable.

1.13.10. Determination of Sample Size

In this study sample size is determined on the basis of the following equation:

$$n = Z^2 \sigma^2 / e^2.$$

Here, n = size of sample.

Z = the value of standard Normal Variable at a given confidence level (It is 1.96 for 95% significance level) ,

σ = standard deviation of the population (Here standard deviation of the variable which has the greatest variance has been taken),

e = acceptable error (it is assumed as 0.14),

and $n = (1.96)^2 (1.328422)^2 / (0.14)^2 = 359.12$.

Therefore sample size is 360.

1.13.11. Classification and Analysis of Data

The collected primary data has been classified on the basis of :

- a. Type of the bank which the respondents maintain account.
- b. Age of the informants.
- c. Education level of the informants.
- d. Annual income level of the informants.

1.13.12. Tools of Analysis

The Classified primary data has been summarized by using simple mathematical measures like mean and standard deviation, percentages and averages. To test the statistical difference between mean values, chi-square test, t-test and F-test were used. Factor analysis was conducted to identify the factors influencing the adoption and usage of ATMs and internet banking. Regression analysis was also applied to identify how these factors affect the adoption of ATMs and internet banking. A bird eye view of the statistical tools used and the purpose for which it is used is presented in the following Table 1.2.

Table 1.2 Tools Used for the Study

Sl.No.	Tools Used	Purpose
1	Mean	To identify the average level of awareness, adoption, experience and satisfaction of various technology driven banking channels according to type of bank, age, education and income.
2	Standard Deviation	To identify the dispersion of awareness, adoption, experience and satisfaction of e-banking delivery channels from their mean values according to type of bank, age, education and income.
3	Chi-square	To check the dependence of selected variables on the adoption of e-banking delivery channels.
4	t-test	To test the equality of the mean values of user's and non user's perception of e-banking delivery channels.
5	F-test	To test the equality of the mean values of awareness, adoption, experience and satisfaction of various technology driven banking channels according to type of bank, age, education and income.
6	Factor Analysis	To identify the major factors influencing the adoption of e-banking delivery channels.
7	Regression Analysis	To test the degree of relationship between factor variables and adoption of e-banking delivery channels.

1.14. PERIOD OF THE STUDY

This study covered a period of five years from 2007-08 to 2011-2012. Data collection period was from the month of September 2009 to February 2010.

1.15. LIMITATIONS OF THE STUDY

The study has the following limitations.

1. Most of the information required for the present study is qualitative in nature. For quantifying the qualitative data, scaling techniques have been used. Hence all the limitations of the scaling techniques are applicable in this case also. However care has been taken by the researcher to reduce such errors by selecting the most scientific scale used in social researches.
2. Most of the informants do not keep records for the number of e-banking transactions made, number of times visited etc. All the information supplied by the informants is from their memory by 'Recall' method. So the data is subject to the Recall errors. However, the researcher has made serious efforts to reduce such recall errors by cross-checking the information given by the informants by asking questions in different ways.
3. Many bank branches are operating in Kerala state. But, due to time and cost constraints, only 18 bank branches were selected for the present study. However, the researcher has been very careful in ensuring the representativeness of the sample bank branches by way of adopting multi-stage sampling technique. This ensures that bank branches representing the three regions of the state as well as the three major categories of banks are included in the sample branches selected for the study.
4. Most of the Co-operative banks and Regional Rural banks operating in the state have not yet introduced e-banking delivery channels. Hence these banks were excluded from the study. Foreign banks were also not considered as they are not widely accepted among the bank customers in Kerala.
5. The e-banking delivery channels selected for this study is limited to ATMs, internet banking, mobile banking and credit card. Due to time and cost constraints, all other e-banking delivery channels were avoided for the present study. However, the study does not lose its significance as the most popularly used channels were selected for an indepth study.

6. During the period of the study, certain banks had not introduced mobile banking services. Hence the rate of adoption of mobile banking is very low which exerts limit on studying factors affecting mobile banking adoption. However, the researcher has taken necessary care to include important variables for studying its effect on mobile banking adoption.

1.16. CHAPTERISATION

This study has been structured in the following manner.

Chapter 1. Introduction

Chapter 1 deals with the theoretical overview of the development of e-banking, research problem, objectives, significance of the study, research methodology and limitations of the study.

Chapter 2. Review of Literature

Chapter 2 deals with a review of the literature in the development of e-banking delivery channels. Relevant literature related to the awareness and adoption of e-banking, factors influencing their adoption, user's experience and satisfaction of e-banking is reviewed in detail.

Chapter 3. General Banking Habits of the People of Kerala

Chapter 3 deals with the profile of sample population. Further, banking habits of the respondents, reasons for their bank visit and factors affecting the selection of banks were also analyzed and interpreted using appropriate mathematical techniques.

Chapter 4. Electronic Banking Habits of the People of Kerala

Chapter 4 consists of analysis and interpretation of awareness of e-banking products and services, its adoption, satisfaction of e-banking customers and customers experience of using e-banking product and services by applying appropriate mathematical and statistical tools and techniques.

Chapter 5. Summary, Findings, Suggestions and Conclusions.

Chapter 5 deals with the summery of the present study, major findings of the study, the researcher's suggestions and conclusion.

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**A STUDY ON THE BANKING HABITS
OF THE PEOPLE OF KERALA**

*THESIS SUBMITTED TO THE
UNIVERSITY OF CALICUT*

*FOR THE AWARD OF THE DEGREE OF
DOCTOR OF PHILOSOPHY
UNDER THE FACULTY OF COMMERCE*

by

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Chapter 2

LITERATURE REVIEW

2.1. INTRODUCTION

A large volume of literature is available about various aspects relating to the use of modern techniques in banking service delivery system practiced around the world. Some of these studies are comprehensive while the depth and coverage of some studies are narrow. The methodology followed in some of the studies are most scientific while in some others it is not that much scientific. The researcher has reviewed most of the available studies in this area.

In this chapter, a detailed review of the studies conducted about the technology used in banking in India and abroad is described. Section 2.2 makes a review of the literature in the development of e-banking delivery channels. In section 2.3, relevant literature related to the awareness and adoption of e-banking is reviewed. Section 2.4 deals with the literature review of factors influencing the adoption of ATMs. Section 2.5 deals with that of internet banking, section 2.6 with that of credit cards and section 2.7 deals with that of mobile banking. Finally, in section 2.8 a detailed review of the available literature related to user's experience and satisfaction of e-banking is given. From this review, research gap is identified and the relevance of the present study is drawn. Conclusion is given in section 2.9.

2.2. DEVELOPMENT OF E-BANKING DELIVERY CHANNELS

Consumers of banking services are becoming more demanding in terms of the level of service they expect and how they are able to access services when required. A general increase in organizations' customer orientation, owing to increased competition, witnessed in many markets, has also occurred in financial services, further heightening customer expectations. Customers are demanding greater convenience and accessibility as reflected in longer branch opening hours and an increase in the choice of delivery mechanisms. There has been a drastic change in lifestyles of customers in recent years as individuals have become more affluent and spent more on leisure activities. This has led to a decrease in "disposable time" to dedicate to such things as financial matters. Changing work patterns may also add to an increase in time pressure for many individuals. Consumers have therefore demanded greater convenience and access. This does not mean that the branch network does not have an important role to play. Marketing aims to maintain and increase consumer use of goods or services (Kelley and Thibaut (1978)).

Relationship duration and interaction frequency have been found to be good predictors of relationship development (Levinthal and Fichman (1988)).

Branches, albeit in reduced numbers, will continue to be an important means of reaching many segments of the market. However, with increasingly diverse sets of preferences there will be a growing need for organizations to develop multiple channels of distribution. The branch network will undoubtedly remain an important distribution channel for the foreseeable future; however, consumer choice will continue to be augmented in response to developments in consumer preferences. These supply and demand side pressures have therefore had a significant influence on the distribution of retail financial services including those offered by the retail banking sector. The traditional reliance on the branch network remains to some extent; however, the delivery mix has expanded and will continue to do so (Devlin (1995)).

According to Sheth and Parvatiyar (1995) consumers use is important because it builds consumer habits and reduces consumer uncertainty. Kimball and Gregor (1995) observed that developing alternative channels for retaining the existing customers as well as for attracting new ones is very important to financial institutions. ATM was the first

example of a self-service device that is aimed at providing convenience to the customers to meet their banking needs while decreasing costs for the bank. The next development is the introduction of phone banking, which is another delivery channel for branches of the financial services via telecommunication devices connected to an automated system of the bank. It enables customers to perform some of their transactions through a phone call. According to Nevens (1999), the bank transaction cost drops 80% or more when it is handled electronically. By the mid-1990s, many banks had begun to experience directly the potential the Internet offered them. Ultimately, the Internet presented a novel alternative to the phone banking systems (Claessens et.al. (2002)).

In Eurobarometer survey (2002), in the order of importance of use, Internet banking occupies the sixth place preceded by e-mail, online searches for information on news/topics, travel, training/education, and health. Nowadays, banks provide a complete range of financial services through their Internet banking channels because they are more cost-effective than other customer-contact channels with less staff and fewer physical branch requirements (Gopalakrisnan et.al. (2003)). However, customer adoption of Internet banking has not been as strong as most banks might have wished. According to Furnell (2004), customers have a tendency to be confidential about their accounts and are concerned with the security of banking transactions. Weir et.al. (2006) found that Internet banking services allow customers to use remote access to manage their bank accounts and transactions.

Financial institutions offer new banking channels to their customers, as the technology adds new dimensions to the classic banking systems. Over the last few years, self-service technologies have replaced the need for face-to-face interaction between banks and customers (Eriksson and Nilsson (2007)).

2.3. AWARENESS AND ADOPTION OF E-BANKING DELIVERY CHANNELS

Adoption is the acceptance and continued use of a product, service, or idea. According to Rogers and Shoemaker (1971), consumers go through a process of knowledge, persuasion, decision and confirmation before they are ready to adopt a product or service. The adoption or rejection of an innovation begins when the consumer becomes aware of the product. According to Fishbein and Ajzen (1975), attitude is

defined as an individual's positive and negative feelings (evaluative affect) about performing the target behaviour. Attitude toward behaviour refers to the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question.

Howard and Moore (1982) emphasized that for adoption of a product/service consumers must become aware of the new brand. Hence, an important characteristic for any adoption of innovative service or product is creating awareness among the consumers about the service/product. Technological service innovations differ from other commodities insofar as their adoption may require behavior different from consumers' typical routines (Gatignon and Robertson (1985)). This includes "bricks and mortar" issues such as not having a branch bank to visit, as well as "paper" issues including receiving statements electronically and not in the mail.

Adoption of e-banking may be related to the combination of marital status and gender, with married couples more likely to adopt than either single males or single females. Research has also linked age and adoption of technologies, with younger persons being more likely to adopt (Zeithaml and Gilly (1987), Parasuraman et.al (1988)).

Rothwell and Gardiner (1984), while developing the framework of user needs in technological innovations, identify "safety in use" as one of the factors that influences potential users. Internet bank acceptance can be studied by examining the causes behind frequency of use of internet banking. For such a study, a modified form of the technology acceptance model (TAM) is applied, which identifies the perceived usefulness and the perceived ease of use of a technology as determining user behaviour (Davis (1989)). He found that perceived usefulness has a stronger influence on usage than does ease of use. Davis's study shows that users are driven to adopt a technology primarily because of the functions it provides them, and secondly because of the easiness of benefiting from those functions. Customers are often willing to overlook some difficulties of usage if the service provides critically needed functions: no amount of ease of use can compensate for a system that does not perform a useful function. Scarbrough and Corbett (1992) find "understandings of consumers" to be an important element in the diffusion of innovative technology.

Ho and Ng (1994) empirically support that the use of electronic banking involves risk. They suggested that consumers perceived an existence of risk was present with the use of electronic banking. According to Ainscough and Luckett (1996), the provision of customer interactivity is an important criterion that attracts users in the delivery of e-banking.

Moutinho et.al. (1997) suggested that contrary to all the predictions that the branch-based distribution network would become obsolete in a computerized society, the full-service branch office has survived. Explorations of demographic correlates of technology acceptance have produced differing results with respect to significant relationships to adoption. In part, these differences may relate to the sets of variables included in the analysis.

Gender has not been found to have a direct effect on adoption of technology in general (Gefen and Straub (1997)), but men and women appear to have different acceptance rates of specific computer technologies, with men more likely to adopt.

Cooper (1997) found ease of adoption as one of the important characteristics from the customer's perspective for adoption of innovative service. It stated that innovative products often have superior price/performance characteristics.

Lockett and Littler (1997) analysed the development of telephone banking. They presented a study of the adoption of direct banking services in the UK using a model of the perceived innovation attributes and the personal characteristics of adopters and non-adopters. Their results indicated that the most important perceived positive attribute of direct banking was its 24-hour-a-day availability, whereas complexity and risk of service were the two negative attributes. They identified risk as an important characteristic of electronic banking. These include financial risk, performance risk, physical risk, social risk and psychological risk.

According to Barrett (1997), the younger the customers are, the more comfortable they are in utilizing non branch service delivery systems, conversely, the older the customers are, the more attached they are to the traditional branch system.

The perceived usefulness of something is its ability to provide a means-end relationship (i.e. the given thing as a means to a desired end), or to provide a rationale upon which to make decisions. Means-end knowledge accounts for why consumers use a

product (Barczak et.al. (1997)). The perceived usefulness is defined as "the extent to which a person finds that using the system will enhance his or her job performance" (Doll et. al. (1998)).

Perceived risk is considered an important risk attribute that impacts on the consumer decision-making process when buying a product or consuming some services (Mitchell (1998)). Mick and Fournier (1998) identify eight paradoxes of information technology. Consumers perceive internet technology as leading to control and chaos, freedom and enslavement, new and outmoded practice, increase and decrease in the feeling of competence, increase and decrease in efficiency, fulfillment and creation of needs, promotion and hindrance of social interaction, and engagement and disengagement. These ambiguities make internet technology difficult for consumers to understand.

Drawing on social exchange theory, Gefen and Keil (1998) argue that a model of technology acceptance with more social dimensions requires that trust be included as an antecedent to perceived usefulness and ease of use. Daniel (1999) found "ease of use" as one of the factors for customer acceptance in her study of electronic banking in the UK and Ireland. She also pointed out lack of access to suitable PCs and the high level of risk as the reason for low usage of electronic banking. She also identified that "security" as a factor influencing customer acceptance. Obviously, Internet banking will not be adopted unless it is considered safe and secure by the customers. The added value in electronic banking, according to Trethowan and Silicone (quoted in Daniel (1999)), was convenience, sales orientation and lower costs.

Price factors suggest that perceived relative economic advantages would motivate consumers to use electronic banking. Mols et.al. (1999) state that "the diffusion of electronic banking is more determined by customer acceptance than by seller offerings". They drew attention to their spatial convenience and less waiting time for consumers. Empirical studies on the acceptance of technologies have found consistently positive relationships between usefulness and to a lesser extent, ease of use, and the adoption of a variety of specific technologies, ranging from computer software to e-mail (Karahanna et.al. (1999)).

Ramsay and Smith (1999), observed consumers rated branches as their most preferred service channel while Internet banking was the least preferred. The phone service was the next most preferred sales channel after the branch. The most preferred transaction channel was again the branch while the Internet was again the least preferred transaction channel. Following the branch, ATM was the second most popular transaction channel. Customer channel preferences appear to differ from actual usage, in that the branch was only the third most used channel, whereas in the survey, it was the most preferred sales and transaction channel. Furthermore, ATM and electronic funds transfer at point of sale were the two most used channels, ahead of branches showing that consumers are already embracing high-tech delivery methods, and highlighting the potential for Internet banking in the future. The main reason why people liked the branch for a sales channel was the level of service and the personal nature of the service.

Jayawardhena and Foley (2000), on the other hand, listed the advantages for electronic banks: cost savings, increased customer base, mass customization, marketing and communication, innovation, and development of non-core business. It revealed that roughly one-half of consumers would first enquire with their existing banker if they needed a new financial product. In the case of e-banking, savings of time, money and convenience have been cited as relative advantages. At the same time, financial management conducted online raises concerns of privacy, a relative disadvantage for some (Snel (2000)).

Lee and Lee (2000) did find that for direct bill payment, minorities were less likely to have already adopted the technology. Increases in income and education tend to be positively related to the adoption of an innovation. Prior research has empirically found positive relationship between perceived ease of use and perceived usefulness as critical factors on the use of e-banking (Agarwal et.al. (2000), Johnson and Marakas (2000)).

Cost savings have helped e-based banks offer lower or no service fees, and offer higher interest rates on interest bearing accounts than traditional banks (Gerlach (2000)). Research findings of Moutinho and Smith (2000) clearly suggested that the drive towards ease of banking and convenience is favoured by the customer and, therefore, banks should find alternative strategic routes designed to improve service delivery (either

human-based or technology based). Bank customers' attitudes towards the human provision of services and subsequent level of satisfaction will impact on bank switching more than when the same service delivery is made through automation. E-banking provides higher degree of convenience that enables customers to access internet bank at all times and places. Apart from that, the accessibility of computers is perceived as a measure of relative advantage (Suganthi et.al. (2001)). Therefore, it is hypothesized that convenience and accessibility have positive effect on consumer adoption of e-banking.

Ashban and Burney (2001) in their study revealed that customers increasingly extent their use of electronic banking as their experience grows with the system. In general, Saudi customer's income levels and education play a vital role in their adoption and usage of electronic banking technology.

Thornton and White (2001) have compared seven distribution channels (ATM, Electronic Fund Transfer at Point of Sale (EFTPOS), credit card, cheque, human teller, telephone, and Internet) with a view to a set of variables affecting their usage. They concluded that customer orientations such as convenience, service, technology, change, knowledge, computer, and Internet affected the usage of different channels. The usage of ATM, EFTPOS, and telephone increased as customers were more oriented towards change, knowledge, computer, and confidence.

Nath et.al. (2001) underlined that the average transaction cost of \$1.07 at a full-service bank was reduced to \$0.27 at an ATM, and fell to about a penny if the transaction was made on the Web. They also added that cost savings, access to additional services, and convenience were among the main benefits of the Internet Banking. The advantages of electronic channels and especially the Internet over traditional branch banking were also underlined.

Polatoglu and Ekin (2001) identified that users of electronic banking were significantly satisfied with the cost saving factor through electronic banking. Furthermore they stated that the more knowledge and skills a consumer possessed about electronic banking, the easier it was for the consumer to utilize electronic banking. Consumer resources also influence the use of electronic banking.

The service product characteristics of electronic banking including: consumers' perception of a standard and consistence service, the time saving feature of electronic

banking, and the absence of personal interactions, have been empirically found to influence consumers' use of electronic banking (Karjaluoto et.al. (2002)). Similarly they suggested that non-electronic banking users considered electronic banking as difficult to use because they found computers difficult to operate.

In another exploratory study in the UK, Black et.al. (2002) argued that consumers' channel choice in financial services was determined by consumer, product, channel, and organizational characteristics in which product-channel interactions and consumer-channel interactions were of particular importance. However, electronic banking, or virtual banking in general, cannot entirely replace other more traditional channels. In UK, consumers prefer a mix of several channels rather than a single channel (Howcroft et.al. (2002)). The challenge for bank marketers is to find the right mix of distribution channels so that they can remain profitable in different market segments. Other major benefits of strong electronic service have also been identified as including satisfied and retained customers; opportunities for cross-selling; attraction of new customers; development of customer relationships; increased sales and market shares; enhanced corporate image; reduced costs and increased profit margins and business performance (Bauer et.al. (2002)).

With regard to demographics factor, Howcroft et.al. (2002) revealed that younger consumers value the convenience or time saving potential of online and mobile banking more than older consumers. Younger consumers also regarded the lack of face-to-face contact as less important than older consumers. Researchers have also suggested that consumers perceive electronic banking as inexpensive and that it does not offer any extra cost benefits (Karjaluoto et.al. (2002)).

The educational levels of respondents did not affect the use of telephone or online banking, (Barnes and Corbitt (2003), Brown et.al.(2003)).

When consumers decide to use electronic banking, they are exposed to uncertainties such as the availability, the compatibility, and the performance of the complementary electronic banking channels (Sarin et.al. (2003)).

Security and privacy are two important dimensions that may affect users' intention to adopt e-based transaction systems. Encryption technology is the most common feature at all bank sites to secure information privacy, supplemented by a

combination of different unique identifiers, for instance, a password, mother's maiden name, a memorable date, or a few minutes of inactivity automatically logs users off the account. Besides, the Secure Socket Layer, a widely-used protocol for online credit card payment, is designed to provide a private and reliable channel between two communicating entities; the use of Java Applet that runs within the user's browser; the use of a Personal Identification Number, as well as an integrated digital signature and digital certificate associated with a smart card system (Hutchinson and Warren (2003)).

Rexha et.al. (2003) given that personal contact between bank employees and customers is largely reduced in electronic service delivery and that such interactions encompass, facilitates and reinforce the relational elements of trust, cooperation, reliability, flexibility and commitment, many individuals would be relatively cautious about using new technology. In fact, many customers still feel particularly vulnerable when exposing their finances to this medium and therefore are still inclined to perceive the bank branch as providing more reliability and trustworthiness.

According to Gerrard and Cunningham (2003) security concerns and the negative issues associated with new technologies in general seemed to be the main reasons for non-technology customers avoiding it. However, internet bank's positive performance in terms of accessibility, convenience, time saving, and ease of use seemed to motivate time-poor, technology-oriented customers to use it, in spite of security concerns and a certain degree of depersonalisation. For complex operations—such as mortgage loans—customers preferred personal interaction in the bank branch. From the customers' perspective, the great advantage of the Branch Banking is the possibility of having person-to-person interaction, which is expected to bring mutual knowledge, individualised attention, professional competence of employees, and responsiveness in non-routine situations.

Rexha et.al. (2003) suggested that marketing managers in financial institutions should be aware that customers are likely to embody e-banking provided that such technology contributes to existing relationships. Study found that trust was the key factor influencing the adoption of e-banking. Perceived customer satisfaction with the bank only imparted indirectly on the adoption of e-banking. The cumulative effects of customer satisfaction were found to have a positive impact on trust directed towards the bank and

this greatly imparted on the propensity to use e-banking. Customer satisfaction, trust and the use of e-banking were found to have a positive impact on the client's commitment towards their bank (Hway-Boon and Yu (2003)).

In a study about the adoption of electronic banking technologies by US consumers, Kolodinsky (2004) explored the idea that relative advantage, complexity/simplicity, compatibility, observability, risk tolerance and product involvement are associated with adoption. Demographic and economic variables such as income assets, education, gender and marital status and age also affect adoption. Adoption changed overtime but the impact of these factors on adoption has not changed.

Curry and Penman (2004) indicated that the human element in the banker/customer relationship is more influential than the technology element. Customers are more likely to adopt a new technology if a competent employee has demonstrated its benefits to them. Whilst the bank may decide that technology saves time, the customer on the other hand may decide that a preference for personal service remains.

In a study with regard to the adoption of internet banking and mobile banking in China, Laforet and Li (2005) found that the current target market for online and mobile banking was found to be relatively small. The level of awareness of such services was low in China. The critical issues, which stood out as being obstacles to consumer adoption of online and mobile banking were consumers' attitudes, security factor perceived risk, lack of computer and new technological skills and Chinese habit of cash-carry banking. As for mobile banking, lack of understanding of the concept and its benefits were the main barriers to its adoption. In contrast to Western countries, Chinese online and mobile bank users tend to be predominantly male, not typically young, neither highly educated, the salaried employees, senior managers and small business owners.

Jham (2005) revealed that younger customers in the socio economic group are more inclined to purchase specialist services from their primary bank compared to older consumers in the same social class. This is potentially very important because it suggests that consumer opinion might be changing and that cross selling specialist services to existing customers is a viable strategy. The researcher also provided some evidence on the importance of trust and possibly employment status in determining consumer's usage of alternative delivery channels (Laukkanen (2006a), Laukkanen (2006b)).

According to Internet Banking Ibrahim et.al. (2006) the key dimensions of electronic service quality identified by UK banking customers include the convenience and accuracy of electronic banking operations; the accessibility and reliability of service provision; good queue management; service personalisation; the provision of friendly and responsive customer service; and the provision of targeted customer service. The first two factors, the convenience/accuracy and accessibility/reliability of service provision, have significantly greater edge in explaining the e- service quality perceptions of the surveyed UK banking customers than the other identified dimensions, including good queue management, service personalisation, and the provision of friendly, responsive and targeted customer service.

Adhikari (2006) identified that perceived benefits; security, human touch, physical reach and price premium have emerged as important factors in declining the technological inclination. Uppal and Kaur (2006) found that the overall efficiency of e-banks is better as compared to that of traditional banks and there has been a fast shifting of bank customers from traditional to e-banks. This conveys the advantages of e-channels in terms of cost and quickness. There is no complaint from the customers for delay in e-banking functions. E-banks have complaints against service charges and ATM problems. Nonetheless, bank employees feel that the customer service in terms of timely services, behavior of employees etc, is better in e-channel banks.

Banks need to exploit service quality, credibility, and confidence as competitive tools and to ensure they communicate with and educate consumers about services that are quick and efficient to use. The key driver being to familiarise the consumer with the processes and benefits of the service and encourage usage as second nature. The results of the conjoint study by Laukkanen (2007) suggested that internet and mobile users differ in their preferences toward electronic channels' attributes in bill paying. It seems that for internet users the screen size, followed by the location and the response time are the most important channel attributes in bill paying. For mobile users, however, the location, followed by the screen size and response time are the channel attributes of greatest interest when using the service. The cluster analyses showed that the attributes meet different needs from different customer segments.

Calisir and Gumussoy (2008) identified that Internet banking, ATM, and phone banking substitute each other. If firms give more importance to one of these alternatives, less importance can be given to the others, because the customer profile of the channels are similar. Internet banking achieves high success rates through coordination with brick and mortar and bank branches in stores. Brick and mortar and Internet banking are supportive banking channels.

Poon (2008) revealed about the user's adoption of e-banking services in Malaysia in which privacy, security and convenience factors play an important role in determining the users' acceptance of e-banking services with respect to different segmentation of age group, education level and income level. E-banking provides higher degree of convenience that enables customers to access internet bank at all times and places. Apart from that, the accessibility of computers is perceived as a measure of relative advantage.

2.4. FACTORS INFLUENCING THE ADOPTION OF ATMs

Here, a detailed review of the research on different aspects of ATMs conducted in various parts of the world is given.

Rogers (1961), in his Diffusion of Innovation theory, identified five characteristics or attributes of innovations that affect the rate at which innovations are adopted; their relative advantage, compatibility, complexity, divisibility (trialability), and communicability (observability). Additional characteristics were later adopted; perceived risk by Ostlund (1974) and financial and social cost by Zeithaml (1981). Ostlund in his study on expected relationship between perceived ATM attributes and ATM usage clearly established that ATM usage is positive to the attributes of relative advantage, compatibility, trialability, and observability and negative to the attributes of complexity and risk.

Studies regarding demographics of ATMs can be seen in Hood (1979) and determinants of ATM activity can be seen in Murphy (1983), which provides evidence of the association between consumer's acceptance/non-acceptance of ATMs and personal characteristics. Swinyard and Ghee (1985) found that ATM cardholders differed from no cardholders on several attitudinal characteristics. ATM card holders were found to have more favourable attitudes towards ATMs, towards change, and towards computers, and to

be more venturesome and have more self-confidence. In 1986, Stevens in his study identified the association of adoption and usage of ATMs and psychographic characteristics of the customers. While the information gained from such association has been useful, it is also necessary that the research focus may need to be directed towards other factors.

Leblanc (1990) analyzed the perceptions of users and non-users of an automated service, using ATMs as the automated service and found that the main reason for using ATMs was an accessibility factor involving the perceptions of being fast, easy to use, improving the quality of service, and reducing costs. The main reason non-users gave for not using ATMs was a preference for human tellers over machines. Non-users perceived ATMs as too complex, and felt that they were too risky to use.

Howcroft (1993) suggested that some consumers have positive attitudes towards ATMs based on dominant perceptions of convenience/ accessibility/ease of use. Additionally, Leonard and Spencer (1991) found that consumers perceive that ATMs are indicative of success and contribute towards a positive organisational image. Alternatively, a number of negative attitudes towards ATMs have been identified.

According to Burgoyne et.al. (1992), ergonomic problems were not a major deterrent to using ATMs. The major deterrents were more psychological and pragmatic that is convenience was not a sufficient justification for the perceived risks associated with ATMs. These deterrents included the general types of problems encountered by users, the bases of people's mistrust of machines and computer technology, and the more specific ergonomic problems associated with features of the human-machine interface.

The most frequently ranked complaints about ATMs in a Kuwaiti sample (El-Haded and Almahmeed (1992)) were ATM breakdowns, improper maintenance and lighting and inconvenient locations. The majority of these problems can be corrected by a combination of design changes and ATM training.

Robert and Philip (1994), examined the association between consumer perception of ATM attributes and usage pattern by identifying the variables of convenience, social cost, compatibility, complexity, trialability, observability and perceived risk which distinguishes users and non-users, clearly shows that the most important perceived attribute is convenience. ATMs in Australia are still not performing to their full potential

and by and large have not been accepted as innovations which can fully replace human tellers in nominated functions, as is reflected by the perceptions of the majority of users and non-users regarding ATM attributes.

Robert (1995) identified perceptual and demographic profiles of users of ATMs. The three factors, which have been found to possess greater predictive efficacy, reflect the most important considerations for retail banking service strategies. Users perceive ATMs to be convenient, generally easy to use and more compatible with their lifestyles than non-users. The researcher also identified a thumbnail profile of the ATM user as being an individual who is younger, better educated, involved in the product/service class (possibly occupation wise) and who uses the service innovation because perceived benefits of the attribute of the innovation outweigh the perceived risks. Perceptual variables are more powerful than demographic factors in predicting ATM usage.

According to Devlin (1995), customers can now withdraw funds using the branch “counter”, an ATM, at the supermarket and in some cases electronically. One of the most obvious manifestations of this has been the large increase in the number of ATM machines available for use by consumers. This has provided the benefit of constant access to certain core services reducing the need to interact with bank staff for many people.

According to Rogers and Fisk (1997) the most frequent ATM transaction was for withdrawals, with people rarely making payments. There were significant age differences for withdrawal, balance enquiries and transfers between accounts. Young and middle-aged adults used ATMs for the above-mentioned transactions more frequently than did older adults. Despite the success and widespread use of ATMs, a significant proportion of bank customers cannot or will not use them, or experience difficulties in their interactions.

The two major difficulties regarding ATM usage that arose in Rogers and Fisk (1997) were the inconvenience of having to wait in line to use the machine and poor visibility of the screen. Designers may therefore want to improve the visibility of the screen as well as speed up the service process or provide more ATMs. Other difficulties that emerged from the study were putting the card in the wrong way, forgetting the PIN

number, difficulty reaching the slots, the ATM running out of money and understanding how to do what needs to be done on the ATM.

Filotto et.al. (1997) conducted their study on Italian bank customers to investigate demographic characteristics of ATM users and non users. Their findings indicate that the public has been largely reluctant to adopt the more innovative service mechanisms offered in spite of higher adoption rates among the younger users.

A Canadian study based on discriminant analysis by Marshall and Hastop (1998) classified ATM users and non users on five predictors. ATM use was found to be positively related to convenience, positive attitude towards ATM technology, familiarity with other technology and education whereas non users had more social orientation.

Palkar (2000) study found out that complete service as an attribute of bank patronage has emerged as a significant attribute, implying that customers inclination to the private sector banks is influenced by the complete service offered by these banks which is on the deteriorating track in majority of public sector banks. The branch ATM is highly listed by the salaried and self employed people, while the offsite ATM is mostly visited by other category. There are very few, who visit both the centers. The self employed people, usually having current account in the bank, visit branch ATM, who enables them to carry out other banking activities. Usually their bank visit is fortnightly. The other category people including students, housewives and retired people usually visit the offsite ATMs who generally do not have any work in the bank and thus find it convenient to visit the offsite ATM. It can be said that visit to the branch ATM serves the dual purpose of carrying out the banking related work. This shows that usage of other facilities of ATM, other than withdrawal and deposit is low. But the gradual awareness and acceptance of the various facilities of ATM will surely divert the mass from the bank to ATM centers. Customers are not very confident in the use of ATMs for the purpose of deposit. A significant factor in deposit is a stamp acknowledgement after depositing which gives them the confidence of the transaction successfully completed, which is absent in the case of a ATM.

Thornton and White (2001) show that as the respondent becomes more positively oriented towards convenience, the usage of ATMs and EFTPOS increases. The opposite occurs for average usage of tellers, that is, as the respondent becomes more convenience

oriented, the average usage of human tellers decreases. The analysis demonstrates that a customer's convenience orientation does affect his/her usage of ATMs, EFTPOS and human tellers. These findings support previous findings that identified a convenience orientation to be associated with desiring less personal service and greater use of self-service technologies.

Wan et.al. (2005) revealed that ATM was highly adopted by all bank customers, and adoption of it was positively associated with beliefs about its positive attributes. Informativeness seemed to be the weakest aspect of ATM banking. The ATM channel manager should seek ways to enhance informational content in this channel. More financial information can be presented to the bank customers on the ATM display and ATM services.

On examination of the average rankings for ATM services used, it was found that ATM users used the technology mainly for withdrawals. The other uses included fund transfers, balance enquiries, account payments, and deposits. Account payments are a major source of frustration for individuals because they have to stand in queues, or they have to post cheques, which are sometimes not credited to their accounts or are credited late and attract interest. However, only 8 per cent of respondents chose to pay accounts electronically via ATM. The reasons cited for not paying accounts by ATM included that customers did not know how to use the service, or did not know the service existed, or that beneficiaries did not have facilities, or other unspecified reasons. Deposits only accounted for 2 per cent of ATM transactions because 100 per cent of the respondents received salaries electronically into their accounts. Those who made deposits into their accounts did so because they received payments other than salaries, by cheque or cash.

Lee and Schuamann (2005) found the extent to which financial service delivery through ATMs can affect consumer evaluation and consequent behaviour can be determined by the value of "ease of use" to the consumer as compared to other facets of the service, i.e. human interaction, and its relative contribution to positive outcomes. One explanation for widespread adoption is that an ATM must be both useful and easy to use and that simply being useful is not enough to achieve a firm's goals widespread adoption for its ATMs.

Bhayani (2005) observed that the maximum use of ATM is usually done only for the purpose of cash withdrawal and balance enquiry but in Rajkot, it is just a mini bank where one can access most of its functions, which would help the bank to reduce its burden at the branches. Moreover, there is a need to increase the number of ATMs. The debit card is used only as a substitute for ATM. The customers do not have faith in this facility. In this respect,

Comparisons between users and non-users have found that there were no differences in the amount of banking activities performed between these two groups, but that ATM users can be described as being younger, having higher occupational status (skilled or professional occupations), being significantly more educated, healthier (according to general self-ratings) and having higher incomes than non-users (Thatchera et.al. (2005)). There is a possibility, however, that these findings could have been confounded by the fact that people with higher incomes live in areas where they would be more likely to have convenient access to ATMs; therefore, these respondents would use them more often. ATM users also tended to have more computer experience and were more willing to use other types of technology, such as microwaves, videocassette recorders and answering machines. By inference then, non-users are older, less familiar with technology in general, have far less formal education (unemployed or unskilled occupations) and thus might require more intuitive user interfaces as well as instructions about how to use.

Poon (2008) observed that although customers considered that an ATM provides a narrow set of functionalities, they seemed to agree about the usefulness and adequacy of ATMs to undertake the available financial operations. Major advantages of ATMs were accessibility and speed of performance. Security concerns and technical failures were mentioned as disadvantages of ATMs. However, security concerns in ATM use were more related to physical security issues, and not so much to the possibility of violation of information systems, as in the case of Internet Banking.

In a study about consumer perception of ATM services by Sakthivel (2008), it was found that convenience is the most important factor which influenced the customers of ICICI and SBI to opt for ATM services. According to Rudva and Yella (2008), 50 percent of their respondents stated that their bank's ATM centre is conveniently located

for them but the remaining half expressed difficulty in reaching the centre. They felt that the ATM centre is far off from their residence/place of work and it is on road with high traffic density.

2.5. FACTORS INFLUENCING THE ADOPTION OF INTERNET BANKING

Adams et.al. (1992) noted that there have strong correlations between ease of learning and ease of use. Rayport and Sviokla (1994) emphasise the "pricing" aspect for electronic distribution of goods and services. Competitive pressures would also require banks to offer Internet banking. New players such as software and telephone companies will be interested in entering the online banking market.

O'Connell (1996) identified lack of access to computers/internet as one of the possible reasons for slow adoption of internet banking. As regards the use by bank customers of Internet banking, it has been estimated that only about 1 per cent of the retail transactions are done over the Internet (Ernst and Young (1996)). "Advance bank, a smaller bank which was quick to adapt new technology and started to provide net banking one and a half years ago, has only 5,000 active users". Availability of access to computers/Internet is a prerequisite for adoption of Internet banking. The more widespread the access to computers/Internet, the greater the possibility of use of Internet banking. O'Connell (1996) identified lack of access to computers/Internet as one of the possible reasons for slow adoption of Internet banking. It found "security concerns" as an important reason for slow growth of Internet banking in Australia. Thorton Consulting (1996) conducted a survey in the USA which focused on banks and concluded that 67 percent of the banks felt that "security concerns" is the major apprehension about Internet banking. The Wallis Report (1997) stated that technological innovation must be easy to use to ensure customer take-up or acceptance and if security is improved households will conduct their financial transactions over the Internet. It observed that for consumers to use new technologies, the technologies must be reasonably priced relative to alternatives. Thus, if Internet banking is not being adopted it could be because it is not reasonably priced.

A report on Internet banking in Australia finds that "security concerns among banks and customers", are keeping both away from Internet banking (ABF (1997)).

Probing those factors that lead to behavioural intention, the authors found evidence that perceived ease of use, perceived usefulness, and perceived credibility all had a significant positive effect on people's intention to adopt Internet Banking.

Transactional Internet banking is growing rapidly. It has been estimated that 60 per cent of retail banking transactions will be online in ten years' time (Barwise (1997)). Booz et.al. (1997) on Internet banking shows that "up to 20 per cent of retail and 30 per cent of corporate customers will use some form of Internet banking capability within the next five years". "Internet banks can operate at an expense ratio of 15-20 per cent compared to 50-60 per cent for the average bank". Thus, by encouraging customers to use the Internet for banking transactions, the banks would save considerable operating costs.

In a survey conducted in the USA, Katz and Aspden (1997) found that 17 per cent reported "convenience as a way to do banking" a very important reason for becoming an Internet user, and 30 per cent reported that it was an important reason. The branch banking segment consists mainly of older, non-computer literate persons, who value personal relationships (Heskett et.al. (1997)). These customers value the face-to-face contact with the bank teller and emphasise a trustful relationship. They do not own a PC and do not work with information technology. Today this segment is still large and important but it is shrinking. In many ways the telephone segment is similar to the branch segment. Some of these customers have not had the time or the resources to learn to use a PC. Some of them do not use information technology at work and have not learned it in school. Contrary to the branch segment, they do not value the personal interaction, but they like the convenience, accessibility and time saved, which are the consequences of being able to perform the banking activities at home. They possess credit cards and rarely visit a branch. As the PC and Internet segments grow, this segment is likely to shrink. The customers belonging to the PC segment are all computer literate, they have a modem and many of them are Internet users. Most of them have a credit card and do not value the personal interaction in a bank branch. They like the convenience and time saved that the PC bank provides. Today, the segment consists of mostly younger persons and it is dominated by males (Mols (1998a)).

Oliver (1997) asked the critical question of whether customers will accept the electronic form of receiving information and performing transactions. Booz et.al. (1997)

assessed the strategic impact of Internet banking on financial services industry and in particular the set-up and operating cost of Internet banking.

A study by Ernst and Young (1998) finds that financial institutions are not sure about customer acceptance of e-commerce.

Lack of customer access to suitable PCs as the reason for low usage of electronic banking in the UK and Ireland. Sathye (1999) conducted a study on the factors affecting the adoption of Internet banking by Australian consumers which revealed that security concerns and lack of awareness about Internet banking and its benefits stand out as being the obstacles to the adoption of Internet banking in Australia. The evolution of electronic banking, such as internet banking from e-commerce, has altered the nature of personal-customer banking relationships and has many advantages over traditional banking delivery channels. This includes an increased customer base, cost savings, mass customization and product innovation and the offering of services regardless of geographic area and time (Mols (2000)).

A growing phenomenon in financial services is the use of the internet as a channel for financial services. The internet bank usage might however not be easy for the consumers. Consumers' use of internet banking requires acceptance of the technology, which can be complicated because it involves the changing of behavioural patterns (Meuter et. al. (2000)). Technology, on the one hand, can simplify consumers' understanding of exchange, but on the other hand, it can make consumers' understanding more difficult.

Aladwani (2001) highlighted security, regulations, consumer privacy, and bank's reputation as the main future challenges in the adoption of Internet Banking by Kuwaiti banks. In Turkey, Polatoglu and Ekin (2001) listed nine factors that, according to the authors, influenced the diffusion of Internet Banking. These were: "relative advantage", "observability", "trialability", "complexity", "perceived risk", "type of group", "type of decision", and "marketing effort". The authors concluded that those customers, who use Internet Banking for the longest time or who use more of its services, find Internet Banking to be very reliable.

According to Goldfinger (2001), security was seen as a major obstacle to Internet banking. Banks were concerned about unauthorised access to their systems, and

customers were concerned about the safety of their personal data and the risk of fraudulent transactions. Banks have been able to manage security with minimal repercussions. However, according to Hickman and Katkov (2001), banks are exploring alternate security measures such as electronic signatures, digital certificates, smart cards and biometrics. A major problem with most of these measures is their complexity and cost to adopt and maintain. According to Outwater (2001), the e-purse bombed several years ago, cards have been lukewarm at best. Other researchers have also found trust issues and risk perception to be crucial drivers of internet banking adoption (Mols (2001), Bradley and Stewart (2002)). Furthermore, internet banking is an exchange situation that lacks physical presence of the branch and lacks personal interaction. In such a unique environment, trust has been found to be of key importance (Mukherjee and Nath (2003)).

In Webchek survey (Webchek (2002c)), it was revealed that the main use of Internet banking was viewing accounts, sourcing information, and making third party payments. It was not being used heavily for transactional purposes. The bulk of transactions were conducted on automated telling machines (ATMs), followed closely by transacting at a branch. Those customers who used ATMs tended not to be online bankers (Webchek (2002b)) .

In a study about Internet-based e-banking and consumer attitudes by Liao and Cheung et.al (2002), it was revealed that individual expectations regarding accuracy, security, transactions speed, user-friendliness, user involvement and convenience were the most important quality attributes in the perceived usefulness of Internet-based e-retail banking.

According to Weeldreyer (2002), Internet banking is not living up to the hype that surrounded it a few years ago. Customers' adoption rates are low, and their interest in Internet banking is waning. A major problem is that banks are forgetting the traditional rules of business, such as listening to customers and delivering the satisfaction that they are willing to pay for.

Webchek (2002d) identified the barriers to Internet banking in South Africa as including lack of personal attention, poor information and unreliable service. Those customers not banking online were also concerned with the perceived lack of safety of

online transactions. Based on these results, the typical Internet banker among university employees is a white male, aged between 25 and 34. This ties in with the study of Singh (2001), in which it was found that the typical Internet user was Indian, male, and aged 25-34. The ATM is still the preferred means of banking for respondents, with 92 per cent indicating that they used ATMs for most of their banking. The frequency of ATM usage was 49 per cent monthly, 34 per cent weekly and 17 per cent daily. 31 per cent use the Internet for banking. The frequency of Internet banking usage ranges from 59 per cent monthly to 29 per cent weekly and 12 per cent daily. It is clear that banking is a monthly activity, and would correspond with people's paydays. The reason for the extensive use of ATM is their ability to dispense money.

Suh and Han (2002) in their study verified that an additional belief, trust, is one of the most important determinants of customer acceptance of Internet banking. Moreover, trust had a more direct effect on a customer's attitude than perceived ease of use in the Internet banking context, while perceived ease of use had a greater total effect on customer's actual use.

Internet banking is of great benefit to customers: time and cost saving, no dependence on location and time of day, quick responses to complaints, and provision of more services. All of these benefits enhance the performance of customers' banking. A customer will, therefore, expect enhancement of the performance of his/her banking when he/she uses Internet banking.

The customers feel unrestricted while using Internet banking. Liao and Cheung et.al. (2002) stated that willingness to use Internet banking depends on the expectations of accuracy, security, network speed, user-friendliness, user involvement, and convenience. User involvement usually means the control the individual can exercise over a process.

Gerrard and Cunningham (2003) used 41 statements to measure the characteristics relating to the adoption of Internet Banking and innovations by Singapore consumers. Their factor analysis extracted "social desirability", "compatibility", "convenience", "complexity", "confidentiality", "accessibility", "economic benefits", and "PC proficiency" as the eight influential factors of adoption. They identified that consumers who were more financially innovative had a higher probability of adopting electronic

banking than less financially innovative consumers. They also found that consumers who were non-adopters of electronic banking could be differentiated by their lower computation proficiency and computer skills.

Sohail and Shanmugham (2003) identified that Internet accessibility, awareness, attitude towards change, computer and Internet access costs, trust in one's bank, security concerns, customers reluctance to change, ease of use and convenience are the major factors affecting the adoption of Internet bank services in Malaysia. The more affluent members of the sample appear to have a greater inclination towards e-banking. Furthermore, the fact that 20% of the sample respondents had already adopted e-banking services is encouraging and is indicative of a bright future for e-banking in Malaysia.

Bradley and Stewart (2003) showed that internet banking is a very important issue in retail banking. However, internet will contribute as part of a multi channel (bricks and clicks) strategy, rather than as a stand alone (clicks only) strategy. The developing functionality of internet banking may enable commercial banks to achieve competitive advantage through delivering higher perceived customer value.

Mattila et.al. (2003) show that internet banking was the third popular mode of payment among mature customers in Finland. Household income and education were found to have a significant effect on the adoption of internet as a banking channel so that over 30 percent of wealthy and well educated mature males make e-banking their primary mode of making payments. Perceived difficulties in using computers combined with the lack of personal service in e-banking were found to be the main barriers of internet banking adoption among mature customers. Internet Banking was also found to be more unsecured among mature customers than bank customers in general.

Akinci et.al. (2004) conducted a study to develop an understanding of consumer's attitudes and adoption of internet banking among sophisticated customers, revealed significant differences between the demographic profiles and attitudes of users and non users. While the internet banking users were mid-aged, male, more technology oriented, and convenience-minded consumers, non-users were younger (below 30 years of age), or older, more traditional channel oriented, and hesitant consumers, lacking confidence in internet banking services compared to the services delivered at bank branches. The right mix of banking channels depends not only on the channel characteristics, but also the

preferences of the consumers within a particular market. The technologies of electronic banking are already very advanced, especially in the USA (Kolodinsky et.al. (2004)).

The users of Internet banking do not believe in the reliability of the Internet banking web sites. Customers are very private about their finances and are concerned with the security offered by Internet banking (Furnell (2004)). The review gives evidence that studies related to internet banking is very less in Kerala. Therefore, in this paper an attempt has been made to examine the awareness and adoption of internet banking in the state.

A study regarding the consumer acceptance of online banking by Tero and Kari (2004), indicated that perceived usefulness and information of online banking on the Web site were the main factors influencing online-banking acceptance. Another study conducted to develop an understanding of consumer's attitudes and adoption of internet banking among sophisticated customers by Akinci et.al. (2004) revealed significant differences between the demographic profiles and attitudes of users and non users. While the internet banking users were mid-aged, male, more technology oriented, and convenience-minded consumers, non-users were younger (below 30 years of age), or older, more traditional channel oriented, and hesitant consumers, lacking confidence in internet banking services compared to the services delivered at bank branches. Wan et.al. (2005) found out that among the four banking channels, internet banking holds the greatest potential for development in the banking industry in Hong Kong. This is because the level of adoption is still not very high – the market is not yet saturated Interestingly, beliefs about the convenience of internet banking were not correlated with its adoption. Perhaps most bank customers were fully aware of the convenience internet banking could bring. What really mattered were the other three attributes of the channel (i.e. informativeness, user-friendliness, and assurance). These are the areas in which channel managers have to work hard.

Akinci et.al. (2004) who examined internet banking adoption in Turkey found that while internet banking adopters are more technology oriented and convenience-minded individuals, non-adopters are more traditional channel oriented, and hesitant customers, lacking confidence in internet banking services relative to the services given through branches. Their findings also showed that security, reliability and privacy issues;

download and transaction speed; and user-friendly web site, were among the most significant determinants of the customers' bank selection behaviour.

Lee and Schuamann (2005) observed significant differences between current adopters and persistent non-adopters of internet banking in terms of perceived service, attributes, perceived risk, and compatibility. Current adopters of internet banking appear to perceive convenience and quick service as important service attributes, compared to persistent non-adopters. Persistent non-adopters, however, perceive better rates and lower service to be more important than do current adopters. Persistent non-adopters are also more likely to perceive risks than current adopters, because they rate security and size of bank to be more important than do current adopters.

According to Barrutia and Echebarria (2005), Internet provides retail bank consumers with easier access to accurate, recent and unbiased information about products, thus diminishing information asymmetry. The Internet increases cost transparency for retail banking consumers. As a consequence of Internet retail banking consumers exercise greater control over the communication they receive and generate. The Internet reduces concerns about imperfect commitment. The Internet reduces retail bank consumers switching costs.

In a study about customer acceptance of Internet banking in Estonia, Eriksson et.al. (2005) suggested that internet banking use increases insofar as customers perceive it as useful. The perceived usefulness is central because it determines whether the perceived ease of use of internet banking will lead to the increased use of internet banking. Put differently, a well-designed and easy to use internet bank may not be used if it is not perceived as useful.

Another study conducted by Christopher et.al. (2006) showed that the service quality, perceived risk factors, user input factors, employment and education are the dominant variables that influence consumers choice of electronic banking and non electronic banking channels. 27% of the sample population adopting Internet Banking indicating the market is not yet saturated, a fact who also found that the market was developing but that there was still considerable development opportunities. Of those who adopted Internet Banking, the major services used are account transfer; bill settlement, account balance inquiry and interest rate/exchange rate/stock quote inquiry. The main

reasons for bank customers adopting Internet Banking were seen to be the ability to perform banking transactions anywhere, anytime and quickly. On top of that, incentive programmes offered by the banks to promote Internet Banking were also seen as accelerators of the adoption. The implications of these findings for the bank sector are significant in that, in order to survive banks will need to move away from traditional bases of retail bank competition i.e. fees, interest and customer loyalty, to a new internet based form of competition based on cost reduction; customer retention; responsiveness; credibility; security; ease of use; and wider scope of products and. As such, the findings highlight that there is still considerable market share to be gained and thus first mover advantage opportunities.

Katariina (2006) formed four clusters of consumers on the basis of their perceptions of internet banking services such as the suspicious, eager, reluctant and the practical. The smallest cluster, the suspicious, is formed by consumers who question the security and convenience dimensions of Internet Banking, but find the auxiliary features slightly useful. A fifth of them is over 44 years old and quite highly educated. The eager comprises of youngsters are significantly more positive towards Internet Banking. The reluctant find Internet Banking inconvenient and they do not perceive the benefit of enhanced social status or the usefulness of auxiliary features. The practical, value the dimensions of convenience and security the most.

Customers will also benefit from the convenience, speed, and round-the-clock availability of Internet banking (Cheng et.al. (2006)). The willingness to use the internet and telephone for financial services is influenced by the individual sense of personal capacity or capability to engage with these service systems, the perceived risks and relative advantages associated with their use, and the extent to which contact with service personnel is preferred or deemed necessary.

Gerrard et.al. (2006) has identified the various factors which explain why certain consumers are not using internet banking. The two most frequently mentioned factors were perceptions about the risks associated with internet banking and the lack of perceived need. Other less frequently mentioned factors were lack of knowledge of the service, inertia, inaccessibility, lacking the human touch, pricing and IT fatigue. The findings suggest that marketing campaigns which aim to encourage consumers to become

internet bank users are likely to attract more males, the higher income groups, the better educated, those who have already used the internet to buy services and/or goods and those who are knowledgeable about internet banking.

Ndubisi and Sinti (2006) show that four attitudinal factors have strong influences on adoption namely importance to banking needs, compatibility, complexity, and trialability, whereas risks has a weak influence. Importance of the internet to banking needs significantly predicts internet banking adoption.

Laukkanen (2007) suggest that internet and mobile users differ in their preferences toward electronic channels' attributes in bill paying. It seems that for internet users the screen size, followed by the location and the response time are the most important channel attributes in bill paying. For mobile users, however, the location, followed by the screen size and response time are the channel attributes of greatest interest when using the service. Internet banking services include 'inquiring the account balance,' depositing loan applications', third party payment', 'utility bill payment' and on-line purchases'. The usage of the internet banking review was clearly linked with exposure to internet. More the access to internet more was the usage of internet banking services. Concern over confidentiality of information was considered among the top barriers to usage of internet banking services. Social contacts, ease-of-use, price, speed and security seem to play a significant role in customer's profile. Consumers who are at ease with computers and use them also for other purposes find it convenient to start banking over the internet. One of the main reasons why the internet banking user base is limited to some customer groups is the poor connectivity. The results indicate that usage is strongly affected by subjective norms. In other words, opinions of friends, family or peers are highly regarded as important factors when deciding about the use of internet banking services. Most customers are aware of the internet banking services offered by their banks but they do not register for internet banking. The more customers show concern for security, the less likely they will be to register for internet banking.

The Internet and Mobile Association of India (IAMAI) (IAMAI Report (2006)) found that about 23% of the online users in India preferred Internet banking as the banking channel to carry out their transactions, second only to the ATM, which is preferred by 53%. Out of 6,365 internet users sampled, 35% preferred online banking

channels in India. In another study conducted by IAMAI in 2006, it was found that people do not prefer online financial transactions due to many reasons such as security and facilities concern, preference for face to face transactions, lack of knowledge and lack of user friendliness of the channels.

According to Malhotra and Singh (2007) majority of customers are now showing greater interest in the new ways available to manage their accounts through accepting the internet technology in banking. Customers were thrilled with the speed and convenience of the internet banking services comprised 60 percent of male and 40 percent of females who are relatively young, educated and serving in Government offices or the private industrial houses.

Yiu et.al. (2007) identified that perceived usefulness, perceived ease of use, perceived risk of internet banking and personal innovativeness on information technology, have a positive relationship with internet banking adoption, with different degrees. Perceived usefulness has the strongest correlation, followed by perceived ease of use and perceived risk. Personal innovativeness in information technology has shown the weakest correlation with Internet Banking adoption.

De Young et.al. (2007) state that brick-and-mortar banks used the Internet channel as a complement to, rather than a substitute for, physical branches. Internet banking offers ease of use and access to the customers. Many people know how to use Internet and have the opportunity to access either from their workplace or from their home.

Ozdemir et.al. (2008) observed that there were significant differences between adopters and non-adopters of the service in terms of their perceptual, experience and consumer related characteristics. Internet banking adopters perceived internet banking use as less risky, more user-friendly and more useful compared to internet banking non-adopters. Internet banking non-adopters who intend to use the service in the future (i.e. later adopters) perceived internet banking use as less risky and more useful compared to non-adopters who do not intend to use the service (i.e. laggards). Internet banking adopters were also found to have more experience with mobile internet, and have higher income and longer working hours.

According to Poon (2008) individuals who deem internet banking useful in fulfilling their banking needs such as, the need to have better control of their own financial accounts, and those seeking for the most convenient channel to have close monitoring of these accounts, etc. are more promising prospects. Compatibility is another determinant of adoption. Given that individuals have already established personal banking norms, lifestyle, finance management system, and account monitoring mechanism prior to the advent of internet banking, their acceptance or rejection of this new mode will rely greatly on the extent this new mode accommodates or rejects all or some of the past values. Complexity also has significant relationship with intention to adopt internet banking. Another component of attitude supported in this study is trialability. Thus, potential adopters will be more inclined to adopt internet banking if they can try it out first. Surprisingly, risk has no significant influence on adoption. A plausible reason for this outcome could be the tight security impression the banks in Malaysia have managed to sell to customers, which may have resulted in perceived risk not being a top issue when considering adoption.

Another study conducted in the Indian context by Sofri and Harshid (2009) which identified that the acceptance of internet banking is being explained by factors like education, banking literacy, computer literacy, internet facilities, cost factor and banking facilities.

2.6. FACTORS INFLUENCING THE ADOPTION OF CREDIT CARDS

In today's modern economy, credit cards are being widely used. India too has been rapidly venturing into the plastic money business i.e., the credit card business. In 1951, the first bank credit card appeared in New York's Franklin National bank for loan customers. The idea, though, had already been experimented in various forms much before. In India, Andhra bank was the first to introduce credit cards in 1981.

According to Frimpong (1999) age, experience and different classes have different attitudes towards credit usage and people of higher education and socio-economic standing have more favourable attitudes towards credit than others and tend to use credit cards. Security-oriented groups tend to be older and have high incomes whereas the task-oriented groups include younger and more modern bank customers.

Against this background, it is important for the financial services marketer to anticipate, acknowledge and deal with many types of customers.

Meidan (1996) suggested that the older generation is less receptive to credit cards and that financial constraint is one of the major factors governing their usage frequency. A field study by Chan (1997) in Hong Cong examined the demographic and attitudinal difference between active and inactive credit card holders and found that income was the single most important variable that influence frequency of card usage and identified a positive relationship between user's attitude and their usage frequencies.

According to Gorden and Natarajan (1999), the credit cards are largely preferred because they are simple to operate and easy to carry. The holders are relieved from the risk of carrying cash or cheque book with them; owing to revolving nature of credit, the customers can take advantage of it, and when he pleases, within the overall limit; the purchasing power of the cardholder increases to the extent of credit limit given in the card, if wisely used, credit cards can provide them extra money, interest free. All that one has to do is to settle the bill on time. Kalavathy (2000) opined that during the past decades, plastic cards have become more and more popular in India. The reason for popularity has now shifted from being recognized as a status symbol to convenience, security and worldwide acceptance.

In a prior study about the correlates of credit card acceptance and usage in an advanced developed developing Middle Eastern country by Erdener and Orsey (2000), it was found that there is a close relationship between spread of credit card usage in a country and its stage of socio-economic development. With increased level of socio-economic and technological development, credit card usage particularly increases in developing countries. An empirical research study conducted in urban Turkey population indicates that there is certain relationship between socio-economic and demographic characteristics of Turkish consumers and their credit card holding and usage behavior.

According to Bandyopadhyay (2004), Indian credit card industry has been growing at 31 percent compounded annual rate. In fact, the growth in the past three years has been higher than what the industry saw between 1990 (when Citibank issued the first credit card) and 2000. Overall, about 0.6 percent of personal consumption expenditure in India is through credit cards. This means that for every Rs.100 spent on consumption,

only 60 paisa is routed through credit cards. The comparable figure in the US is 16 percent. The Asia-Pacific region also shows higher usage of credit cards.

In a prior study about the extent of usage of credit cards in Coimbatore by Ramalinga (2005), it was found that 42 percent of cardholders possessed the card in the past four years. The reasons for the increase in the number of cardholders in the recent past could be attributed to the increasing awareness of the usage of cards and the wide acceptance of the credit by merchant stores. Another study conducted in China about the adoption and usage of credit cards by David and Steve (2007) revealed that the Chinese customers were comfortable with the holding and usage of credit cards and particularly recognized their value for spending on travel and entertainment.

In India, Reddy (2007), it was revealed that today, India has close to 50 million credit card users. The number of credit and debit cards in active use in 2007 has been in the range of 25 and 40 million and the number continue to multiply. However the idea of keeping multiple cards is relatively a new trend. For good or bad this trend is catching up and the Indian credit card industry is witnessing this shift from one to multiple.

2.7. FACTORS INFLUENCING THE ADOPTION OF MOBILE BANKING

The banking industry is among the leading sectors in adopting and utilizing the internet and mobile technology on consumer markets and consequently its service delivery has undergone changes unprecedented in its history. The development of electronic banking services via multiple electronic channels has made it possible to provide new kinds of added value for customers.

Lockett and Littler (1997) and Al-Ashban and Burney (2001) have analysed the development of telephone banking in detail. The mobile phone as a channel for service consumption offers enormous potential since today, a mobile phone is an integral part of customers' lives and a growing number of these devices are also equipped with internet connection. Currently mobile banking services enable consumers, for example, to request their account balance and the latest transactions of their accounts, to transfer funds between accounts, to make buy and sell orders for the stock exchange and to receive portfolio and price information.

The use of mobile banking is still in its initial stage and more research in the field is needed. Technological development in the mobile sector, like 3G and improved displays of the devices, will likely change the current situation and improve wireless service consumption. However, data input may still be a bottleneck in the consumption of some mobile financial services without improvements like in-built barcode readers. The barcode readers could be used to reduce the burden and perceived uncertainty of the customer and increase convenience in mobile bill paying by copying the account numbers, index numbers, the sums and due dates from the printed bill into the mobile phone. The customer would only need to accept or reject the payment. Future research could focus on more convenient data input methods in mobile bill paying.

Some of the most recent studies have concentrated on mobile banking (Barnes and Corbitt (2003)). The mobile phone as a channel for service consumption offers enormous potential since today, a mobile phone is an integral part of customers' lives and a growing number of these devices are also equipped with internet connection. Currently mobile banking services enable consumers, for example, to request their account balance and the latest transactions of their accounts, to transfer funds between accounts, to make buy and sell orders for the stock exchange and to receive portfolio and price information. Previous studies indicate, that factors contributing to the adoption of mobile banking are related to convenience, access to the service regardless of time and place, privacy and savings in time and effort (Suoranta (2003)). However, Suoranta (2003) found that mobile services were not used since they were perceived as impractical and not sufficiently diversified. In spite of the advantages the use of the mobile phone in banking actions has remained small. There seem to be some inhibitors that slow down the use of mobile channels in banking transactions. Furthermore, security issues are argued to be among the greatest concerns in the adoption of mobile banking (Brown et al. (2003)). Previous studies indicate that perceived financial cost and perceived complexity (Lee et.al. (2003), Scornavacca and Barnes (2004), Luarn and Lin (2005)) inhibits the use and adoption of mobile banking services

The simultaneous and increasing diffusion of mobile phones and especially WAP-enabled devices has made the transformation of banking applications to mobile devices a logical development in electronic banking (Pousttchi and Schurig (2004)). Indeed,

mobile banking has emerged as a wireless service delivery channel providing increased value for customers' banking transactions. However, despite its many advantages, the use of mobile phones in banking services is still in its infancy and the internet retains its position as the leading channel in electronic banking.

Contrary to previous findings, some studies have argued that security issues are not perceived by customers to be major obstacles in banking transactions (Laukkanen and Lauronen (2005)). These studies state that, mobile banking was found a secure way to conduct banking transactions by the users.

The results of Laukkanen (2007) described customer perceived positive and negative value perceptions to fund transfer via internet and mobile phone. The most noteworthy differences between these two channels are related to the location free access to the service and the display of the device. The most important contributor to mobile banking seems to be the ability use the service wherever wanted, which is related to the capability for immediate actions and time savings in service consumption. The keyboard and the display of the device seem to be the clearest inhibitors to the use of mobile bill paying service whereas in the use of the PC the case seems to be the opposite.

2.8. SATISFACTION AND EXPERIENCE OF E-BANKING DELIVERY CHANNELS

Buyers' satisfaction with an innovation directly affects their intention to use and the actual usage (Davis et.al. (1989)). Hoffman and Novak (1996) find that there is a significant correlation between download speed and user satisfaction.

Research has also found that high levels of satisfaction with currently used systems negatively affect the likelihood of adoption of new ones (Chau and Tam (1997)). This study shows that buyers' satisfaction with traditional banking may serve as an obstacle to their continuance of Internet banking. Buyers' perception of Internet banking as useful results in their continuance of Internet banking usage, but if buyers are also satisfied with traditional banking, they seem to prefer traditional banking channels. Based on empirical evidence in The Netherlands, Bloemer et.al. (1998) put forward that quality in bank services would have an indirect effect on loyalty via satisfaction and that satisfaction would have a direct positive effect on loyalty. Satisfaction with bank services

is influenced by several factors such as the consumer typology and type of the delivery channel.

The features of a technology are likely to influence how the consumer makes sense of the seller's service offer, which also influences use (Griffith (1999)). Buyer's satisfaction is the result of an evaluative process that contrasts pre-purchase expectations with the perception of performance during and after the consumption experience (McQuitty et.al. (2000)).

Trust has striking influence on user's willingness to engage in online exchanges of money and personal sensitive information (Friedman et al. (2000)). In line with this, Moutinho and Smith (2000) emphasized that human and technology based delivery channels were greatly linked with the customers' perceptions of how these bank services were delivered to them and pointed out that these perceptual outcomes would affect the level of bank customer satisfaction, retention, and switching. Another valid representation of technology use is the duration of the experience with the technology (Ricard et.al. (2001)). Very often, slow response time after any e-interaction leads to a delay of service delivery and makes consumers unsure about whether or not the transaction is completed (Jun and Cai (2001)).

The key to building and retaining a loyal base of long-term buyers is satisfaction and a positive correlation exists between the intention to continue usage and satisfaction. Satisfaction is determined by assessing the expectation of the technology and the confirmation of expectation following actual use. Lower expectations and/or higher performance result in greater confirmation, which in turn positively influences buyer satisfaction and the intention to continue usage (Bhattacharjee (2001)). What influences the buyers' level of satisfaction differs depending on whether the services are reached through traditional offline channels or through online channels; for online services, factors such as site design and payment methods must also be considered (Cho and Park (2001)).

Polatoglu and Ekin (2001) inferred that early adopters and heavy users of Internet Banking services were more satisfied with the services compared to the other customer groups.

Satisfaction is an ex-post evaluation of buyers' experience with a service and results in a positive feeling, indifference, or a negative feeling. When buyers find a particular channel to be convenient, time efficient, and price saving, they will be satisfied with the general effectiveness and efficiency of the electronic channel (Devaraj et.al. (2002)).

Research has shown that satisfaction influences buyers' loyalty (Hennig-Thurau et.al. (2002)). Perceived usefulness affects the level of satisfaction, which affects the expectations of future benefits, thereby influencing information systems usage (Rai et.al. (2002)). With reference to the type of the channel, Joseph and Stone (2003) argued that the ability to deliver services via technology appears to be correlated with high satisfaction with services deemed most important to customers. Consumers learn about goods and services to a large extent by the development of experiences from trial and error. Consumer experiences are a major determinant of consumer choice and preferences (Foxall (2003)). Turning to a technology context of use, the frequency of use has been found to capture the consumer's use of a technology.

Generally, the dimensions of satisfaction that are associated with a service include service quality, product quality, price, and location (Skogland and Siguan (2004)). Buyers' level of multichannel satisfaction with their bank is positively associated with their Internet banking continuance. If buyers continue using the Internet with improved results, the confirmation of better than expected results can influence the perceived usefulness in a positive direction. However, if continued usage generates worse results, this disconfirmation negatively affects the pre-established perceived usefulness (Hayashi et.al. (2004)).

Where multiple channels are used, buyers rarely consider them in isolation from each other which is why satisfaction with a particular channel is inextricably linked to multichannel satisfaction in the interface between buyer and seller (Balasubramanian et.al. (2005)).

Eriksson and Nilsson (2007) observed that Internet usage in a multichannel context is influenced not only positively by the potential users' perception of its usefulness but also negatively by their overall satisfaction with the service provider and their additional distribution channels. Perceived usefulness is a crucial determinant

whether buyers will continue their usage or not. If buyers perceive Internet banking to be useful, they will be more likely to use it. However, buyers' satisfaction with traditional interaction channels in the bank may restrict their usage of Internet banking. If buyers perceive Internet banking to be useful but, at the same time, have high multichannel satisfaction, they tend to avoid using Internet banking. Buyers' satisfaction is one factor that influences the buyers' loyalty, but satisfaction does not guarantee loyalty.

Jazeela (2005) conducted a study on customer perceptions of banking products and services in Kerala with reference to specific customer segments in the urban area. Factors causing dissatisfaction among the bank customers are systems and procedures in banks have been made rigid keeping in view the legal, accounting and book keeping purposes. These procedures are cumbersome and considerably reduce the speed of delivery of services. Indian banks have been slow in adopting computerization. Electronic innovations have been half heartedly adopted. Coupled with the problem of inadequate capital to make investments in automation most of the banks continue to function in the old fashion. The customer service is limited to complaint handling rather than prevention.

There is a feeling among customers of Thiruchirappalli city that the charges for banking services are high (Selvam (2005)). As our customers are more money sensitive, the bank have to reconsider the charges for various banking services including credit card facility. In some banks cash is not available in time especially when customers demand large amount. It is the major reason for the dissatisfaction of customers in Trichy city.

2.9. CONCLUSION

Here, a detailed review of the relevant literature in connection with banking and electronic banking delivery channels was done. It is revealed that a number of studies were conducted in the area of awareness and adoption of e-banking delivery channels all over the world. But very few studies have been conducted in India. Coming to Kerala, a detailed study in this respect has not been initiated. Kerala state is declared as the first total bank literacy state in India. Again, Keralites are considered to be more techno-savvy. In this context, it is highly imperative to have an in depth study regarding the banking habits especially the electronic banking habits of the people of Kerala.

In this review, two models and all the variables used in these models are also discussed. Variables chosen for the present study are based on some of the variables of these models. Further in this review, a number of factors are seemed to have an influence on the adoption of the selected e-banking delivery channels. These factors can be bifurcated into two, demographic and perceptual factors.

Despite the fact that it is widely acknowledged that perceptual variables are far more successful as predictors of the innovation adoption than demographic variables, very few studies have been conducted to examine the association of perceptual variables with e-banking usage. Thus, the present study has been initiated to provide evidence regarding the association between customer acceptance/non acceptance of e-banking delivery channels and perceptual variables.

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**A STUDY ON THE BANKING HABITS
OF THE PEOPLE OF KERALA**

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by

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Chapter 3

GENERAL BANKING HABITS OF THE PEOPLE OF KERALA

3.1. INTRODUCTION

This study lays emphasis on the fast changing banking habits of the people of Kerala. The pace of change is getting faster day by day. Today, banks have to focus on smaller deposits and smaller advances and improve their operating efficiency substantially. Multiple banking choices have empowered the customer. Today most customers of the bank do not enter the branch premises for their basic transaction needs. Transactions are done through delivery channels such as ATMs, internet and mobile. Today customers want banking services 24 hours a day, hence, many banks have introduced extended business hours such as '8 to 8' banking and 'Sunday Banking'. Customers do not want to carry cash and this has led to the usage of various forms of plastic cards such as credit cards, debit cards and smart cards. In this changed scenario, banks must be able to recognize and respond to customers whenever, wherever and however they present themselves.

This chapter deals with the analysis of the primary data collected from the sample of 360 respondents.

3.2. PROFILE AND BANKING HABITS OF THE RESPONDENTS

This chapter is divided into two, namely, Part A and Part B. Part A deals with the profile of sample population. Part B deals with the banking habits of the sample population.

PART-A PROFILE OF THE SAMPLE RESPONDENTS

One of the objectives of this study is to assess the demographic influence on the adoption of banking services. Hence it is imperative to assess the demographic profile of the sample respondents on different aspects. Therefore, a profile of the respondents based on **bank, area, gender, age, education, occupation, and annual income** are presented here to get a broad idea about the socio-economic and demographic characteristics.

Bank wise Distribution of the Sample Population

For the purpose of this study, banks in Kerala is divided into three categories, such as Nationalized banks, Kerala based scheduled banks and new generation banks. Equal number of respondents is selected from the three bank categories, as in Table 3.1.

Table 3.1. Bank wise Distribution of the Sample Population

Type of the Bank	No. of Respondents
Nationalized banks	120
Kerala based Scheduled banks	120
New generation banks	120
Total	360

Area wise Distribution of the Sample Population

For the purpose of getting a representative sample, Kerala state is divided into three regions such as northern, central and southern regions. From northern region, Kozhikode district is selected, from central region it is Ernakulam and from southern region, Pathanamthitta district is selected. Equal number of respondents is selected from each district for the purpose of making geographic wise analysis, as given in Table 3.2.

Table 3.2. Area wise Distribution of the Sample Population

District	No. of Respondents
Kozhikode (North)	120
Ernakulam (Central)	120
Pathanamthitta (South)	120
Total	360

Gender wise Distribution of the Sample Population

Though Kerala is known for gender equality in many respects, gender wise distribution of the data shows that female participation in this study is less, which is only 31 percent. This is due to the fact that a major portion of the customers who come to the bank branch for doing their banking is male population. Again, from Table 3.3 it can be noted that male customers were very much interested to take part in this study as compared to their counterpart.

Table 3.3. Gender wise Distribution of the Sample Population

Gender	No. of Respondents	% of the total sample
Male	249	69.1
Female	111	30.9
Total	360	100

Age wise Distribution of the Sample Population

Age wise distribution shows that 41 percent of the respondents are youngsters followed by middle aged category with 28 percent, Table 3.4. Only 6 percent of the respondents are from the older category of 61 to 75 years of age. Hence it can be understood that nearly 70 percent of the respondents are below the age of 45 years.

Table 3.4. Age wise Distribution of the Sample Population

Age Class (in years)	No. of Respondents	% of the total sample
0-30	148	41.1
31-45	101	28.05
46-60	89	24.7
61-75	22	6.1
Total	360	100

Education wise Distribution of the Sample Population

Education wise distribution shows that, (Table 3.5), 31 percent of the respondents are graduates followed by post graduates with 28 percent. It can be noted from the Table 3.5 that nearly 80 percent of the respondents have at least graduation.

Table 3.5. Education wise Distribution of the Sample Population

Education	No. of Respondents	% of the total sample
SSLC	43	11.4
Pre degree/Plus two	34	9.44
Graduation	112	31.1
Post Graduation	99	27.5
Professional Qualification	72	20
Total	360	100

Occupation wise Distribution of the Sample Population

Occupation wise distribution (Table 3.6.) shows that salaried group is the highest with 21 percent followed by professionals with 18 percent. Students constitute nearly 12 percent of the respondents. 9.7 percent of the respondents are business people and 9.4 percent are self employed. Overall it is understandable that people from high level occupations actively participated in the study as compared to low level occupations.

Table 3.6. Occupation wise Distribution of the Sample Population

Occupation	No. of Respondents	% of the total sample
Professionals	66	18.33
Businessmen	35	9.72
Self employed	34	9.44
Salaried	105	21.17
Student	42	11.67
Retired	24	6.67
House wife	30	8.33
Agriculturalist	14	3.89
Unemployed	10	2.78
Total	360	100

Income wise Distribution of the Sample Population

Income wise distribution (Table 3.7) shows that the mean income of the respondents is Rs.277500.00 with a standard deviation of Rs.167.22.

Table 3.7. Income wise Distribution of the Sample Population

Income Class (in Rs)	No. of Respondents	% of the total sample
0-50000	30	8.33
50000-150000	66	18.33
150000-300000	126	35
300000-500000	98	27.22
500000-750000	40	11.1
Total	360	100
Mean	Rs.277500/-	
Std. Dev	167.22	

Accessibility to Computers, Internet and Mobile Phones

Information regarding the respondents' accessibility to computers and internet gives the idea that 82 percent of the respondents have accessibility to computers and 74 percent of them have accessibility to internet. Further, it is revealed that only 4 percent of the respondents do not use mobile phones.

PART B - BANKING HABITS OF THE RESPONDENTS

This part deals with the banking habit of the respondents by way of analyzing their association with their respective banks and their frequency of visit. Important reasons for their bank visit and the major factors affecting the choice of their banks are also assessed to better understand the respondent’s banking habits. Further, to gain deeper insight into the study, four important variables are selected such as type of bank, age, education and income and analysis is done in different aspects.

3.2.1. Period of Association and Frequency of Visit with Present Banker

Period of association with a banker is an indication of loyalty to the institution. Longer is the period of association; higher is the loyalty and vice versa. Here, responses are collected with regard to the period of association with the present banker. Relevant data is presented in Table 3.8.

Table 3.8. Mean and SD of Branch Banking

Variable	Mean	Std. Dev
Period of being the bank customer	6.789 years	4.399
Frequency of visit	2.8583 (once in a month)	1.0204

It can be noted that on an average, majority of the respondents are taking the service of their respective banks for nearly seven years.

Respondents are also asked to give information about the frequency of visiting their bank branch. For this they are asked to allot points in such a way that 5 for daily visit, 4 for once in a week, 3 for once in a month, 2 for once in three months and 1 for rarely. The mean value is 2.858 which show that the average frequency of visit by customers is once in a month.

Bank wise Classification of Period of Association with the Present Banker

In order to get more information about the banking habits, customers are divided into three categories such as nationalized bank customers, Kerala based scheduled bank customers and new generation bank customers and their average period and frequency of

visit is separately analyzed. It can be seen from the Table 3.9 that the mean value for nationalized bank is 6.771, implying that they have been taking the services of their banks for nearly seven years. The same is with that of Kerala based scheduled bank customers, whereas in the case of new generation bank it is slightly less with 6.163 giving the idea that they have been availing of the services of their bank for six years.

Table 3.9. Period of being the Bank Customer-Bank wise Classification

Type of Bank	Mean (in years)	Std. Dev
Nationalized bank	6.771	4.238
Kerala based bank	7.433	4.680
New generation bank	6.163	4.207
Aggregate Average	6.789	4.399

Further, from Table 3.10, information relating to the frequency of visit reveals that mean value of nationalized bank customers is 2.675 implying that their frequency of visit is less than once in a month. It is more or less the same with that of Kerala based scheduled banks. The mean value of new generation bank customers is comparatively more which shows that their average frequency of visit is more than once in a month. Thus, the overall idea is that new generation bank customers are more active in branch banking as compared to nationalized and Kerala based banking customers.

Table 3.10. Frequency of Visit-Bank wise Classification

Bank	Mean	Std. Dev
Nationalized bank	2.6750 (Less than once in a month)	1.0384
Kerala based bank	2.7583 (Less than once in a month)	0.8792
New generation bank	3.1417 (More than once in a month)	1.0792

Age wise Classification of Period of Association with the Present Banker

Here, respondents are classified into five age groups of below 30 years named as youngsters, between 30 to 45 years as middle aged group, between 45 to 60 years as elders and above 60 years as older category. Further, these five group’s mean values of

average period of being the bank customer are computed and incorporated in Table 3.11. It can be seen that mean value of average period of being the customer of elder group is the highest with 9.815 followed by older group with 9.65 implying that these two groups have been using the services of the their respective banks for the last ten years. The mean value of middle aged group is comparatively less with 7.141 which indicate that their average period of being the customer is seven years whereas the same with that of youngsters again low with 4.619 implying that they have been taking the services of their banks for the last four years.

Table 3.11. Period of being the Bank Customer-Age wise Classification

Age (in years)	Mean (in years)	Std.Dev
Below 30	4.619	3.739
30-45	7.141	4.127
45-60	9.815	3.807
Above 60	9.650	3.483

Regarding the frequency of visiting bank branch, mean values of middle aged is the highest with 2.942 followed by youngsters with 2.878 which gives the idea that both these groups are visiting their bank around once in a month (Table 3.12). As compared to younger groups, older group's frequency of visit is slightly less; 2.778 for elder group and 2.6 for older group indicating that majority of those who belong to these two groups visit their bank branches nearly once in a month. Overall it is understandable that even though younger groups have less experience with their banks as compared to older groups, they are more active users of banking than their counterparts.

Table 3.12. Frequency of visit-Age wise Classification

Age (in years)	Mean	Std.Dev
Below 30	2.878 (Nearly once in a month)	0.972
30-45	2.942 (Nearly once in a month)	1.101
45-60	2.778 (Less than once in a month)	1.012
Above 60	2.600 (Less than once in a month)	0.995

Education wise Classification of Period of Association with the Present Banker

Here the respondents are classified into five education groups, SSLC, Predegree/Plus two, graduates, postgraduates and professionals and their average period of being the bank customer and frequency of visit are analyzed. Information regarding the average period of association with the present banker for the different education groups presented in Table 3.13 reveals that the mean value of professionally qualified group is 6.287 whereas that of post graduates is 7.819 implying that the average period of being the bank customer of the first group is more than 6 years whereas the postgraduates, it is nearly 8 years. In the case of graduates the mean value is 6.62, which shows that they have been taking the services of their banks for more than 6 years. For SSLC group, the mean value is high, which is 7.473 as compared to the Pre-degree/Plus two group which is 5,078. This gives the idea that, the SSLC group has been using the services of banking for more than seven years whereas it is five years in the case of Pre-degree/Plus two group.

Table 3.13. Period of being the Bank Customer-Education wise Classification

Education	Mean (in years)	Std. Dev
SSLC	7.473	4.002
Pre-Degree/Plus Two	5.078	4.292
Graduation	6.620	4.376
PG	7.819	4.503
PQ	6.287	4.319

Further, the average frequency of visiting the bank branches of different education groups is examined, the mean values are presented in Table 3.14 which shows that 2.915 is the mean value of professionally qualified group and 3.034 is that of graduates, indicates that their frequency of visiting the bank branches is once in a month, the mean value of the pre-degree/Plus two group is 2.813, giving the idea that they are also visiting the bank branch nearly once in a month. The average frequency of visit of SSLC and post graduate group is slightly less as compared to their counterparts which is 2.73 is for the

former group and 2.637 for the latter. This implies that majority of them are visiting their bank branches at least once in a month.

Table 3.14. Frequency of Visit-Education wise Classification

Education	Mean	Std. Dev
SSLC	2.730 (Less than once in a month)	1.122
Pre-Degree/Plus Two	2.813 (Nearly once in a month)	0.780
Graduation	3.034 (More than once in a month)	1.025
PG	2.637 (Less than once in a month)	0.961
PQ	2.915 (Nearly once in a month)	1.080

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Income wise Classification of Period of Association with the Present Banker

Here, an important economic variable, annual income is taken into account for analyzing the banking habits of the respondents. For this purpose, the customers are classified into five categories of those who are earning more than Rs 500,000 in a year named as very high income group, between Rs.300,000 to 500,000 as high income group, between Rs.150000 to 300,000 as middle income group, between Rs.50,000 to 150,000 as low income group and below Rs. 50000 as very low income group.

Relevant data is presented in Table 3.15. Information regarding the average period of being the user of banking services shows that very high income group has got the highest mean value of 8.944 implying that they have been taking the services of their banks for the last nine years. The same with that of the high income group is 7.495 which indicates that their average period is more than seven years. In the case of middle income group, the mean value is 6.791 giving the idea that majority of this group have associated with their banks for nearly seven years. In the case of low income group mean value is 5.627 and the same with that of very low income group, it is 6.125 implying that average period of being the user of these two groups is around six years. Hence, it is understandable that high income groups have comparatively long years of experience in banking as compared to low income groups.



Table 3.15. Period of being the Bank Customer-Income wise Classification

Income	Mean (in years)	Std. Dev
Below Rs.50000	6.125	3.726
Rs.50000-150000	5.627	4.536
Rs.150000-300000	6.791	4.384
Rs.300000-500000	7.495	4.294
Above 500000	8.944	4.765

Next, we consider the frequency of visiting the bank branches of different income groups. The mean values presented in Table 3.16 clearly reveals that high income group has the highest mean value of 3.132 implying that they visit their bank branches once in a month followed by middle income group with 2.8 and very low income group with 2.75 which shows that their frequency of visit of bank branches is nearly once in a month. 2.684 and 2.66 are the mean values of low income and very high income groups respectively. This gives the idea that in both these groups average bank visit is around once in two months. Hence it is clear that even though very high income group has comparatively long years of experience in banking, they are not much active in dealing with their banks.

Table 3.16. Frequency of Visit-Income wise Classification

Income	Mean	Std. Dev
Below Rs.50000	2.750 (Less than once in a month)	1.110
Rs.50000-150000	2.684 (Less than once in a month)	0.840
Rs.150000-300000	2.8 (Nearly once in a month)	1.122
Rs.300000-500000	3.132 (More than once in a month)	0.937
Above 500000	2.66 (Less than once in a month)	1.085

Conclusion

After having examined the respondent's period of association and frequency of visit of their bank branches, it can be concluded that the most of the customers have close association with their bank and they visit their bank atleast once in a month. This

highlights the fact that most of the banks have a strong group of loyal customers. Customers are more interested in branch banking in spite of all the technological advances and entry of non banking entities. They consider bank branches are significant growth engines and the best place to get personalized advice and attention and to conduct complex banking activities.

3.2.2. Reasons for Bank Visit

After having analyzed the period of association with the bank and the frequency of bank visit, here we consider various reasons for the customer's bank visit. For this the respondents are asked to put ranks in the order of importance to eight commonly offered banking services such as *to deposit cash / cheque, to withdraw cash, to transfer money, for taking demand draft, to pay bills, to take loans, to pay interest/repay loans and to make enquiries/complaints*. Ranks are allotted in such a way that the respondents are asked to assign rank 1 for the most important variable, 2 for the second important one and so on. After this step, weights are allotted in such a way that since there are eight variables, eight points are allotted to those variables which have been assigned first rank, seven points for having second rank and so on. Weighted mean is calculated to find what the important reasons are for the customer's bank visit.

The weighted means are presented in Table 3.17 which reveals that the most important reason for the respondent's bank visit is to deposit cash/cheque with weighted mean value of 7.736. The next important one is for taking demand draft with 5.5 and the third important reason is for withdrawing cash with the mean value of 4.966 followed by the one 'to transfer money' with mean value of 4.7611. The results also reveals that the least important reason for approaching bank branches is to make enquiries or complaints. Overall this gives the impression that even though ATMs are very prevalent, many customers still approach bank branches for withdrawing cash.

Table 3.17. Reasons for Bank Visit

Reason	Weighted Mean	Std. Dev
To deposit cash/cheque	7.7361	0.7863
To withdraw cash	4.9667	1.8219
To transfer money	4.7611	1.8202
For taking DD	5.2000	1.8537
To pay bills	3.1278	1.6939
To take loans	3.9917	1.8860
To pay interest/repay loans	3.122	1.937
To make enquiries/complaints	3.097	1.986

Bank wise Classification of Reasons for Bank Visit

The above data is classified bank wise and the weighted means of the three groups of bank customers are presented in Table 3.18. It can be noted that for nationalized bank customer's, the most important reason for their bank visit is to deposit cash/cheque with mean value of 7.733 followed by cash withdrawal with 5.475. The next important reason for this group of bank customers is for taking DD with mean value of 4.85. The least important reason for their bank visit is to make enquiries or complaints with mean value of 2.883.

In the case of Kerala based scheduled banks, customers opined that the most important reason for their bank visit is to make deposits of cash or cheques with mean value of 7.66 followed by the factor 'for taking DD' with mean value of 5.25. the third important reason for this group of customers is 'to withdraw cash' with mean value of 4.967. The least important reason for their bank visit is 'to pay interest or to repay loans' with mean value of 3.1.

New generation bank customers also opined that the most important reason for their bank visit is to deposit cash/cheque with mean value of 7.808 followed by 'for taking DD' with mean value of 5.5. The third important reason for their bank visit is 'to transfer money' with mean value of 5.058. 'to pay interest/ repay loans' is the least important reason for the new generation bank customers with mean value of 2.958.

Table 3.18. Bank wise Classification of Reasons for Bank Visit

Reason	Nationalized banks		Kerala based banks		New generation banks	
	Weighted Mean	Std. Dev	Weighted Mean	Std. Dev	Weighted Mean	Std. Dev
To deposit cash/cheque	7.7333	0.6447	7.6667	1.0559	7.8083	0.5695
To withdraw cash	5.475	1.720	4.967	1.690	4.458	1.918
To transfer money	4.675	1.666	4.550	1.865	5.058	1.898
For taking DD	4.850	1.895	5.250	1.807	5.500	1.815
To pay bills	2.833	1.547	3.158	1.715	3.392	1.779
To take loans	4.242	1.987	3.942	2.001	3.792	1.634
To pay interest/repay loans	3.308	2.028	3.100	2.068	2.958	1.692
To make enquiries/complaints	2.883	1.888	3.400	2.035	3.008	2.010

Age wise Classification of Reasons for Bank Visit

Next, age wise analysis is done to identify the customer's reasons for bank visit. The mean values are presented in Table 3.19. It can be seen that for youngsters and middle aged, the most important reason for bank visit is to deposit cash/cheque with mean values of 7.8 and 7.747 followed by for taking DD with mean values of 5.487 and 5.398 respectively. The next important reason is to withdraw cash with 5.06 and 4.679 followed by to transfer money with mean values of 5.038 and 4.65 respectively. The least important reason for youngster's bank visit is to pay interest/repay loans with mean value of 2.602 whereas for middle aged it is to pay bills with 2.844.

In the case of elder group and older group also, the most important reason for bank visit is to deposit cash/cheque with mean values of 7.617 and 7.65 followed by to withdraw cash with 4.888 and 5.8 respectively. The next important reason in the case of the elder group is to take loans with mean value of 4.666 whereas it is to transfer money in the case of older group with mean value of 4.9. The least important reason in the case of both groups is to pay bills with mean values of 2.975 in the case of elder group and 2.95 in the case of older group.

Table 3.19. Age wise Classification of Reasons for Bank Visit

Reason	Below 30 Years		30-45 Years		45-60 Years		Above 60 Years	
	Weighted Mean	Std. Dev	Weighted Mean	Std. Dev	Weighted Mean	Std. Dev	Weighted Mean	Std. Dev
To deposit cash/cheque	7.8077	.58049	7.7476	.80096	7.6173	.96912	7.6500	.67082
To withdraw cash	5.0641	1.75859	4.6796	1.84823	4.8889	1.85068	5.8000	2.01573
To transfer money	5.0385	1.76301	4.6505	1.82418	4.3951	1.88864	4.9000	1.65116
For taking DD	5.4872	1.70951	5.3981	1.89602	4.5556	1.91703	4.5500	1.87715
To pay bills	3.4038	1.62948	2.8447	1.58273	2.9753	1.83695	2.9500	1.93241
To take loans	3.5321	1.65946	4.0388	1.93989	4.6667	2.01866	4.0000	1.83533
To pay interest /repay loans	2.6026	1.68745	3.3010	1.92423	3.7901	2.06589	3.1000	1.88903
To make enquiries/ complaints	3.0321	1.99813	3.3495	1.98874	3.0247	2.00609	3.0500	1.82021

Education wise Classification of Reasons for Bank Visit

Here, different education group's various reasons for bank visit is analysed. The relevant data is presented in Table 3.20. It can be seen that for SSLC category, the most important reason for bank visit is to deposit cash/cheque with mean value of 7.594 followed by withdrawal of cash with 4.89. The next important reason for them is to take loans with mean value of 4.81. The least important reason for them is to pay bills with mean value of 2.783. For pre-degree category also, the most important reason is to deposit cash with mean value of 7.71 followed by to transfer money with mean value of 5.406. The next important reason for this category is to withdraw cash with 5.281 followed by for taking DD with 5.25. The least important reason for them is to pay interest.

For graduates and post graduates, the most important reason for bank visit is to make deposits with mean value of 7.769 and 7.758 followed by for taking DD with 5.31 and 5.274 respectively. The next important reason for them is to withdraw cash with 5.017 and 5.085 respectively. The least important reason is to make enquiries for graduates with mean value of 2.92 whereas for post graduates it is to pay bills with mean value of 3.076.

Professionals also opined that their most important reason for bank visit is to make deposits with mean value of 7.756 followed by taking DD with 5.231. The next important reason is to transfer money with mean value of 4.878 followed by to withdraw cash with 4.45. the least important reason for their bank visit is to pay bills with 3.073.

Over all it can understandable that dependence on bank branches for withdrawal of cash reduces as we go up from low level of education to high level of education. This indicates that people having average education is increasingly depending on other banking delivery channels, especially ATMs, for withdrawal of cash.

Table 3.20. Education wise Classification of Reasons for Bank Visit

Reason	SSLC		Pre Degree/ Plus 2		Graduation		P.G.		Professionals	
	Weighted Mean	Std. Dev	Weighted Mean	Std. Dev	Weighted Mean	Std. Dev	Weighted Mean	Std. Dev	Weighted Mean	Std. Dev
To deposit cash/cheque	7.5946	1.21242	7.7188	.63421	7.7692	.62124	7.7582	.62076	7.7561	.79444
To withdraw cash	4.8919	1.85268	5.2813	1.67012	5.0171	1.92077	5.0857	1.72102	4.4512	1.77188
To transfer money	4.0270	1.99286	5.4063	1.79353	4.9829	1.69677	4.4945	1.80969	4.8780	1.80117
For taking DD	4.6216	2.09962	5.2500	1.75977	5.3162	1.69507	5.2747	1.79546	5.2317	2.03851
To pay bills	2.7838	2.01570	3.2500	1.58623	3.2051	1.63232	3.0769	1.55800	3.0732	1.76929
To take loans	4.8108	1.91250	3.6250	1.62143	3.9145	1.87806	3.8352	1.90475	4.0854	1.91937
To pay interest / repay loans	3.9459	1.91407	2.5938	1.64335	2.9316	1.85103	3.0879	1.94735	3.1341	1.94214
To make enquiries/ complaints	3.3243	1.84171	2.8125	1.97464	2.9231	1.95710	3.1538	2.11830	3.3415	1.93869

Income wise Classification of Reasons for Bank Visit

Lastly, income wise analysis is done to identify the customer's reasons for bank visit. The mean values are presented in Table 3.21. It can be noted from the Table that for the low income groups, the most important reason is to make deposits with 7.785 and 7.746 followed by withdrawal of cash with 5.678 and 5.506 respectively. The next important reason for the very low income group is transfer of money with mean value of 4.5 and the least important reason is to make enquiries and to pay bills with 3.107.

Whereas in the case of low income group, the third important reason is to take DD with 5.32 and the last important reason is to pay interest with mean value of 3.

For the middle income and high income groups, the most important reason for bank visit is to make deposits with mean values of 7.677, 7.783 and 7.833 respectively; which are followed by taking DD with 5.267, 5.179 and 5.722 respectively. The third important reason in the case of middle income and very high income group is withdrawal of cash with mean values of 5 and 4.833 respectively whereas for the high income group, it is transfer of money with 4.877. The least important reason for bank visit in the case of middle income is to pay interest with 3.03, it is to make enquiries in the case of high income group with mean value of 3 and to pay bills in the case of very high income group with 2.77. Over all it is understandable that the low income groups still depending on bank branches for withdrawal of cash whereas this tendency is less in the case of average and high income groups as they may be increasingly depending on ATMs for taking money.

Table 3.21. Income wise Classification of Reasons for Bank Visit

Reason	Below Rs.50000		Rs.50000-150000		Rs.150000-300000		Rs.300000-500000		Above 500000	
	Weighted Mean	Std. Dev	Weighted Mean	Std. Dev	Weighted Mean	Std. Dev	Weighted Mean	Std. Dev	Weighted Mean	Std. Dev
To deposit cash/cheque	7.7857	.6862	7.7468	.7065	7.6772	.8808	7.7830	.6901	7.8333	.38348
To withdraw cash	5.6786	1.248	5.5063	1.559	5.0079	1.900	4.3679	1.909	4.8333	1.50489
To transfer money	4.5000	1.575	4.7975	1.734	4.8268	1.898	4.8774	1.865	4.1667	1.72354
For taking DD	4.3214	1.906	5.3291	1.744	5.2677	1.783	5.1792	1.936	5.7222	1.93438
To pay bills	3.1071	1.770	3.1772	1.599	3.0551	1.595	3.2075	1.880	2.7778	1.59247
To take loans	4.1429	2.120	3.6203	1.834	3.8976	1.833	4.2736	1.889	4.2222	1.95706
To pay interest/ repay loans	3.3571	2.197	3.0000	2.019	3.0394	1.827	3.2736	1.879	3.3889	2.14583
To make enquiry / complaints	3.1071	2.183	3.0380	1.983	3.1575	2.067	3.0000	1.851	3.2778	1.9942

Conclusion

The assessment of the various reasons for bank visit reveals that majority of the customers visit their bank branches for making deposits. It is also identified that many still depend on their bank for withdrawal of money. This highlights the importance of taking emergent action to persuade the bank customers to depend on ATMs for withdrawals. Again it is very much essential that bank authorities should make necessary arrangements for safe deposit of money through ATMs.

3.2.3. Factors Influencing the Selection of a Bank

For the purpose of knowing the important factors considered by the respondents while selecting a bank, eight factors were identified such as ‘convenience’, ‘favorable interest rates on loans/deposits’, ‘brand image’, ‘bank has an ATM near your home/working place’, ‘bank provides technology enabled products and services’, ‘customer friendly environment’, ‘advertisements’ and ‘influence of friends and relatives’. The respondents are asked to distribute in 100 points in the order of importance. Their responses are analyzed and the results are given in Table 3.22.

Table 3.22. Factors Influencing the Selection of a Bank

Factors	Mean	Std. Dev
Convenience	28.03	22.21
Favorable interest rates on loans/deposits	11.711	13.214
Brand image	9.842	10.232
Bank has an ATM near your home/working place	18.667	13.990
Bank provides technology enabled products and services	9.119	8.708
Customer friendly environment	12.750	10.676
Advertisements	3.836	4.792
Influence of friends and relatives	6.044	8.945
Total	100	

The mean values shown in Table 3.21 reveal that ‘convenience’ is the most important factor which influences the respondents while selecting their bank. The next

important influencing factor is ‘the bank has an ATM near to home or working place’ followed by ‘customer friendly environment in the bank’ as the third factor and ‘favorable interest rates on loans/deposits’ as the fourth factor. Table 3.21 also shows that the least important factor which influences the selection of a bank is ‘advertisements’.

Bank wise Classification of Factors Influencing the Selection of a Bank

For getting better insight into the issue, bank wise classification is done to identify the important factors which influence the three groups of bank customers. The relevant data is tabulated and presented in Table 3.23. It can be noted that all respondents of nationalized, Kerala based and new generation banks consider convenience as the most important factor which influences their selection of banks but nationalized bank customers allotted more points to this factor as compared to the customers of other banks. The next important influencing factor for all the three groups is ‘the bank has an ATM near your home or working place’ but Kerala based and new generation bank customers have allotted more points to this factor compared to nationalized bank customers. The third important factor in the case of nationalized bank customers is ‘favorable interest rates on loans/deposits’ followed by customer friendly environment as the fourth factor.

In the case of Kerala based bank customers, customer friendly environment is the third factor followed by ‘favorable interest rates on loans/deposits’. In the case of new generation bank customers, customer friendly environment is the third factor followed by brand image as the fourth factor. The least important factor in the case of all the three groups is ‘advertisements’.

Table 3.23. Factors Influencing the Selection of a Bank-Bank wise Analysis

Factor	Nationalized banks		Kerala based banks		New generation banks	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Convenience	31.06	23.44	24.80	20.41	28.23	22.41
Favorable interest rates on loans/deposits	13.27	11.63	11.74	12.14	10.13	15.47
Brand image	10.658	10.435	8.392	8.010	10.48	11.82
Bank has an ATM near your home /working place	15.29	13.27	21.08	14.76	19.63	13.35
Bank provides technology enabled products and services	7.208	7.442	10.525	8.872	9.625	9.419
Customer friendly environment	11.933	10.426	13.58	10.97	12.733	10.654
Advertisements	3.867	5.124	4.292	4.721	3.350	4.505
Influence of friends and relatives	6.72	11.60	5.583	5.674	5.833	8.602
Total	100		100		100	

Age wise Classification of Factors Influencing the Selection of a Bank

Next, different age groups responses are analyzed with respect to the factors influencing the selection of their bank. The relevant data is presented in Table 3.24. It can be seen that all respondents irrespective of their age give prominence to convenience compared to all other factors but the older groups allotted more points to this factor as compared to youngsters. The next important factor for the first three age groups is ‘bank has an ATM near home/workplace’; whereas it is ‘customer friendly environment’ in the case of older category. The third important factor is ‘customer friendly environment’ for youngsters and elderly group, whereas it is ‘favourable interest rates on loans/deposits’ for the middle aged and ‘brand image’ for the older category. The least important factor for all age groups is ‘advertisements’.

Table 3.24. Factors Influencing the Selection of a Bank-Age wise Analysis

Factor	Below 30 Years		30-45 Years		45-60 Years		Above 60 Years	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Convenience	24.891	20.0349	28.203	22.3481	33.617	24.9422	29.250	23.1718
Favorable interest rates on loans /deposits	11.294	12.6369	12.980	16.4567	11.604	10.9495	10.000	7.60886
Brand image	10.179	9.26839	9.1748	9.62781	9.4444	10.1857	13.750	19.2541
Bank has an ATM near your home /working place	19.967	13.1920	18.835	14.0935	17.963	15.8464	13.000	10.9304
Bank provides technology enabled products and services	10.115	9.05963	10.145	9.53467	7.7160	10.4895	7.7500	8.50310
Customer friendly environment	13.109	10.5050	11.553	10.38544	13.209	11.35530	19.5000	15.38112
Advertisements	4.0192	4.95980	3.8641	4.70096	4.2963	6.36287	2.6500	3.39155
Influence of friends and relatives	6.2949	9.99369	5.6214	8.61385	6.0370	8.71844	5.2500	7.34041

Education wise Classification of Factors Influencing the Selection of a Bank

Here, different education group's responses regarding the factors which influence the selection of their banks are analyzed and the relevant data is presented in Table 3.25. It can be seen that all education groups opined that 'convenience' is the most influential factor in selecting their bank wherein pre-degree group allotted more points to this factor as compared to their counter parts. Again all respondents regardless of their education status opined that 'the bank has an ATM near home/workplace' is the second influential factor, but the points increases as we go up from low level of education to high level of education. 'Customer friendly environment' is the third important factor for all groups except for graduates; for them it is 'favorable interest rates'. 'Advertisements' is the least influential factor for all groups in their selection of banks.

Table 3.25.Factors Influencing the Selection of a Bank-Education wise Analysis

Factor	SSLC		Pre Degree/ Plus2		Graduation		P.G.		Professionals	
	Mean	Std.Dev	Mean	Std.dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Convenience	26.2162	20.8967	32.281	24.966	28.3590	24.84034	26.1538	19.93151	28.9024	20.4127
Favorable interest rates on loans /deposits	11.4865	9.11842	10.312	13.966	12.8632	15.16172	12.4615	9.84695	10.1220	14.7609
Brand image	12.5135	10.2648	8.8125	8.7931	10.1966	9.21135	8.3846	7.83265	9.9024	13.5915
Bank has an ATM near your home /working place	14.5946	9.52908	16.687	15.808	17.7350	12.49993	18.7912	12.76585	21.4024	17.5905
Bank provides technology enabled products and services	7.8378	7.12396	9.3750	13.485	10.6410	10.24566	9.7033	7.77531	7.9268	8.64067
Customer friendly environment	13.1622	9.24516	15.312	14.545	11.5983	9.56381	14.6154	9.28651	12.9878	13.42238
Advertisements	5.5946	4.38089	4.1875	5.1708	4.3761	5.12386	3.9231	4.98493	2.5976	3.79037
Influence of friends and relatives	8.5946	8.21739	5.8437	6.6143	4.7265	6.61715	6.1319	7.44791	5.8415	13.32173

Income wise Classification of Factors Influencing the Selection of a Bank

Lastly, income wise analysis is done to identify the different income group's opinion on the factors influencing the selection of their banks. The relevant data is presented in Table 3.26 which reveals that prime importance is given to the factor convenience by all income groups; wherein it can be noted that the points allotted increases as we go up from the very low level to very high level of income. The next important factor is bank has an ATM near home/working place for all income categories except the very low income group; for them it is favourable interest rates. The third important factor is customer friendly environment and the least important is advertisement s for all categories irrespective of their income level.

Table 3.26. Factors Influencing the Selection of a Bank-Income wise Presentation

Factor	Below Rs.50000		Rs.50000-150000		Rs.150000-300000		Rs.300000-500000		Above 500000	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Convenience	21.607	15.034	28.0633	21.73933	29.1181	24.86714	28.8774	21.15688	30.555	18.7780
Favorable interest rates on loans/deposits	16.250	19.178	11.4557	9.71227	11.4961	13.55932	10.2264	10.72272	10.833	9.27520
Brand image	13.642	11.779	9.5316	7.62054	9.6063	11.22650	10.0283	10.58252	5.388	5.97188
Bank has an ATM near your home /working place	11.428	9.414	19.0506	11.52133	17.9528	13.14381	20.5189	16.21183	23.055	16.3724
Bank provides technology enabled products and services	7.142	6.995	10.5696	10.40794	9.7638	9.19062	8.4717	8.85137	7.777	7.90053
Customer friendly environment	14.035	10.482	11.4810	8.86922	13.8976	11.24957	13.2358	12.39013	12.222	9.73505
Advertisements	6.857	6.404	4.1013	4.83469	3.2205	4.39681	3.4434	4.37978	4.500	5.30538
Influence of friends and relatives	9.214	8.359	6.8861	8.05747	5.3780	10.93482	5.0283	6.41495	5.944	11.6137

Conclusion

An assessment of the factors that account for customer's choice of selection of bank clearly revealed that most of the customers prefer those banks which are at convenient locations and deliver the needed services to the customer's convenience. They also ensure that the bank have ATMs at convenient location near their home, workplace or easily accessible locations while selecting their bank.

**A STUDY ON THE BANKING HABITS
OF THE PEOPLE OF KERALA**

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UNIVERSITY OF CALICUT*

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Chapter 4

ELECTRONIC BANKING HABITS OF THE PEOPLE OF KERALA

4.1. INTRODUCTION

After having analyzed the banking habits of the respondents, this study focused its attention on the customer's electronic banking habits. Recent developments in the electronic banking channels highlight the importance of understanding the bank customer's awareness, perception and adoption of electronic banking channels. In this study, three major electronic banking delivery channels, ATMs, Internet banking and Mobile banking are chosen to identify the respondent's level of awareness and adoption of the same. In addition, another important e-banking products, credit cards and debit cards are also included for the study.

4.2. AWARENESS, ADOPTION, SATISFACTION AND EXPERIENCE OF E-BANKING DELIVERY CHANNELS

This chapter consists of four parts; Part A deals with the awareness of e-banking products and services, Part B deals with its adoption, Part C discusses the satisfaction of e-banking customers and Part D deals with the customers experience of using e-banking delivery channels.

PART A - AWARENESS OF E-BANKING DELIVERY CHANNELS

For adoption of any innovation, it is necessary that those offering the service make the customers aware about the availability of such a service. The adoption or

rejection of e-banking delivery channels begins when the customer becomes aware of it. Hence it is imperative to identify the awareness level of the respondents regarding the selected electronic banking delivery channels. Here, the respondents are asked to reveal their level of awareness of availability of ATMs, transactions done through ATMs and the mechanism of using the ATM. They are also asked to express whether they are aware of availability of internet banking, transactions through internet banking and how to use internet banking. They are also asked to rate their level of awareness of mobile banking, credit card and debit card. In order to check the awareness, respondents were asked to rate the relevant aspect in a five point scale ranging from completely unaware (1) to fully aware (5). The mean values are presented in Table 4.1.

Table 4.1. Level of Awareness of E-banking Delivery Channels

Relevant Aspects of Awareness	Mean	Std. Dev
Availability of ATMs	4.5389	0.7070
ATM transactions	4.3639	0.9162
How to use ATMs	4.4111	0.9129
Availability of Internet banking	3.3556	1.3294
Internet banking transactions	2.9528	1.2908
How to use Internet banking	2.8861	1.2953
Availability of Mobile banking	3.0528	1.2623
Mobile banking transactions	2.7194	1.2295
Debit cards	3.7833	1.1978
Credit card	3.5833	1.1913

It can be noted from the Table 4.1 that the respondents are very well aware of the availability of ATMs with mean value of 4.538, different types of transactions done through ATMs with mean value of 4.363 and the mechanism of using ATMs, mean value is 4.411. As far as internet banking is concerned, majority of the respondents are aware that their respective banks provide the facility of internet banking, mean value is 3.555 but regarding internet banking transactions and how to use internet banking, their level of awareness is low, mean values are 2.952 and 2.886 respectively. In the case of

availability of mobile banking, mean value is 3.052 implying that majority of the respondents have limited awareness of their banks providing mobile banking services. Mean value of mobile banking transaction is only 2.719 which shows that respondent's level of awareness in this regard is low. Regarding availability of debit card and credit card, most of the respondents are aware of them.

Awareness of a product or service is an essential pre-requisite for the adoption and proper usage of that particular product or service. Hence it is imperative to examine the level of awareness of e-banking products and services on various aspects such as bank wise, demographic and economic aspects of the respondents.

Bank wise Classification of Awareness of E-banking Delivery Channels

The above data is classified bank wise and presented in Table 4.2 which reveals that with respect to ATMs, all three groups of bank customers have high level of awareness. But in the case of internet banking and mobile banking, nationalized bank customers level of awareness is low. Kerala based customers are in a better position. New generation bank customers have good awareness regarding all aspects of E-banking delivery channels as compared to the other two groups of bank customers.

Table 4.2. Bank wise Awareness of E-banking Delivery Channels

Relevant Aspects of Awareness	Nationalized banks		Kerala based banks		New generation banks	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Availability of ATMs	4.3167	0.7668	4.5083	0.7333	4.7917	0.5169
ATM transactions	4.158	1.138	4.3750	0.8507	4.5583	0.6584
How to use ATMs	4.167	1.155	4.3917	0.8530	4.6750	0.5675
Availability of Internet banking	2.900	1.305	3.275	1.236	3.892	1.262
Internet banking transactions	2.517	1.145	2.775	1.177	3.567	1.314
How to use Internet banking	2.458	1.107	2.667	1.183	3.533	1.334
Availability of Mobile banking	2.550	1.107	3.092	1.209	3.517	1.283
Mobile banking transactions	2.3667	1.0919	2.625	1.189	3.167	1.272
Debit cards	3.450	1.263	3.725	1.166	4.1750	1.0505
Credit card	3.308	1.228	3.483	1.123	3.958	1.133

Age wise Classification of Awareness of E-banking Delivery Channels

The above data on awareness of e-banking services among the customers is classified age wise and presented in Table 4.3. The mean values reveal that all respondents irrespective of their age group have good awareness regarding ATM availability, ATM transactions and how to use ATMs but the awareness level of elder and older groups is slightly less as compared to the younger categories. In the case of awareness of all other e-banking products and services it is very clear that youngsters and middle aged are more aware as compared to other age groups. Level of awareness of elder and older groups are very low in the case of internet banking transactions, how to use internet banking, availability of mobile banking and mobile banking transactions. In the case of debit card and credit card, all age groups are aware of but the awareness level of elder and older groups is slightly less as compared to the younger categories.

Table 4.3. Age wise Awareness of E-banking Delivery Channels

Relevant Aspects of Awareness	Below 30 Years		30-45 Years		45-60 Years		Above 60 Years	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Availability of ATMs	4.6218	0.6257	4.6019	0.7585	4.4074	0.7379	4.100	0.718
ATM transactions	4.4679	0.7822	4.4369	0.9359	4.111	1.061	4.200	1.005
How to use ATMs	4.5769	0.6913	4.4369	0.9359	4.123	1.111	4.150	1.137
Availability of Internet banking	3.385	1.262	3.631	1.306	3.049	1.448	2.950	1.191
Internet banking transactions	3.077	1.252	3.243	1.339	2.494	1.226	2.350	0.933
How to use Internet banking	3.019	1.288	3.165	1.329	2.432	1.204	2.250	0.851
Availability of Mobile banking	3.160	1.262	3.398	1.255	2.593	1.181	2.300	0.733
Mobile banking transactions	2.8462	1.1922	2.951	1.316	2.333	1.140	2.100	0.852
Debit cards	3.8718	1.1513	4.097	1.043	3.333	1.285	3.300	1.342
Credit card	3.6218	1.1878	3.835	1.095	3.272	1.235	3.250	1.251

Education wise Classification of Awareness of E-banking Delivery Channels

The data on awareness of E-banking delivery channels are further classified on the basis of education and the mean values are presented in Table 4.4. It can be noted that all respondents irrespective of their level of education are well aware of the availability of ATMs, ATM transactions and the mechanism of using them. But in the case of all other e-banking services, level of awareness declines as we go down from high level of education to low level of education. It can be seen that for SSLC group level of awareness in the case of availability of internet banking and mobile banking is very low as compared to their counter parts. Regarding transactions done through internet banking and how to use it, except professionals, all other group's level of awareness is low. It is the same with that of mobile banking transactions also. In the case of debit cards and credit cards majority of the respondents are well aware of but the level of awareness goes on reducing from high level of education to low level of education.

Table 4.4. Education wise Awareness of E-banking Delivery Channels

Relevant Aspects of Awareness	SSLC		Pre Degree/ Plus 2		Graduation		P.G.		Professional	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Availability of ATMs	4.351	0.889	4.469	0.879	4.4359	0.7472	4.5934	0.5769	4.7317	0.5676
ATM transactions	3.784	1.417	4.219	1.099	4.2991	0.9122	4.4286	0.6690	4.6951	0.6224
How to use ATMs	3.865	1.417	4.406	0.798	4.3248	0.9453	4.4396	0.7182	4.7439	0.6248
Availability of Internet banking	2.622	1.341	3.344	1.359	3.410	1.378	3.319	1.210	3.634	1.272
Internet banking transactions	2.189	1.076	2.844	1.273	3.017	1.352	2.835	1.167	3.354	1.270
How to use Internet banking	2.216	1.205	2.844	1.322	2.915	1.381	2.769	1.126	3.268	1.248
Availability of Mobile banking	2.459	1.216	3.031	1.231	3.060	1.334	3.044	1.095	3.305	1.293
Mobile banking transactions	2.162	1.143	2.688	1.091	2.726	1.270	2.615	1.103	3.061	1.241
Debit cards	3.081	1.278	3.656	1.335	3.684	1.264	3.868	1.024	4.207	1.027
Credit card	3.000	1.247	3.375	1.289	3.470	1.270	3.714	1.003	3.951	1.088

Income wise Classification of Awareness of E-banking Delivery Channels

Lastly, respondent's awareness of e-banking delivery channels is thoroughly analyzed income wise. The relevant data is tabulated and presented in Table 4.5. It can be seen that in the case of availability of ATMs, and ATM transactions, all groups irrespective of their income status are well aware, but in the case of mechanism of using ATMs, awareness level of very low income group is slightly less as compared to the other income categories. Again it is revealed that all income groups except very low income group opined that they are aware that their bank provides the facility of internet banking. But when we comes to the internet banking transactions and how to use internet banking, level of awareness of all income groups except the high income group, is low. It is revealed that most of the low income categories are unaware of these transactions.

Further, it can be noted that majority of the respondents from all income groups, except the very low income category, are aware that their banks provide the facility of mobile banking whereas regarding mobile banking transactions, many of them are unaware except the high income groups. In the case of debit card and credit card, awareness level of high income categories is high and it goes on reducing as we go to the lower levels of income groups. Overall it is understandable that the awareness of all e-banking products and services reduces as we go down from higher income group to lower income group.

Table 4.5. Income wise Awareness of E-banking Delivery Channels

Relevant Aspects of Awareness	Below Rs 50,000/-		Rs.50000-150000		Rs.150000-300000		Rs.300000-500000		Above Rs.500000	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
Availability of ATMs	3.964	1.036	4.4304	0.7282	4.6693	0.5353	4.5849	0.7286	4.611	0.502
ATM transactions	3.393	1.474	4.241	0.909	4.4488	0.7939	4.5660	0.7562	4.556	0.511
How to use ATMs	3.500	1.503	4.304	0.897	4.5118	0.7854	4.5849	0.7415	4.667	0.485
Availability of Internet banking	2.357	1.162	3.101	1.257	3.362	1.343	3.745	1.258	3.556	1.294
Internet banking transactions	1.893	0.737	2.671	1.129	2.984	1.285	3.396	1.336	3.111	1.278
How to use Internet banking	1.929	0.858	2.304	0.897	2.969	1.303	3.283	1.322	2.944	1.211
Availability of Mobile banking	2.107	0.916	2.975	1.261	3.079	1.238	3.330	1.278	3.111	1.183
Mobile banking transactions	1.821	0.723	2.519	1.084	2.646	1.185	3.151	1.322	3.000	1.237
Debit cards	2.750	1.323	3.570	1.278	3.913	1.127	4.000	1.078	4.278	0.752
Credit card	2.786	1.424	3.430	1.247	3.661	1.149	3.811	1.070	3.778	1.060

4.2.1. Hypotheses Testing of Awareness of E-Banking Delivery Channels

Hypothesis 1: Bank customers in Kerala has a reasonable degree of awareness about various technology driven banking channels and the level of awareness is independent of type of bank which they maintain account, their age, education and income.

Bank wise Analysis

The study attempted to test the significance of difference in the awareness level of e-banking delivery channels among the three different groups of bank customers. Analysis of variance (ANOVA) was carried out at five percent level of significance and the result is presented in Table 4.6.

Table 4.6. Bank wise Awareness of E-banking Delivery Channels-ANOVA

Relevant Aspects of Awareness	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Availability of ATMs	13.706	2	6.853	14.76	0.000
ATM transactions	9.622	2	4.811	5.89	0.003
How to use ATMs	15.572	2	7.786	9.80	0.000
Availability of Internet banking	60.17	2	30.09	18.70	0.000
Internet banking transactions	71.84	2	35.92	24.36	0.000
How to use Internet banking	78.01	2	39.00	26.56	0.000
Availability of Mobile banking	56.34	2	28.17	19.50	0.000
Mobile banking transactions	40.01	2	20.00	14.21	0.000
Debit cards	32.15	2	16.08	11.88	0.000
Credit card	27.15	2	13.57	10.05	0.000

The statistical inferences from Table 4.6 indicate that the differences in the mean values of the three groups of bank customers regarding the level of awareness of e-banking delivery channels are statistically significant implying that the new generation bank customers have good awareness regarding all aspects of e-banking delivery channels as compared to Kerala Based Scheduled Bank (KSB) customers and nationalized bank customers.

Age wise Analysis

In order to check whether the differences found in the mean values of various age groups is statistically significant, Analysis of variance is applied at 5% level of significance and the results are shown in Table 4.7.

Table 4.7. Age wise Awareness of E-banking Delivery Channels-ANOVA

Relevant Aspects of Awareness	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Availability of ATMs	6.734	3	2.245	4.63	0.003
ATM transactions	7.951	3	2.650	3.22	0.023
How to use ATMs	12.423	3	4.141	5.14	0.002
Availability of Internet banking	18.83	3	6.28	3.63	0.013
Internet banking transactions	35.39	3	11.80	7.46	0.000
How to use Internet banking	35.57	3	11.86	7.45	0.000
Availability of Mobile banking	42.57	3	14.19	9.54	0.000
Mobile banking transactions	27.80	3	9.27	6.41	0.000
Debit cards	32.43	3	10.81	7.97	0.000
Credit card	16.85	3	5.62	4.06	0.007

The Table 4.7 shows that p-values of all variables are below 0.05. Hence it is implied that the differences found in the age groups regarding their awareness of e-banking delivery channels are statistically significant. This support the finding that the level of awareness of youngsters and middle aged group regarding all aspects of e-banking delivery channels is higher than that of elder and older groups.

Education wise Analysis

In order to check whether the difference found in the mean values of various education groups is statistically significant, ANOVA was carried out and the results are presented in Table 4.8.

Table 4.8. Education wise Awareness of E-banking Delivery Channels-ANOVA

Relevant Aspects of Awareness	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Availability of ATMs	6.018	4	1.505	3.07	0.016
ATM transactions	22.992	4	5.748	7.32	0.000
How to use ATMs	21.067	4	5.267	6.71	0.000
Availability of Internet banking	26.77	4	6.69	3.92	0.004
Internet banking transactions	36.86	4	9.22	5.86	0.001
How to use Internet banking	29.96	4	7.49	4.67	0.000
Availability of Mobile banking	18.25	4	4.56	2.94	0.021
Mobile banking transactions	22.06	4	5.52	3.79	0.005
Debit cards	35.32	4	8.83	6.52	0.000
Credit card	28.14	4	7.03	5.18	0.000

The inferences from the analysis revealed that since p values of all variables are less than 0.05, the differences found in the different education groups regarding their awareness of e-banking delivery channels are statistically significant. Hence it is informed that highly educated groups have high level of awareness regarding all aspects of e-banking delivery channels as compared to their counterparts.

Income wise Analysis

In order to check whether the differences found in the mean values of different income groups are statistically significant, ANOVA is carried out and the results are presented in Table 4.9.

Table 4.9. Income wise Awareness of E-banking Delivery Channels-ANOVA

Relevant Aspects of Awareness	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Availability of ATMs	130.539	4	32.635	66.24	0.000
ATM transactions	33.508	4	8.377	11.07	0.000
How to use ATMs	29.809	4	7.452	10.00	0.000
Availability of Internet banking	49.83	4	12.46	7.56	0.000
Internet banking transactions	59.15	4	14.79	9.72	0.000
How to use Internet banking	51.85	4	12.96	8.32	0.000
Availability of Mobile banking	33.82	4	8.46	5.58	0.000
Mobile banking transactions	47.60	4	11.90	8.53	0.000
Debit cards	45.01	4	11.25	8.52	0.000
Credit card	26.60	4	6.65	4.87	0.001

The analysis from the Table 4.9 clearly indicates that since the p-values of all variables are less than 0.05, the differences shown by the mean values are statistically significant. Hence it can be implied that high income groups have high level of awareness regarding all aspects of e-banking delivery channels as compared to the very low income group of respondents.

Conclusion

Overall it is understandable from the above analysis that the respondent's level of awareness of selected e-banking delivery channels is clearly dependent on the four variables used in the study such as type of bank which the customers maintain account, age, education and income.

PART B - ADOPTION OF E-BANKING DELIVERY CHANNELS

Adoption is the acceptance and continued use of a product, service or idea. Customer acceptance is a key driver determining the rate of change in the financial sector. Recent developments in the electronic bank delivery channels highlight the importance of understanding the rate of adoption of the same. This knowledge is very valuable to the banks which enable them to evaluate the success in transferring banking transactions from traditional channels to value-added electronic channels. Here an attempt is made to identify the respondent's rate of adoption of the selected electronic banking channels. This section is divided into three parts; first, the respondents level of adoption of ATMs, internet banking, mobile banking and credit cards are indentified, next information on the adopter's average period of association with the respective channels are analyzed and lastly, their frequency of usage of these banking channels are identified.

Level of Adoption

Information about the level of adoption of e-banking delivery channels reveals that ATM was highly adopted followed by internet banking, credit card and mobile banking. Among the 360 respondents, 90 percent have adopted ATMs. In the case of internet banking, 26 percent of the respondents have adopted whereas in the case of mobile banking, it is only 13 percent. It can be noted from the Table 4.10 that 18 percent of the respondents have adopted credit cards.

Table 4.10. Adoption of E-banking Delivery Channels

E-banking Delivery Channels	Adopters		Non Adopters	
	No	%	No	%
ATMs	323	90	37	10
Internet Banking	95	26	265	74
Mobile Banking	47	13	313	87
Credit card	64	18	296	82

Level of Usage

Usage of e-banking delivery channels may be different from that of adoption. It is not expected that all the adopters are now using these products. Some might have dropped using it. It can be noted from the Table 4.11 that in the case of ATMs, only two adopters have dropped using it. In the case of internet banking out of 95 adopters, 91 are using this channel and in the case of mobile banking, three adopters have dropped using this service. Regarding credit card, out of the 64 adopters, 11 persons are not using this.

Table 4.11. Usage of E-banking Delivery Channels

E-banking Delivery Channels	Users		Non users	
	No	%	No	%
ATMs	321	89	39	11
Internet Banking	91	25	269	75
Mobile Banking	44	12	316	88
Credit card	53	15	307	85

Droppage of E-banking Delivery Channels

Information about the droppage of the e-banking delivery channels which is shown in Table 4.12 gives more idea about the usage of the same. It can be seen that droppage rate is high in the case of credit cards with 17 percent. In the case of other services, it is relatively less. For mobile banking the droppage rate is six percent followed by internet banking with four percent. In the case of ATMs, rate is very low which is only 0.6 percent.

Table 4.12. Droppage of E-banking Delivery Channels

E-banking Delivery Channels	No	%
ATMs	2	0.6
Internet Banking	4	4
Mobile Banking	3	6
Credit card	11	17

Period of being the User of E-banking Delivery Channels

In the next level, the usage pattern of e-banking delivery channels are analyzed. The respondents are asked to express how long they have been using the selected e-banking products. For this, they are asked to allot points in such a way that 1 for using less than one year, 2 for one to three years, 3 for three to five years, 4 for five to ten years and 5 for above ten years and the points are tabulated and presented in Table 4.13. It can be observed from the Table that the average period of being the user of ATMs is 3.372 which implies that majority of ATM users have been using it for more than three years. In the case of credit card, average period is three years whereas in the case of internet banking it is less than two years. Mobile banking services are used by the users for the last two years.

Table 4.13. Period of being the User of E-banking Delivery Channels

E-banking Delivery Channels	Mean	Std. Dev
ATMs	3.372	2.436
Credit Card	3.200	2.348
Internet Banking	1.709	1.383
Mobile Banking	2.124	2.325

Frequency of Usage of E-banking Delivery Channels

In order to identify the intensity of use of ATMs, internet banking, mobile banking and credit cards, respondents are asked to make allotments in the form of 5 for daily usage, 4 for weekly/bi monthly, 3 for once in a month, 2 for once in three months and 1 for rarely. Mean and standard deviations are calculated using the points allotted by the respondents which reveals that the average frequency of usage of ATMs is 3.6293 which implies that majority of ATM users are using it for at least twice in a month. Table 4.14 shows that average frequency of usage of credit card is once in a month which is low as compared to the frequency of usage of other services. Majority of Internet banking users are using it for at least twice in a month whereas in the case of mobile banking, average frequency of usage is near to once in a week. Hence the results reveal that even though rate of adoption of mobile banking is low as compared to other services, the

intensity of its use is relatively high. Overall, the implication is that average frequency of usage of mobile banking is the highest followed by ATMs, internet banking and credit cards.

Table 4.14. Frequency of Usage of E-banking Delivery Channels

E-banking Delivery Channels	Mean	Std. Dev
ATMs	3.6293	0.7601
Credit Card	3.151	0.770
Internet Banking	3.4396	0.8057
Mobile Banking	3.7273	0.6599

Transactions Performed Through E-banking Delivery Channels

Further, an attempt has been made to assess the different types of services being availed of by the customers through ATMs, internet banking and mobile banking.

a. ATMs

For getting clear information on the extent of usage of various services through ATMs, the users are asked to express their opinion on five transactions done through ATMs; cash withdrawal, balance enquiry, cash/cheque deposit, taking mini statements and bill payments. The relevant data is summarized and tabulated in Table 4.15. It can be seen from the table that all are using ATMs for withdrawal of cash whereas 70 percent of them make balance enquiry. Only six percent make deposit of cash/cheque, 33 percent takes mini statements and eight percent makes bill payments.

Table 4.15. Transactions Performed Through ATMs

Transactions	Number	Percentage
Cash Withdrawal	321	100
Balance Enquiry	222	70
Cash/Cheque deposit	18	6
Taking Mini statements	105	33
Bill Payments	25	8

b. Internet Banking

Here, different types of transactions performed through internet banking by the users are analyzed. Relevant data is presented in Table 4.16. It shows the percentage of different types of internet banking transactions; balance inquiry, air/rail ticket booking, fund transfer, online shopping, bill settlement, share trading and tax payment being performed by the internet bank users. The result shows that account balance inquiry is the most commonly used banking services on the Internet with 73 percent followed by air/rail ticket booking with 70 percent, fund transfer with 47 percent and online shopping with 42 percent. Again it can be seen from the Table that 32 percent of the users makes bill payment through internet banking, 33 percent of them are doing online share trading and 10 percent makes online tax payment.

Table 4.16. Transactions Performed Through Internet Banking

Transactions	Number	Percentage
Balance Enquiry	66	73
Air/Rail Ticket booking	64	70
Fund Transfer	43	47
Online Shopping	38	42
Bill Payment	29	32
Online Share Trading	30	33
Tax Payment	9	10

c. Mobile Banking

Further, the extent of use of different transactions through mobile banking is analyzed. Data presented in Table 4.17 clearly shows that 95 percent of the users makes balance enquiry through mobile banking and 64 percent takes information on last three transactions in their bank account. 48 percent use mobile banking for viewing their cheque status, 32 percent view their bill settlement status and 27 use it for getting credit card details.

Table 4.17. Transactions Performed Through Mobile Banking

Transactions	Number	Percentage
Balance Enquiry	42	95
For information on last three transactions	28	64
View Cheque status	21	48
View the status of the presented bills	14	32
For getting Credit card details	12	27

Bank wise Classification of Adoption and Usage of E-banking Delivery Channels

For the purpose of getting a better insight into the issue, bank wise classification of adoption and extent of usage of e-banking delivery channels are undertaken. The nationalized, Kerala based and new generation bank customer's adoption and usage pattern of ATMs, credit card, internet banking and mobile banking are examined.

i. Bank wise Classification of Adoption of E-banking Delivery Channels

Table 4.18 shows the rate of adoption of the e-banking delivery channels by the three groups of bank customers. Regarding ATMs, 81 percent of the nationalized bank customers have adopted it whereas in the case of Kerala based scheduled bank customers, the rate is 90 percent. In the case of new generation banks customers, the rate is much higher, 98 percent. In the case of credit card, the rate of adoption of all the three groups is low, 8 percent in the case of nationalized bank customers, 12 percent in the case of Kerala based scheduled bank customers and 33 percent in the case of new generation bank customers.

As far as internet banking is concerned, new generation bank customers showed higher rate of adoption with 48 percent as compared to their counter parts. 20 percent of the Kerala based bank customers are using internet banking, whereas in the case of nationalized bank customers, it is slightly low with 10 percent. The trend is same in the case of mobile banking also, wherein the new generation bank customer's rate of adoption is 31 percent followed by Kerala based customers with a low rate of eight percent and nationalized bank customers with a much lower rate of three percent. Overall, it is understandable that new generation bank customers are ahead of other two

groups of bank customers in the case of adoption of all the four e-banking services. Kerala based private sector bank customers are in a better position as compared to nationalized bank customers.

Table 4.18. Adoption of E-banking Delivery Channels–Bank wise Classification

E-banking Delivery Channels	Nationalized banks				Kerala based banks				New generation banks			
	Users		Non users		Users		Non users		Users		Non users	
	No	%	No	%	No	%	No	%	No	%	No	%
ATMs	96	81	24	19	108	90	12	10	117	98	3	2
Credit Card	8	7	112	93	12	10	108	90	33	28	87	72
Internet Banking	10	9	110	91	24	20	96	80	57	48	63	52
Mobile Banking	4	3	116	97	9	8	111	92	31	26	89	74

ii. Bank wise Classification of Period of Being the User of E-Banking Delivery Channels

Further, the average period of usage of e-banking delivery channels by the three groups of bank customers is examined bank wise and the result is presented in Table 4.19. It can be noted from the table that the mean value of the average period of using ATMs by the nationalized bank customers is 2.93 which implies that they are using ATMs for three years. In the case of Kerala based scheduled bank customers, the mean value of using ATMs is 3.364 which means they have been using it for more than three years. Table 49 also shows the average period of usage of ATMs by new generation bank customers which is 3.743. It gives the implication that majority of ATM users are using it for nearly four years. In the case of credit cards, the mean value of period of usage by the nationalized bank customers is 5.25 which indicates that they have been using it for more than five years but in the case of Kerala based and new generation bank customers, the mean values are comparatively less which is 3.583, i.e., more than three years and 2.909, i. e., nearly three years respectively.

But in the case of internet banking and mobile banking, new generation bank customers show higher mean values of 1.956 and 2.451 which gives the implication that they have been using internet banking for two years and mobile banking for more than two years. Mean values of Kerala based bank customer's period of usage of internet banking and mobile banking are 1.375 and 1.555 respectively which means that internet banking and mobile banking users of this bank group are using these for more than one year. Nationalized bank customer's period of being the user of internet banking and mobile banking is low with 1.1 and 0.875, i.e., one year in the case of internet banking and less than one year in the case of mobile banking.

Table 4.19. Period of Being the User of E-Banking Delivery Channels

Bank wise Presentation

E-banking Delivery Channels	Nationalized banks		Kerala based banks		New generation banks	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
ATMs	2.933	2.312	3.364	2.5417	3.743	2.3648
Credit Card	5.25	2.3584	3.583	1.9667	2.909	2.3108
Internet Banking	1.1	0.7348	1.375	0.739	1.956	1.5874
Mobile Banking	0.875	0.6495	1.555	1.1166	2.451	2.1035

iii. Bank wise Classification of Frequency of Usage of E-banking Delivery Channels

In the next stage, an attempt is made to identify the bank wise intensity of usage of ATMs, credit card, internet banking and mobile banking. Relevant data is tabulated and presented in Table 4.20. Regarding ATMs, mean values of nationalized and Kerala based customer's frequency of usage is more or less the same with 3.568 and 3.514 respectively, indicating that they are using ATMs twice in a month. But new generation bank customer's frequency of usage of ATM is much higher, i.e., 3.863 implying that most of them are using it every week. In the case of credit card, nationalized bank customers' and new generation bank customer's mean values of frequency of use is 3 and

3.25 respectively which means that their usage frequency is once in a month. In the case of Kerala based scheduled banks, credit card user's mean value of frequency of use is 3.417 that is, twice in a month.

With respect to internet banking, all the three groups of bank customers have shown more or less the same usage frequency, wherein the mean value of nationalized bank customer's is 3.6, Kerala based bank customers is 3.5 and new generation bank customers is 3.69. This shows that majority of the three groups of customers are using internet banking twice in a month. The same is the case with the usage frequency of mobile banking wherein the mean value of nationalized bank customer's frequency of use is 3.75 whereas that of Kerala based customer's is 3.67 and new generation bank customer's is 3.69 implying that majority of mobile banking users belonging to the three groups of banks are using it nearly once in a week.

Table 4.20. Frequency of Usage of E-banking Delivery Channels

Bank wise Classification

E-banking Delivery Channels	Nationalized banks		Kerala based banks		New generation banks	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
ATMs	3.5684	0.6787	3.5140	0.6780	3.8632	0.7300
Credit Card	3.000	0.535	3.417	0.669	3.258	0.682
Internet Banking	3.600	0.516	3.5	0.722	3.526	0.826
Mobile Banking	3.750	0.957	3.667	0.707	3.690	0.604

4.2.2. Influence of Demographic Factors on the Adoption of E-Banking Delivery Channels

In order to check the influence of the demographic factors on the adoption of e-banking delivery channels, three demographic and economic variables such as age, education and annual family income of the respondents on the adoption of the selected e-banking delivery channels is examined.

Age wise Classification of Adoption and Usage of E-banking Delivery Channels

For getting a clear picture of the importance of age on the adoption of e-banking delivery channels, the respondents were categorized into five classes ranging from 15 to 30 years, 30 to 45 years, 45 to 60 years and 60 to 75 years and their adoption and usage pattern of ATMs, credit card, internet banking and mobile banking have been analyzed.

i. Age wise Classification of Adoption

Here, age wise adoption rate of ATMs, credit card, internet banking and mobile banking by the respondents have been examined and summarized in Table 4.21. Information from the Table shows that among those respondents who belong to the 15 to 30 years category, 97 percent have adopted ATMs, in the case of the second category, i.e., 30 to 45 years, the adoption rate is 87 percent and it is 85 percent in the case of the next category, i.e., those belong to 45 to 60 years of age. The rate of adoption of ATMs of the older customers is slightly low, 60 percent. With regard to credit card, 20 percent each of the first two categories of the respondents have adopted it, while the rate is 11 percent in the case of the third category and 10 percent in the case of older category. Regarding internet banking, rate of adoption of the second category, i.e., the middle aged group is the highest with 33 percent, followed by the youngsters with 30 percent, the third age group with 11 percent and the older group with the lowest percent of 5 percent. Information with respect to the adoption of mobile banking has shown that 22 percent of the younger group has adopted it and it is 20 percent in the case of middle aged group. Only 3 percent of the elder group has adopted mobile banking whereas none of the older group has adopted it. Overall, it is understandable that younger and middle aged group's rate of adoption is higher as compared to the older customers.

Table 4.21. Adoption of E-banking Delivery Channels–Age wise Classification

E-banking Delivery Channels	15- 30 Years				30-45 Years				45-60 Years				Above 60 Years			
	Users		Non users		Users		Non users		Users		Non users		Users		Non users	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
ATMs	150	97	6	3	90	87	13	13	69	85	12	15	12	60	8	40
Credit Card	20	13	136	87	20	19	83	81	11	14	70	86	2	10	18	90
Internet Banking	47	30	109	70	34	33	69	67	9	11	72	89	1	5	19	95
Mobile Banking	22	14	134	86	20	19	83	81	2	3	79	97	0	0	20	100

ii. Age wise Classification of Period of Usage

In the next level, how long the adopters belonging to different age group have been using e-banking services is examined. The relevant data is tabulated age wise and presented in Table 4.22. It can be noted from the table that the mean values of ATMs are lower for younger groups that is 2.87 for the first category, 3.59 for the second category and higher for the older groups that is 3.838 for the third category and 4.958 for the last category. This implies that majority of the youngsters are using ATMs for nearly three years indicating the presence of many respondents in this category who are new to ATMs. The middle aged group is using ATMs for more than three years whereas that of elder group is nearly four years. The older group has been using ATMs for nearly five years.

In the case of credit card, the younger group's average period of use is 3.52 which imply that they are using it for more than three years. In the case of middle aged group, average period of use is 2.8 and in the case of elder group, it is 3.09 indicating that both categories have been using credit card for nearly three years. Mean value of older group is 5.75 which mean that their average period of usage is more than five years.

Regarding internet banking, 1.945 is the mean value of younger group, i.e, their average period of usage is nearly two years whereas the same as that of middle aged and elder group is 1.528 and 1.333 respectively implying that they have been using internet

banking for more than one year. Only one person from the older category is using internet banking who has only one year experience of using internet banking.

In the case of mobile banking also younger generation has the highest mean value of 2.52 which gives the indication that their average period of usage is more than two years. The mean value of the middle aged group is 1.8 implying that majority of them have been using mobile banking for two years. Only two persons from the elder group are now using mobile banking, both have one year experience of using the same.

Table 4.22. Period of Being the User of E-Banking Delivery Channels

Age wise Presentation

E-banking Delivery Channels	Below 30 Years		30-45 Years		45-60 Years		Above 60 Years	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
ATMs	2.87	2.131	3.59	2.3246	3.838	2.748	4.958	3.138
Credit Card	3.52	2.561	2.8	1.8466	3.090	2.333	5.75	2.673
Internet Banking	1.945	1.632	1.528	1.0415	1.333	0.745	1	0
Mobile Banking	2.52	2.146	1.8	1.6985	1	0	0	0

iii. Age wise Classification of Frequency of Usage

Further, the different age group's frequency of ATMs, credit card, internet banking and mobile banking is examined and the relevant data is presented in Table 4.23. It can be noted from the table that average value of younger group's frequency of using ATMs is 3.66 implying that there are using ATMs around twice in a month whereas the same with that of the middle aged group is slightly high, i.e. 3.81, which indicates that their frequency of usage of ATMs is near to once in a week. Mean values of both elder

and older groups are more or less the same with 3.48 and 3.5 respectively implying their frequency of use of ATMs is twice in a month.

In the case of credit card, the average frequency of usage of the first three categories are 3.26, 3.35 and 3.27 respectively which indicates that majority of them are using credit cards more than once in a month whereas it is once in a month in the case of the older category.

It can also be noticed that in the case of internet banking, youngsters show more interest in using it with the mean value of 3.58 which shows that their usage is atleast twice in a month. Mean values of middle aged and elder categories are 3.34 and 3.33 which indicates that majority of them are using internet banking more than once in a month whereas that of older category is very less i.e., once is three months.

Regarding mobile banking, younger group's usage frequency is 3.6 implying that many of them are using it for more than twice in a month whereas middle aged group show more interest in using mobile banking with the mean value of 3.8 which means that majority of them are using the same every week. The elder ones usage frequency is relatively less which is once in a month. Overall it is understood that as compared to older groups, younger groups are very active in using the e-banking delivery channels.

Table 4.23. Frequency of Usage of E-banking Delivery Channels-Age wise Presentation

E-banking Delivery Channels	Below 30 Years		30-45 Years		45-60 Years		Above 60 Years	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
ATMs	3.6600	0.7219	3.8090	0.6888	3.4853	0.6800	3.500	0.798
Credit Card	3.263	0.733	3.350	0.671	3.273	0.647	3.0000	0.000
Internet Banking	3.587	0.777	3.343	0.725	3.333	0.500	2.0000	0.000
Mobile Banking	3.600	0.681	3.800	0.616	3.0000	0.000	0.000	0

Education wise Classification of Adoption of E-banking Delivery Channels

For getting an insight into the importance of education on the adoption and usage pattern of e-banking delivery channels, the respondents were classified into five categories; SSLC, Pre-Degree/Plus Two, Graduates, Post Graduates and Professionals and their adoption and usage pattern of ATMs, credit card, internet banking and mobile banking have been analyzed.

i. Education wise Classification of Adoption

Information from Table 4.24 clearly reveals that 99 percent of the professionally qualified people have adopted ATMs; the same with regard to the post graduates is 87%. It also gives the information that 90% of the respondents from the graduation and pre-degree/plus two group have adopted ATMs. The rate is low in the case of those who have SSLC, 71%.

In the case of credit cards, 18% of professionally qualified people have adopted it, 16% in the case of post graduates, 14% in the case of graduates, 19% in the case of pre-degree/plus two group and 11% in the case of SSLC category.

Regarding Internet Banking 35% from the professionally qualified people have adopted the same, whereas it is less in the case of postgraduates, 17%. In the case of graduates, 29 % have adopted internet banking, 32% in the case of pre-degree/plus two group and 11%% for SSLC group.

The rate of adoption in mobile banking shows that 16% of the professionally qualified people have adopted it, it is 3% for postgraduates, 17% of the respondents from graduation have adopted mobile banking, whereas it is very low in the case of pre-degree/plus two in the case of SSLC category, 3% and 9% respectively..

Table 4.24. Adoption of E-banking Delivery Channels -Education wise Classification

E-banking Delivery Channels	SSLC				Pre-Degree/ Plus Two				Graduation				P.G				Professional			
	Users		Non users		Users		Non users		Users		Non users		Users		Non users		Users		Non users	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
ATMs	25	71	10	29	29	90	3	10	104	90	12	10	82	87	12	13	81	99	1	1
Credit Card	4	11	31	89	6	19	26	81	14	12	102	88	15	16	79	84	15	18	67	82
Internet Banking	4	11	31	89	8	32	24	68	34	29	82	71	16	17	78	83	29	35	53	65
Mobile Banking	3	91	32	9	1	3	31	97	20	17	96	83	3	3	91	97	13	16	69	84

ii. Education wise Classification of Period of Usage

In the next stage period of being the user of e-banking delivery channels have been examined on the basis of education. The relevant data is tabulated education wise and presented in Table 4.25. It can be noted from the table that regarding ATMs, the mean value of the professionally qualified group is the highest with 3.962, followed by postgraduate category with 3.81 and graduates group with 3.12. It is comparatively low in the case of pre-degree/plus two and SSLC group with 2.52 and 2.13 respectively. Hence the implication is that nearly 4 years is the average period of use of ATMs for the highly qualified group, 3 years is that of graduates and around two years is for the less educated groups.

In the case of credit cards 4.3 is the average period of usage for the professionally qualified groups while it is slightly low in the case of post graduates, 2.46, in the case of graduates, it is 3.36 and for pre-degree/plus two it is 3.33. It is very low in the case of SSLC, 1.75. This gives the information that professionally qualified people have been using credit cards for more than 4 years, whereas postgraduates are for more than two years. In the case of graduates and pre-degree/plus two group, the average period of usage is more than 3 years, whereas it is less than 2 years for SSLC group.

Now consider internet banking, the mean values of professionally qualified group is 1.71 and for postgraduates it is 1.19, for graduates it is 2.06, and for pre-degree/plus two it is 1.25. 1.75 is the mean value of SSLC group. The indication is that graduates have been using internet banking for two-years. In all other groups, the average period of usage is less than two years.

When we consider Mobile banking, graduates have the highest mean value with 2.16 followed by professionally qualified with 2.04, implying that both these groups have been using mobile banking for the last two years. In the case of other three groups the average period of usage is around one year.

Table 4.25. Period of Being the User of E-Banking Delivery Channels

Education wise Presentation

E-banking Delivery Channels	SSLC		Pre-Degree/ Plus Two		Graduation		P.G		Professional	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
ATMs	2.1296	1.5846	2.517	1.882	3.1095	2.3884	3.8101	2.5061	3.9629	2.4917
Credit Card	1.75	1.4361	3.3333	2.2298	3.3571	1.9032	2.4667	2.1638	4.3	2.535
Internet Banking	1.75	1.4361	1.25	0.75	2.0588	1.4388	1.1875	0.9981	1.7069	1.4711
Mobile Banking	1	0.7071	1	0	2.1579	1.7995	1	0.7071	2.0384	1.9948

iii. Education wise Classification of Frequency of Usage

Now we consider the intensity of use of e-banking delivery channels on the basis of education. The relevant data is tabulated and presented in Table 4.26. Regarding ATMs, the mean value of professionally qualified group is 3.82 indicating that they are using ATMs nearly once in a week. The mean values of graduates and post graduates are 3.62 and 3.67 respectively giving the information that their average frequency of usage is twice in a month. In the case of less educated groups the mean values are 3.38 and 3.52 implying that majority of them are also using ATMs nearly twice in a month.

For credit cards, the mean values of professionally qualified and post graduates groups are exactly equal, 3.267 implying that their average usage frequency is around once in a month. Mean value of SSLC category is the highest 3.6 followed by graduates 3.43 which gives the idea that these two groups are using credit card twice in a month. Pre-Degree/Plus two group has the lowest mean value of 2.75 giving the idea that their average usage frequency is nearly once in a month.

Next, we consider the mean values of internet banking, where we can find that average frequency of usage of the SSLC group is the highest with 3.75 followed by Pre-Degree/ Plus two with 3.5 and Professionally qualified with 3.45. The mean values of the other two groups, Graduates and post graduates, are 3.43 and 3.375 respectively. Thus, it is revealed that there are minor differences in the mean values of all categories and it can be concluded that all the five education groups are using internet banking atleast twice in a month.

Information with regard to mobile banking reveals that Post graduates have the highest mean value of 4.5 followed by 4.15 of Professionally qualified ones both shows that most of the users belonged to these two groups are using mobile banking once in a week. The mean value of graduates is 3.84 implying that majority of them are using the same for once in a week. The mean value of Pre-Degree/Plus two is slightly less with 3.333 which gives the indication that their average frequency is near to twice in a month, whereas that of the SSLC category it is very low, i.e., it is once in three months.

**Table 4.26. Frequency of Usage of E-banking delivery channels-
Education wise Classification**

E-banking Delivery Channels	SSLC		Pre-Degree/ Plus Two		Graduation		PG		Professional	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
ATMs	3.517	0.738	3.375	0.711	3.6699	0.8447	3.6220	0.6784	3.8148	0.6146
Credit Card	3.600	0.548	2.750	0.500	3.429	0.646	3.267	0.799	3.267	0.594
Internet Banking	3.750	0.463	3.500	0.577	3.412	0.821	3.375	0.806	3.448	0.736
Mobile Banking	2.000	0	3.333	0.577	3.842	0.688	4.500	0.548	4.154	0.689

Income wise Classification of Adoption and Usage of E-banking Delivery Channels

Lastly the influence of the important economic variable, income on the adoption of e banking products and services is thoroughly analyzed and meaningful conclusions are drawn. For this purpose the respondents are classified into five categories on the basis of their annual income, below Rs. 50,000/- (very low income), Rs. 50,000- Rs. 1,50,000/- (low income), Rs. 1,50,000- Rs3,00,000/-(middle income), Rs. 3,00,000- Rs.5,00,000/- (high income), and above Rs.5,00,000/-(very high income).

i. Income wise Classification of Adoption

Here, the adoption rate of ATMs, credit card, internet banking and mobile banking by the respondents have been examined and summarized in Table 4.27. It can be seen from the table that, for ATMs, 100% of the respondents from the 'above Rs.5,00,000' category have adopted ATMs, whereas it is 98% for those who have high income and 90% for the middle income group. It further shows that 87% of the low income group has also adopted ATMs whereas the rate is very less for the very low income group, 39%.

In the case of credit cards 22% of the very high income group have adopted it, the same in the case of high income group is 25%. For the middle income group the rate of adoption of credit card is 15% where as for the low income group, it is only 5%, none of the respondents from the very low income group have adopted credit cards.

For Internet banking, the high income group has the highest rate of adoption, 40%, followed by the middle income group with 27%. 22% of the very high income group have adopted internet banking whereas it is 11% for the low income group, it can also be seen that, only one person from the very low income category have adopted internet banking.

Information of mobile banking shows that 11% of the very high income group have adopted the same, 23% of the high income group have adopted it and the rate is 13% for the middle income group, only 3% of the low income group have adopted mobile banking and none of the very low income group have adopted it.

Table 4.27. Adoption of E-banking Delivery Channels–Income wise Classification

E-banking Delivery Channels	Below Rs.50000				Rs.50000-150000				Rs.150000-300000				Rs.300000-500000				Above 500000			
	Users		Non users		Users		Non users		Users		Non users		Users		Non users		Users		Non users	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
ATMs	11	39	17	61	69	87	10	13	114	90	13	10	104	98	2	2	18	100	0	0
Credit Card	0	0	28	100	4	5	75	95	19	15	108	85	26	25	80	75	4	22	14	7
Internet Banking	1	4	27	96	9	11	70	89	34	27	93	73	43	40	63	60	4	22	14	7
Mobile Banking	0	0	28	100	2	3	77	97	16	13	111	87	24	23	82	77	2	11	16	3

ii. Income wise Classification of Period of Usage

In the next stage, the average period of usage of e-banking delivery channels on the basis of income is analyzed and the relevant data is summarized in Table 4.28. It can be observed from the table that 5.382 is the mean value of average period of usage of ATMs in the case of very high income group implying that they have been using the same for more than five year, the same with regard to high income group is 4.313 which indicates that their average period of being the user of ATMs is 4 years. For the middle income group, 3.25 is the mean value giving the idea that they have been using the ATM for 3 years, for the low income group and very low income group, the mean values are 2.135 and 1.91, respectively, both indicates that their average period of usage of ATMs is around 2 years. Overall it is very clear that average period of being the user of ATMs is higher for the high income groups and less for the low income groups.

For credit cards, the mean value of the middle income group is the highest, 3.067 which shows that they have been using the same for 3 years, 2.625 is the mean value of low income group and 2.44 is that of high income group implying that their average period of using credit card is more than 2 years. Very high income group have been using credit cards for the last two years and it is one year for the very low income group.

Information with regard to internet banking reveals that the mean value of the middle income group is the highest with 2.852 which show that they have been using internet banking for nearly three years. For the high income group 2.044 is the average

value and the same with that of very high income group is 1.7 which gives the idea that their average period of usage is around two years. 1.33 is the mean value of low income group and 1 is that of very low income group implying that they have been using internet banking for the last one year.

In the case of mobile banking, mean values of middle income group is 2.313 and that of high income ones is 2.063 which shows that both these groups of users have been using mobile banking for two years. In the case of very high income and low income groups the average period of being the user is one year.

**Table 4.28 Period of Being the User of E-Banking Delivery Channels-
Income wise Presentation**

E-banking Delivery Channels	Below Rs.50000		Rs.50000-150000		Rs.150000-300000		Rs.300000-500000		Above 500000	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
ATMs	1.9117	1.1661	2.1357	1.7544	3.2589	2.4165	4.3137	2.4777	5.3853	2.3485
Credit Card	1	0	2.625	1.4737	3.0667	2.4165	2.4476	2.5289	2	0
Internet Banking	1	0	1.3889	1.1493	2.8529	1.5885	2.0444	2.0326	1.7	0.7071
Mobile Banking	0	0	1	0	2.313	2.068	2.063	1.965	1	0

iii. Income wise Classification of Frequency of Usage

Further, the intensity of using the various e-banking delivery channels on the basis of income is studied. The relevant data is tabulated and presented in Table 4.29. Regarding ATMs, high income group has the highest mean value of 3.866 followed by middle income group with 3.7 and very high income group with 3.65. This indicates that most of the high income group is using ATMs every week, whereas that of middle income and very high income is nearly once in a week. The mean value of low income group is 3.38 which shows that majority of them are using ATMs nearly twice in a month whereas it is slightly less in the case of very low income group, 3.19 which implies that their average frequency of use of ATMs is once in a month. This gives the clear

indication that high income groups are very active in using ATMs as compared to low income groups.

For credit cards, Table 4.29 shows that very high income group has the highest mean value of 3.75 followed by high income group with 3.65, this reveals that majority of the users belong to these two groups is using credit cards nearly once in a week. The mean value of middle income group is 3.11 and that of low income group is 2.75 giving the idea that their average frequency is once in a month. Only one person from the very low income group possess credit card who is using the same very rarely. So, we can summaries in such a way that high income groups show more interest in using credit cards as compared to their counterparts.

Mean values of average frequency of using internet banking shows that 3.58 is for high income group, 3.5 is that of very high income and 3.412 is for the middle income people, all indicates that these three groups are using internet banking twice in a month. Further it shows that the average frequency of usage of internet banking in the case of low income group is once in a month.

Information of mobile banking shows that mean values of high income groups are 4 and 3.87 respectively giving the idea that they are using mobile banking once in every week. Again it shows that the average values of middle income group are 3.4 and that of low income is 3.5 both implicating that their average frequency of usage of mobile banking is twice in a month.

**Table 4.29. Frequency of Usage of E-banking Delivery Channels-
Income wise Classification**

E-banking Delivery Channels	Below Rs.50000		Rs.50000-150000		Rs.150000-300000		Rs.300000-500000		Above 500000	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
ATMs	3.188	0.750	3.3824	0.7732	3.6964	0.7209	3.8654	0.6083	3.647	0.606
Credit Card	1.000	0	2.750	0.500	3.105	0.737	3.640	0.4890	3.750	0.5
Internet Banking	0	0	3.0000	0	3.412	0.657	3.581	0.852	3.500	0.577
Mobile Banking	0	0	3.500	0.707	3.400	0.507	3.870	0.626	4.00	1.41

4.2.3. Hypotheses Testing of Adoption of E-Banking Delivery Channels

Hypothesis 2: Bank customers in Kerala has adopted various technology driven banking channels at a reasonable rate and the level of adoption is independent of type of bank which they maintain account, their age, education and income.

Bank wise Presentation

In order to identify whether the differences found in the rate of adoption of the three groups of bank customers is statistically significant, Chi-square tests is conducted at 5% level of significance and the results are presented in Table 4.30.

Table 4.30. Results of Chi-Square Test-Bank wise Classification

E-banking Delivery Channels	DF	Chi-Square value	P-value
ATMs	2	17.712	0.000
Credit Card	2	23.940	0.000
Internet Banking	2	51.384	0.000
Mobile Banking	1	14.520	0.000

The results of the analysis show that p-values of all the four e-banking delivery channels are less than 0.05 percent. Hence it is implied that the adoption of the selected e-banking delivery channels is clearly dependent on the types of banks which the users maintain their account.

Age wise Presentation

In order to know the relation between the age on the adoption of the selected e-banking delivery channels, Chi-square tests at 5% level of significance were carried out and the results are summarized in Table 4.31.

Table 4.31. Results of Chi-Square Test-Age wise Classification

E-banking Delivery Channels	DF	Chi-Square value	P-value
ATMs	3	29.315	0.000
Credit Card	2	2.534	0.282
Internet Banking	2	17.847	0.000
Mobile Banking	1	0.907	0.341

The results of the analysis reveals that the demographic variable age has significant influence on the adoption of ATMs and internet banking whereas the adoption of credit card and mobile banking is found to be independent of age. Because of the small number of respondents in the older group, these respondents were combined with the third age group in the case of credit card and internet banking and in the case of mobile banking; the two oldest groups were combined with the second category of respondents to get meaningful results

Education wise Presentation

In order to check the dependence of education on the adoption of e banking delivery channels, chi-square test at 5% level significance is applied and the results are presented in Table 4.32.

Table 4.32. Results of Chi-Square Test-Education wise Classification

E-banking Delivery Channels	DF	Chi- Square value	P-value
ATMs	4	20.092	0.000
Credit Card	3	1.543	0.672
Internet Banking	3	10.714	0.013
Mobile Banking	1	1.159	0.282

The results of the chi-squared test reveal that, p-values of ATMs and internet banking are less than 0.05. Hence education is dependent of the adoption of same.

Further it shows that p-values of credit card and mobile banking are more than 0.05, therefore it can be concluded that there is no association between education and adoption of credit card and mobile banking.

Income wise Presentation

For the purpose to know whether there is any association between income and the adoption of e-banking delivery channels chi-square test at 5% level of significance is applied and the results are presented in Table 4.33.

Table 4.33. Results of Chi-Square Test-Income wise Classification

E-banking Delivery Channels	DF	Chi-Square value	P-value
ATMs	4	77.527	0.000
Credit Card	2	17.290	0.000
Internet Banking	2	24.898	0.000
Mobile Banking	1	2.585	0.108

The results of the chi-square test clearly shows that p-values of ATMs, credit card and internet banking is less than 0.05 hence it can be concluded that there is a close association between income and the adoption of the same. In the case of mobile banking, since p-value is more than 0.05, we can conclude that income is independent of the adoption of mobile banking.

Conclusion

Overall it is revealed that the adoption of ATMs and internet banking is clearly dependent on the type of bank, age, education and income. Adoption of credit card is independent of age and education whereas mobile banking adoption is independent of all variables except the type of bank which the customers maintain their accounts.

Hypothesis 3: The period of association with multiple bank delivery channels is independent of the type of bank, age, education and income.

Bank wise Presentation

In order to check whether the differences found in the mean values of the three bank customers in connection with their period of association with the selected e-banking delivery channels are statistically significant, one way ANOVA is conducted and the results are presented in Table 4.34.

Table 4.34. Period of Being the User of E-Banking Delivery Channels-ANOVA

Bank wise Presentation

E-banking Delivery Channels	Sum of Squares	DF	Mean Sum of Squares	F value	P value
ATMs	32.88	2	16.44	2.91	0.056
Credit Card	31.40	2	15.70	3.18	0.050
Internet Banking	9.87	2	4.93	2.68	0.074
Mobile Banking	12.48	2	6.24	1.70	0.195

The results of the analysis show that p-values of all the variables are more than 0.05. Therefore it is concluded that user's period of association with the selected e-banking delivery channels is independent of the type of bank in which they maintain their accounts.

Age wise Presentation

Variance analysis using 'F test' have been conducted to test the significance of difference among the different age groups regarding the period of usage of e-banking delivery channels and the results are incorporated in Table 4.35.

Table 4.35. Period of Being the User of E-Banking Delivery Channels-ANOVA**Age wise Presentation**

E-banking Delivery Channels	Sum of Squares	DF	Mean Sum of Squares	F value	P value
ATMs	87.66	3	29.22	5.16	0.002
Credit Card	7.45	3	2.48	0.44	0.728
Internet Banking	6.45	3	2.15	1.13	0.342
Mobile Banking	5.40	2	2.70	0.68	0.512

Results of the analysis show that in the case of ATMs, F value is 5.16 with 3 degree of freedom and P- value is 0.002. Since the P-value is less than 0.05 at 5% level of significance, it is concluded that there is a significant difference among the four age groups regarding the average period of using ATMs. But in the case of all other services, credit card, internet banking and mobile banking, p-value is more than 0.05.

Education wise Presentation

In order to check whether the different education group differs significantly in their average period of being the user of e-banking delivery channels, one way ANOVA at 5 % level of significance is applied and the results are presented in Table 4.36.

Table 4.36. Period of Being the User of E-Banking Delivery Channels-ANOVA**Education wise Classification**

E-banking Delivery Channels	Sum of Squares	DF	Mean Sum of Squares	F value	P value
ATMs	103.76	4	25.94	4.24	0.002
Credit Card	49.28	4	12.32	2.54	0.051
Internet Banking	10.21	4	2.55	1.37	0.251
Mobile Banking	15.53	4	3.88	1.00	0.419

The results of the analysis shows that only in the case of ATMs p-values is less than 0.05. Hence the null hypothesis is rejected in all other cases, p-values are more than

0.05. Therefore the implication is that, the differences among various educated groups are statistically significant for ATMs. In the cases of other variables, the differences are found to be insignificant.

Income wise Presentation

For checking whether there is any significant difference among the various income groups regarding their average period of being the user of e-banking delivery channels, one way ANOVA at 5% level of significance is applied and the results are presented in Table 4.37.

Table 4.37. Period of Being the User of E-Banking Delivery Channels-ANOVA
Income wise Classification

E-banking Delivery Channels	Sum of Squares	DF	Mean Sum of Squares	F value	P value
ATMs	335.02	4	83.75	16.80	0.000
Credit Card	10.63	4	2.66	0.47	0.760
Internet Banking	2.29	4	0.57	0.32	0.866
Mobile Banking	11.26	3	3.75	0.96	0.421

The results of the analysis clearly show that p-value of ATMs is less than 0.05 and that of credit cards, internet banking and mobile banking is more than 0.05. Hence the implication is that the different income groups significantly differ in the average period of usage of ATMs whereas in the case of other variables the differences are found to be insignificant.

Conclusion

Overall it is identifiable that the period of association with the selected e-banking channels is independent of the type of bank which the customers maintain their accounts. Again it is clear from the analysis that age, education and income of the users have no influence on the their period of association with the selected e-banking delivery channels except ATMs.

Hypothesis 4: The usage frequency of multiple bank delivery channels is independent of the type of bank, age, education and income.

Bank wise Presentation

To test whether the differences exhibited by the mean values of frequency of usage of the selected e-banking delivery channels among the three groups of banks are statically significant, one way ANOVA is applied and the results are presented in Table 4.38.

Table 4.38. Frequency of Usage of E-banking Delivery Channels-ANOVA

Bank wise Presentation

E-banking Delivery Channels	Sum of Squares	DF	Mean Sum of Squares	F value	P value
ATMs	7.909	2	3.955	8.12	0.000
Credit Card	0.834	2	0.417	0.96	0.390
Internet Banking	0.071	2	0.035	0.06	0.943
Mobile Banking	0.019	2	0.010	0.02	0.978

The results of the analysis reveals that regarding the usage frequency of ATMs, p-value is less than 0.05, hence the inference is that the difference is statistically significant. But in the case of other three variables, p-values are greater than 0.05, therefore the conclusion is that all users irrespective of the bank group which they belong to, do not differ significantly on their frequency of usage of credit card, internet banking and mobile banking.

Age wise Presentation

One way ANOVA is applied to find out the statistical significance of the differences revealed in the various age group's average frequency of using ATMs, credit card, internet banking and mobile banking. The result of the analysis is summarized in Table 4.39.

Table 4.39. Frequency of Usage of E-banking Delivery Channels-ANOVA**Age wise Presentation**

E-banking Delivery Channels	Sum of Squares	DF	Mean Squares	F value	P value
ATMs	4.357	3	1.452	2.91	0.035
Credit Card	0.257	3	0.086	0.18	0.907
Internet Banking	3.490	3	1.163	2.15	0.100
Mobile Banking	0.878	2	0.439	1.04	0.362

The results of the F test applied shows that p-values of all the variables is more than 0.05 at 5% level of confidence. The implication is that even though, younger groups express more interest in using e-banking delivery channels, the result of the analysis suggests that the differences are not significant in any of the above case.

Education wise Presentation

In order to check whether the differences noticed in the mean values of usage frequency of the five education groups are statistically significant, one way ANOVA at 5% level of significance is conducted and the results are summarized in Table 4.40.

Table 4.40. Frequency of Usage of E-banking Delivery Channels-ANOVA**Education wise Classification**

E-banking Delivery Channels	Sum of Squares	DF	Mean Sum of Squares	F value	P value
ATMs	4.610	4	1.152	2.16	0.073
Credit Card	1.925	4	0.481	1.09	0.374
Internet Banking	0.870	4	0.217	0.38	0.825
Mobile Banking	5.148	4	1.287	3.42	0.018

The results of the analysis shows that except in the case of mobile banking, p-values of all other variables are more than 0.05 which indicates that the differences found in the mean values of usage frequencies of ATMs, credit card and internet banking are

statistically insignificant. The different education groups significantly differ only in the case of mobile banking.

Income wise Presentation

In order to know whether the differences found in the mean values of different income groups are statistically significant, one way ANOVA at 5% level of significance is applied and the results are given in Table 4.41.

Table 4.41. Frequency of Usage of E-banking Delivery Channels-ANOVA

Income wise Classification

E-banking Delivery Channels	Sum of Squares	DF	Mean Sum of Squares	F value	P value
ATMs	13.348	4	3.337	6.93	0.000
Credit Card	5.630	4	1.407	3.96	0.007
Internet Banking	2.915	3	0.729	1.37	0.251
Mobile Banking	2.267	3	0.756	1.95	0.138

The results of the analysis clearly shows that p-values of ATMs and credit card are less than 0.05 which gives the implication that there are significant differences among the various income groups in their usage frequency of ATMs and credit cards. For internet banking and mobile banking, since p-values are more than 0.05, the differences are found to be insignificant.

Conclusion

Overall, it is identifiable that average frequency of usage of all the multiple bank delivery channels is independent of the variable 'age'. Average frequency of using ATMs is dependent on the variables, type of bank and income, whereas of mobile banking is dependent on education and credit card is dependent on income.

4.2.4. A Summary of Demographic and Economic Factors Influencing the Adoption of E-Banking Delivery Channels

Here, the results of the Chi-square tests already conducted to identify the influence of the important demographic and economic variables on the adoption of ATMs, internet banking, mobile banking and credit cards are summarized separately in order to get a clearer picture of the situation.

a. ATMs

Here, the influence of the important demographic and economic variables such as age, education and annual income on the adoption of ATMs is examined using the results of Chi-square tests conducted earlier. The corresponding Chi-square values and p-values along with degree of freedom of each demographic and economic variable are summarized in Table 4.42. The information from the table shows that there is a close association between all demographic and economic variables and adoption of ATMs. In the case of age, youngsters and middle aged group have adopted ATMs more than that of older groups. In the case of education, rate of adoption of ATMs is more for those who have atleast graduation. With regard to annual income, high and middle income groups have adopted ATMs more than that of low income groups. Hence we can conclude that these factors have great influence on the adoption of ATMs. Overall it is understandable that the users of ATMs are generally of youngsters and middle aged, people having atleast graduation, high and middle income groups.

Table 4.42. Summary of the Results of Chi-square Test-ATMs

Variable	DF	Chi-Square value	P-value
Age	3	29.315	0.000
Education	4	20.092	0.000
Annual Income	4	77.527	0.000

b. Credit Cards

Here, which of the demographic and economic factors influence the adoption of credit cards are evaluated. Results of Chi-square test applied to identify the dependence or independence of the important demographic and economic variables on the adoption of credit cards are summarized in Table 4.43. It shows that the factors, age and education have no influence on the adoption of credit cards. This gives the implication that with regard to age, the adopters of credit cards are not differentiated on the basis of different age groups which they belong to. Likewise with respect to education, all types of people irrespective of the level of education which they belong to, have accepted credit cards. The only factor which has an influence on the adoption of credit cards is annual income. This gives the idea that high income groups are more active in using credit cards than low income groups.

Table 4.43. Summary of the Results of Chi-square Test–Credit Cards

Variable	DF	Chi-Square value	P-value
Age	2	2.534	0.282
Education	3	1.543	0.672
Annual Income	2	17.290	0.000

c. Internet Banking

Further, the extent of influence of the important demographic and economic factors on the adoption of internet banking is evaluated. Chi-square values and p-values corresponding to each demographic and economic factor are summarized in Table 4.44. It can be noticed from the table the all factors such as age, education and annual income have greatly influenced the adoption of internet banking. In the case of age, youngsters and middle aged groups have shown good interest in the adoption of internet banking as compared to older groups. When we consider the factor education, we can realize the fact that people who have atleast graduation show great interest in adopting internet banking as compared to less educated ones. Regarding annual income, high income group's rate of adoption of internet banking is more than that of low income groups. Hence, we get

the overall picture of internet banking users who are generally of youngsters, graduate and affluent people.

Table 4.44. Summary of the Results of Chi-square Test–Internet Banking

Variable	DF	Chi-Square value	P-value
Age	2	17.847	0.000
Education	3	10.714	0.013
Annual Income	2	24.898	0.000

d. Mobile Banking

Next, we come to mobile banking, where it can be seen that all factors do not in any way influenced the adoption of mobile banking (Table 4.45).

Table 4.45. Summary of the Results of Chi-square Test–Mobile Banking

Variable	DF	Chi-Square value	P-value
Age	1	0.907	0.341
Education	1	1.159	0.282
Annual Income	1	2.585	0.108

4.2.5. Influence of Perceptual Factors on the Adoption of E-Banking Delivery

Channels

So far we have examined the influence of demographic and economic factors on the adoption of e-banking delivery channels. But these factors alone cannot fully define why certain bank customers have adopted the e-banking delivery channels and why certain customers stand outside the vicinity of adoption of the same. This makes it necessary to go for other important factors also. Among them, perceptual factors play a very important role. In this study, some important perceptual variables are used to identify how these influence the adoption and usage of ATMs, internet banking, mobile banking and credit cards.

a. ATMs

Here, ATM users' and non users' perception of technology used in banking is examined. In the first stage, users' and non users' general perception towards technology used in banking is analyzed and meaningful conclusions are drawn. In the second stage, users' and non users' perception of quality of ATM facility offered by different banks are identified. In the next stage, in order to check the association between customer adoption of ATMs and their perception of attributes of the same, factor analysis and regression tests are applied. Factor analysis is applied to identify the important factors by reducing the 13 perceptual variables. Regression test is used to identify the association between the factors and the adoption of ATM and also to identify the prominent factors having greater influence on the adoption of ATMs.

Perception of ATM Users and Non-Users towards Technology in Banking

Information with regard to the adoption of ATMs shows that rate of adoption of ATMs of the respondents is high, 89 percent of the respondents are now using it. Here, the respondents are divided into two categories as users and non users of ATMs and an attempt is made to identify the perception of these two groups towards technology used in banking.

For this purpose, respondents rated 12 five point Likcert scaled statements ranging from (1) strongly disagree to (5) strongly agree. For negative statements, points are allotted in the reverse order. The mean values along with standard deviation are presented in Table 4.46. It can be noticed that users of ATMs have very positive attitude towards technology. They strongly agree that 'since innovations and technology exists, we better use them', 'Technology eases one's life', 'I like to use new methods to conduct banking transactions like ATM', internet/mobile banking etc', 'Technology makes banking services easy for me' and 'Banks should provide proper awareness regarding new technology enabled services'. They also supported the fact that technology used in banking is very convenient, it is easy and quick to use. But they are concerned with the security of technology enabled banking services. They realized the usefulness of ATMs, hence they disagree the statement, 'I do not feel the need to use ATMs'. The active users' aggregate mean value is 3.924 which clearly indicates that

this group of respondents have positive attitude towards technology used in banking which is fully reflected in their adoption and usage of ATMs.

When we take the case of non users, it can be seen that the mean values of most of the statements are below 3, i.e., they disagree with these statements. They somewhat agree that since innovations and technology exists, we better use them and technology eases one's life where the mean values are 3.436 and 3.385. But they express their unwillingness to use new methods to conduct banking transactions. They also have the opinion that technology enabled banking services are complicated and highly insecure to use. They also admit that they are not a very active user of banking services and they are very much satisfied with the existing mode of banking services. They strongly agree that they do not feel the need to use ATMs. The aggregate mean value of the non user group is 2.7101 which implies that overall, this group express negative attitude towards technology used in banking. They also have strong negative perception towards ATMs which plays a crucial role in dissuading the respondents from using ATMs.

Another important point to be noted here that these two groups strongly agree that bank should provide proper awareness regarding technology enabled banking services.

Table 4.46. Perception of ATM Users and Non-Users towards Technology in Banking

Variable	Users		Non-users	
	Mean	Std. Dev	Mean	Std. Dev
Since innovations and technology exists, we better use them	4.3043	0.5642	3.436	1.021
Technology eases one's life	4.2733	0.6164	3.385	0.747
I like to use new methods to conduct banking transactions like ATM, internet/mobile banking etc	4.1801	0.6916	2.795	0.833
I prefer technological convenience	4.0714	0.6867	2.872	0.801
I find technology enabled services are complicated to use	3.7857	0.7898	2.692	0.694
Technology makes banking services easy for me.	4.2019	0.6924	2.487	0.756
Technology enabled services are quick to use than visiting the bank branch personally	3.9783	0.9083	2.462	0.720
I am concerned about the security of technology enabled banking services	3.0404	1.1170	2.564	0.718
I am not a very active user of banking services	3.4814	1.2054	2.154	1.089
I am satisfied with existing mode of banking	3.2174	1.1611	1.744	0.677
I always prefer to have someone to explain me how to use ATMs and internet banking	3.8571	1.0901	2.513	0.823
Banks should provide proper awareness regarding new technology enabled services.	4.4193	0.5757	4.256	0.549
Aggregate	3.9	0.8415	2.7799	0.7856

Users' and Non-Users' Perception of quality of ATM Facility Offered by Banks

Here, users' and non users' perception of ATMs is examined. For this purpose, these two groups are asked to rate 13 five point Lickert scaled statements ranging from strongly agree (5) to strongly disagree (1). Mean values corresponding to each statement are presented in Table 4.47.

Mean values of users of ATMs shows that they feel that the location and 24 hour availability of ATMs are very convenient for them and they are very much comfortable with the same. They also experience that ATM operations are very easy for them. Majority of the users can access ATMs whenever they need it, and they do not feel that the queues of the ATM are quite large.

They also agree that ATM makes banking services easy for them, it is time saving, accurate and quicker than visiting the bank branch. But majority of the users express concern over the security of ATMs. They also opined that it is not safe to deposit money through ATMs. Finally they strongly agree that ATMs are very essential for their banking. The aggregate mean value is 3.9088 which support the fact that the perception of users towards ATMs is clearly positive.

It can be noted from the Table 4.47 that mean values of non users are very low as compared to their counter parts. One of the main reasons for the low average value is that they do not have the experience of using ATMs. They feel that the location of ATMs are not very convenient for them and find it difficult to access the same. They also think that going to bank branch is better than using ATMs. They are very much concerned about the security of using ATMs and they opined that it is risky to deposit money through ATMs.

Finally, they strongly agree that they do not feel the need to use ATMs. The aggregate mean value of this group is 2.7368 which clearly support the fact that non users have strong negative perception towards ATMs and this is fully reflected in their action of not using ATMs.

Table 4.47. Users' and Non-Users' Perception of Quality of ATM Facility by Banks

Variable	Users		Non-Users	
	Mean	Std.Dev	Mean	Std. Dev
ATMs are conveniently located	4.1025	0.8042	2.9737	0.2835
I find 24 hour ATM service is convenient for me	4.3478	0.6438	3.0000	0.2325
I am comfortable with ATMs	4.2267	0.7070	2.9474	0.3244
ATM operations are very easy for me	4.3137	0.6820	2.9474	0.3991
I can easily find an ATM when I need one	3.9317	0.9480	2.7368	0.5543
The queues of the ATM are quite large	3.5155	1.0328	3.0263	0.1622
ATM makes banking services easy for me.	4.2019	0.6924	2.526	0.725
ATMs are quick to use than visiting the bank branch personally	3.9783	0.9083	2.500	0.688
ATM saves much time	4.3602	0.6120	2.8947	0.3883
ATMs are more accurate than human tellers	3.8354	0.8935	2.9211	0.2733
I am concerned about the security of ATMS	3.0404	1.1170	2.579	0.722
I believe it is risky to deposit cash through ATMs	2.7547	1.1406	2.658	0.669
I do not feel the need to use ATMs	4.2050	0.6755	1.868	0.811
Aggregate	3.9088	0.8351	2.7368	.4794

Factor Analysis - ATMs

Another objective of this study was to determine which specific perceptual variables utilized in the survey contributed significantly to an ATM customer's usage pattern. This objective was fulfilled by the use of a factor analysis. This analysis assists in condensing a large set of variables into a smaller number of basic components, which include some connected variables.

Here, factor analysis reduced the 13 perceptual statements into four factors corresponding to **convenience, perceived risk, speed of operations** and **accessibility**. The responses to the perceptual statements and the factors on which they loaded heavily on are provided in Table 4.48. Table also shows the eigen values corresponding to each

factor and the percentage of variation explained by these factors. A plus (+) or (-) sign indicates whether the question contributes positively or negatively to that factor.

Table 4.48. Mean and SD of Perceptual Variables of ATMs

Variables	Statement	Mean	Std. Dev
Variable 1	ATMs are conveniently located.	3.9833	0.8410
Variable 2	I find 24 hour service is convenient for me.	4.2056	0.7404
Variable 3	I am comfortable with ATMs	4.0917	0.7828
Variable 4	ATM operations are very easy for me.	4.1694	0.7804
Variable 5	I can easily find an ATM when I need one.	3.8056	0.9851
Variable 6	Queues of the ATMs are quite large.	3.4639	0.9895
Variable 7	ATM makes banking services easy for me.	4.0250	0.8653
Variable 8	ATMs are quick to use than visiting the bank branch personally	3.8222	0.9967
Variable 9	ATM saves much time	4.2056	0.7441
Variable 10	ATMs are more accurate than human tellers	3.7389	0.8948
Variable 11	I am concerned about the security of ATMs	2.9917	1.0906
Variable 12	I believe it is risky to deposit cash through ATMs.	2.7444	1.1001
Variable 13	I do not feel the need to use ATMs.	3.9583	0.9963

Table 4.49. Estimated Factor Loadings-Perceptual Variables of ATMs

Variables	Statement	Estimated Factor Loadings				Communality
		Factor1	Factor 2	Factor 3	Factor 4	
Variable 1	ATMs are conveniently located.	0.883	0.19	-0.29	-0.01	0.89998
Variable 2	I find 24 hour service is convenient for me.	0.75	0.17	-0.17	0.05	0.6228
Variable 3	I am comfortable with ATMs	0.76	0.21	-0.20	-0.03	0.6626
Variable 4	ATM operations are very easy for me.	0.86	0.21	-0.12	0.05	0.8006
Variable 5	I can easily find an ATM when I need one.	.98	0.20	-0.50	-0.01	1.7785
Variable 6	Queues of the ATMs are quite large.	0.66	-0.15	0.18	-0.89	1.2826
Variable 7	ATM makes banking services easy for me.	0.91	0.23	0.17	0.039	0.91142
Variable 8	ATMs are quick to use than visiting the bank branch personally	0.50	0.32	0.98	0.12	1.3373
Variable 9	ATM saves much time	0.13	0.20	0.72	0.06	0.5789
Variable 10	ATMs are more accurate than human tellers	0.90	0.29	0.32	0.06	1.0001
Variable 11	I am concerned about the security of ATMs	0.110	-0.79	-0.19	0.002	1.87020
Variable 12	I believe it is risky to deposit cash through ATMs.	.110	-0.81	0.24	0.27	1.9966
Variable 13	I do not feel the need to use ATMs.	0.57	0.05	0.06	0.02	0.3454
Eigen value		2.8652	1.6081	.8212	.9956	
Percentage variation		34	19	10	12	

From a principal component factor analysis perspective, the first four eigen values (2.8652, 1.6081, .8212, .9956) of dispersion matrix of 13 variables are taken, which suggest a factor solution with four factors as in Table 4.49. The factor loadings are estimated by principal component factor analysis method.

In case of first factor, the 1st, 2nd, 3rd, 4th, 5th, 7th, 10th and 13th variables have heavy loadings with an eigen value of 2.8652 which explains 34 percent of variance. This factor may be labeled as *convenience*.

In factor 2, 11th and 12th variables have high loadings with a variance of 19 percent in contrast to all other variables. This factor may be labeled as *perceived risk*.

In factor 3, 8th, and 9th variables have close relationship with each other with a variance of 10 percent in contrast to all other variables. This factor may be labeled as *speed of operations*.

In factor 4, 6th variable have high loading with a variance of 19 percent as compared to other variables. This factor may be labeled as *accessibility*.

The total variance explained by the four factors together is approximately 75 percent.

b. Internet Banking

Here, internet banking user's and non user's perception of technology used in banking is examined. In the first stage, user's and non user's general perception towards technology used in banking is analyzed and meaningful conclusions are drawn. In the second stage, user's and non user's perception of internet banking is identified. In the next stage, in order to check the association between customer adoption of internet banking and their perception of attributes of internet banking, factor analysis and regression tests are applied. Factor analysis is applied to identify the important factors by reducing the 18 perceptual variables. Regression test is used to identify the association between the factors and the adoption of internet banking and also to identify the prominent factors having greater influence on the adoption of internet banking.

Internet Banking Users' and Non-Users' Perception of Technology used in Banking

Here, internet banking users' and non users' general perception of technology used in banking is identified. For this purpose, the respondents are asked to rate 12 five point Lickert scale statements ranging from strongly agree (5) to strongly disagree (1). Since the last four are negative statements, points are allotted in the reverse order. Mean values of each statement along with standard deviation are presented in Table 4.50.

It can be noted from the table that the mean values of all statements of internet bank users is more than four implying that their general perception of technology used in banking is very positive. They strongly agree that 'since innovations and technology exists, we better use them' and 'technology eases one's' life. They are very interested in using new methods to conduct banking transactions. They disagree that technology enabled services are complicated to use. They also opined that they are very active users of banking and they feel they are not satisfied with branch banking. Overall it can be understandable that aggregate average value of users of internet banking is 4.2783 implying that they have strong positive perception of technology enabled banking services and this is clearly reflected in their approach to internet banking.

Next we consider the perception of internet banking non user's towards technology used in banking where we can see that they also supported the fact that 'Since innovations and technology exists, we better use them' and 'Technology eases once life'. Majority of them are interested to use new methods to conduct banking transactions. Even though the non users agree that technology enabled services are very convenient, they dislike machines taking up the role of people in discharging all banking transactions. They feel that technology enabled banking services are little bit complicated to use. They also agree that they are not very active in banking and many of them are satisfied with branch banking. Overall it can be seen that the aggregate mean value of non users of internet banking is 3.641 which indicates that they are not against of technology used in banking but they do not support complete replacement of people with machines in discharging banking transactions. This support the fact that most of the non users of internet banking have adopted ATMs, some are using credit cards and mobile banking. Hence we cannot say that they are against of banking technology.

Table 4.50. Internet Banking Users' and Non-Users' Perception of Technology used in Banking

Variable	Users		Non-users	
	Mean	Std. Dev	Mean	Std. Dev
Since innovations and technology exists, we better use them	4.4835	0.5025	4.1227	0.7096
Technology eases once life	4.5055	0.5452	4.0706	0.6956
I like to use new methods to conduct banking transactions like ATM, internet/mobile banking etc	4.4396	0.5418	3.8996	0.8558
I prefer technological convenience	4.3516	0.5652	3.8104	0.8042
I prefer machines rather than people in doing my banking	4.1429	0.7389	3.4721	1.0911
The employees who I have contact with have the knowledge to answer my questions	3.9111	0.8023	3.4684	0.9868
Banks should provide proper awareness regarding new technology enabled services	4.4725	0.6026	4.4275	0.5917
I find technology enabled services are complicated to use	4.0989	0.5386	3.5279	0.8832
I am not a very active user of banking services	4.2527	0.7241	3.0335	1.2559
I am satisfied with existing mode of banking	4.1209	0.7429	2.7063	1.1194
I always prefer to have someone to explain me how to use ATMs and internet banking	4.3077	0.7556	3.5130	1.1832
Aggregate	4.2783	.6417	3.6411	.9251

Users' and Non-Users' Perception of Quality of Internet Banking Facility Offered by their Banks

Further, the users' and non user's perception of quality of internet banking is thoroughly analyzed. For this purpose, the respondents are asked to rate 18 five point Lickert scale statements ranging from strongly agree (5) to strongly disagree (1). For negative statements, points are allotted in the reverse order. Responses to these statements clearly reveals whether the respondents have positive or negative perception towards internet banking and further find out whether positive perception of internet banking leads to adoption of the same or not. Mean values of users' and non users' perception of internet banking are incorporated in Table 4.51.

Mean values of internet banking users clearly shows that they are comfortable with internet banking. They are of the opinion that as compared to branch banking, internet banking is more convenient since it is quick to use than visiting the bank branch personally. They also feel that internet banking is very much needed for conducting their banking activities. But regarding the security aspect, they opined that they are concerned about of the security of internet banking and also the consequences of making any mistake. They also admit that branch banking is safer than internet banking. But at the same time, they are not ready to stay away from internet banking due to the fear of losing money.

Many of the users of internet banking still like to maintain personal contact with their bank branch and they prefer to deal face to face with banking personnel in doing banking transactions. Regarding the economic aspect of internet banking, users of internet banking do not agree that branch banking is very costly but at the same time they believe that internet banking transactions are cheap compared to branch banking transactions. Further, majority of them strongly agree that charges on various internet banking transactions are unknown. They also opined that they are knowledgeable of all the benefits of internet banking.

The aggregate mean value of user's perception of internet banking is 3.7553 which indicate that even though they have some disagreements with regard to certain aspects of internet banking, overall it seems that the users have positive perception

towards internet banking which is clearly reflected in their adoption and usage of the same.

Table 4.51. Users' and Non-Users' Perception of Quality of Internet Banking Facility Offered by their Banks

Variables	Users		Non-Users	
	Mean	Std. Dev	Mean	Std.Dev
I am comfortable with internet banking	4.0769	0.7921	2.4684	0.6937
A feel branch banking is more convenient than internet banking	3.8242	0.8640	2.6468	0.7367
It is easy to learn internet banking	4.0989	0.6507	2.8625	0.6800
I do not have the facility (computer/internet connections) to use internet banking	4.2418	0.4794	2.7658	1.0189
Internet banking is quick to use than visiting the bank branch personally	4.3407	0.6186	3.6468	1.0392
Branch banking is very time consuming	4.1758	0.7542	3.5242	1.0705
I am concerned about the security of internet banking.	3.407	1.229	2.8513	1.0038
In using these, I am concerned about the consequences of making a mistake	3.264	1.191	2.8290	0.9661
I think branch banking is much safer than internet banking	3.396	1.163	2.7323	0.9034
I do not use internet banking due to the fear of losing my money	4.0220	0.7450	2.8253	0.9320
I do not feel the need to use internet banking	4.2418	0.6886	2.5167	1.0459
I prefer going to bank branch rather than doing my banking at home	3.418	1.184	2.3197	0.9745
I prefer to deal face to face with banking personnel in doing my transactions	3.385	1.143	2.5502	1.0555
Transactions done at bank branches are costly	3.308	1.029	2.8773	0.8441
Internet banking transactions are cheap	3.637	1.017	2.9777	0.3555
Charges on various internet banking transactions are unknown	2.484	1.079	2.9108	0.4045
I am knowledgeable of all the benefits of internet banking	4.0440	0.5560	2.2119	0.9715
I do not know what needed to be done to become an internet banking user	4.2308	0.4961	2.1301	0.8648
Aggregate	3.7553	.8711	2.7582	0.8645

On the other hand, the mean values of non users clearly show that they are not at all interested in internet banking. They strongly feel that branch banking is more convenient than internet banking even though majority of them opined that branch banking is little bit time consuming.

It is very important to note that majority of the non users do not have the basic facility, computer/ internet connection, to do internet banking. They are also very much concerned about the security of internet banking and consequences of making mistakes. They also agree that they do not use internet banking due to the fear of losing money. They strongly believe that branch banking is much safer than internet banking. Due to these factors, they do not feel the need to use internet banking.

Non users of internet banking prefer to go to branch banking and like to deal face to face with banking personnel for doing their banking transactions.

Factor Analysis – Internet Banking

The factor analysis made use eighteen perceptual variables concerning the customer usage of internet banking. These eighteen perceptual statements are condensed into four factors corresponding to **perceived risk, personal contact, convenience and cost effectiveness**. The responses to these perceptual statements and the factors on which they loaded heavily on are provided in Table 4.52. Table also shows the eigen values corresponding to each factor and the percentage of variation explained by these factors. A plus (+) or (-) sign indicates whether the question contributes positively or negatively to that factor.

Table 4.52. Mean and SD of Perceptual Variables on Internet Banking

Variables	Statement	Mean	Std.Dev
Variable 1	I am comfortable with internet banking	2.8750	1.0033
Variable 2	A feel branch banking is more convenient than internet banking	2.9444	0.9246
Variable 3	It is easy to learn internet banking	3.1750	0.8607
Variable 4	I do not have the facility (computer/internet connections) to use internet banking	3.1389	1.1159
Variable 5	Internet banking is quick to use than visiting the bank branch personally	3.8222	0.9967
Variable 6	Branch banking is very time consuming	3.6889	1.0385
Variable 7	I am concerned about the security of internet banking	2.9917	1.0906
Variable 8	In using these, I am concerned about the consequences of making a mistake	2.9389	1.0432
Variable 9	I think branch banking is much safer than internet banking	2.9000	1.0158
Variable 10	I do not use internet banking due to the fear of losing my money	3.1278	1.0290
Variable 11	I do not feel the need to use internet banking	2.9528	1.2244
Variable 12	I prefer going to bank branch rather than doing my banking at home	2.5972	1.1352
Variable 13	I prefer to deal face to face with banking personnel in doing my transactions	2.7611	1.1362
Variable 14	Transactions done at bank branches are costly	2.9861	0.9125
Variable 15	Internet banking transactions are cheap	3.1444	0.6602
Variable 16	Charges on various internet banking transactions are unknown	2.8028	0.6697
Variable 17	I am knowledgeable of all the benefits of internet banking	2.6750	1.1907
Variable 18	I do not know what needed to be done to become an internet banking user	2.6611	1.2066

Table 4.53. Estimated Factor Loadings- Perceptual Variables of Internet Banking

Variables	Statement	Estimated Factor Loadings				Communality
		Factor1	Factor 2	Factor 3	Factor 4	
Variable 1	I am comfortable with internet banking	-0.335	-0.114	0.672	0.04	0.5784
Variable 2	I feel branch banking is more convenient than internet banking	-0.527	0.091	0.425	0.101	0.4768
Variable 3	It is easy to learn internet banking	-0.385	0.051	0.49	0.121	0.4056
Variable 4	I do not have the facility (computer/internet connections) to use internet banking	-0.281	0.007	0.143	0.078	0.1055
Variable 5	Internet banking is quick to use than visiting the bank branch personally	-.3961	0.091	0.373	0.045	0.3063
Variable 6	Branch banking is very time consuming	-0.429	0.068	0.06	-0.171	0.2215
Variable 7	I am concerned about the security of internet banking	-0.988	-0.546	-0.505	-0.07	1.5341
Variable 8	In using these, I am concerned about the consequences of making a mistake	-0.885	-0.511	-0.444	0.155	1.2655
Variable 9	I think branch banking is much safer than internet banking	-0.8988	-0.442	0.58	-0.135	1.3578
Variable 10	I do not use internet banking due to the fear of losing my money	-0.673	-.0323	0.232	0.009	0.5078
Variable 11	I do not feel the need to use internet banking	-0.400	0.094	0.371	0.129	0.3231
Variable 12	I prefer going to bank branch rather than doing my banking at home	-0.873	0.710	-0.080	-0.05	1.2751
Variable 13	I prefer to deal face to face with banking personnel in doing my transactions	-0.763	0.748	-0.137	-0.084	1.1674
Variable 14	Transactions done at bank branches are costly	0.115	-0.108	-0.073	-0.558	0.2337
Variable 15	Internet banking transactions are cheap	-0.132	0.143	-0.151	-0.416	0.5400
Variable 16	Charges on various internet banking transactions are unknown	-0.209	0.26	-0.407	0.513	0.0590
Variable 17	I am knowledgeable of all the benefits of internet banking	-0.169	0.072	0.159	-0.006	0.1222
Variable 18	I do not know what needed to be done to become an internet banking user	-0.262	-0.051	0.200	0.105	0.5784
Eigen value		3.9744	1.9558	1.4639	1.4004	
Percentage variation		27	13	10	10	

The results of factor analysis show that a total of fourteen items out of the original eighteen is loaded on the selected factors. From a principal component factor analysis perspective, the first four eigen values (3.9744, 1.9558, 1.4639, 1.4004) of dispersion matrix of fourteen variables are taken, which suggest a factor solution with four factors as in Table 4.53. The factor loadings are estimated by principal component factor analysis method.

In case of first factor, the, 7th, 8th, 9th and 10th variables have heavy loadings with an eigen value of 3.9744 which explains 27 percent of variance. This factor may be labeled as *perceived risk*.

In factor 2, 12th and 13th variables have high loadings with a variance of 13 percent in contrast to all other variables. This factor may be labeled as *personal contact*.

In factor 3, 1st, 2nd, 3rd, 5th and 11th variables have close relationship with each other with a variance of 10 percent in contrast to all other variables. This factor may be labeled as *convenience*.

In factor 4, 14th, 15th and 16th variables have high loading with a variance of 10 percent as compared to other variables. This factor may be labeled as *cost effectiveness*.

The total variance explained by the four factors together is approximately 60 percent.

c. Mobile Banking

Users' and Non-Users' Perception of Mobile Banking

Here the users' and non-users' perception of mobile banking is identified. For this the respondents are asked to express their agreement or disagreements on three statements relating to mobile banking. The mean values as per Table 4.54 shows that mobile banking users do not have the opinion that it is an unpractical device for banking whereas most of the non-users believe that mobile banking is an unpractical device for banking. Users also opined that mobile phone is very convenient for conducting their banking transactions whereas non-users do not feel that mobile banking is convenient for them. Further the users very well understand how to use mobile banking whereas non-users reveal that they do not understand sufficiently well to use it. Overall it is

understandable that users have strong positive perception towards mobile banking as compared to their counterparts.

Table 4.54 Users' and Non-Users' Perception of Mobile Banking

Variable	Users		Non-users	
	Mean	Std. Dev	Mean	Std. Dev
I believe mobile banking is an unpractical device for banking.	4.3409	0.6450	3.1392	1.0233
Mobile banking is very convenient for me	4.2955	0.6317	2.4620	0.7571
I do not understand sufficiently well to use it.	4.3182	0.6388	2.3323	0.9260

d. Credit Card

Users' and Non-Users' Perception of Credit Card

Here the users' and non-users' perception of credit card is analyzed. Mean values in Table 4.55 shows that users are of the opinion that credit card is very useful for them whereas non-users do not feel that credit card is very useful for them. Again, majority of credit card users opined that they prefer credit cards than cash for their shopping whereas non-users feel the other way round. They always prefer cash than credit card for their shopping. This gives the idea that users of credit card have positive perception whereas non-users have negative perception towards credit cards.

Table 4.55. Users' and Non-Users' Perception of Credit Card

Variable	Users		Non-users	
	Mean	Std. Dev	Mean	Std. Dev
Credit card is very useful for me	3.957	1.053	2.3280	0.7439
I prefer cash then credit card for my shopping	3.717	1.068	2.1975	0.8897

4.2.6. Hypotheses Testing of Influence of Perceptual Factors on the Adoption of E-Banking Delivery Channels

Hypothesis 5: There is no difference between users' and non-users' perception of various technology driven banking channels.

ATM Users' and Non-Users' Perception of Technology Used in Banking

In order to check whether the ATM users and non users significantly differ in their perception of technology used in banking, t-test at 5% level of significance is applied and the results are summarized in Table 4.56.

Table 4.56. Results of t-test: Perception of ATMs

Variable	DF	t value	P value
Since innovations and technology exists, we better use them	358	8.23	0.000
Technology eases one's life	358	8.37	0.000
I like to use new methods to conduct banking transactions like ATM, internet/mobile banking etc	358	11.74	0.000
I prefer technological convenience	358	10.28	0.000
I find technology enabled services are complicated to use	358	8.36	0.000
Technology makes banking services easy for me.	358	14.97	0.000
Technology enabled services are quick to use than visiting the bank branch personally	358	10.26	0.000
I am concerned about the security of technology enabled banking services	358	2.61	0.009
I am not a very active user of banking services	358	6.59	0.000
I am satisfied with existing mode of banking	358	7.83	0.000
I always prefer to have someone to explain me how to use ATMs and internet banking	358	7.45	0.000
Banks should provide proper awareness regarding new technology enabled services.	358	1.69	0.092

The results of the analysis clearly indicates that except in the case of the statement ‘bank should provide proper awareness regarding new technology enabled services’, p-values are less than 0.05. Hence the implication is that there are significant differences between users and non users in their perception of technology enabled banking services.

Users’ and Non-Users’ Perception of ATMs

In order to know whether the users and non-users significantly differ in their perception towards the quality of ATMs, t-test at 5% level of significance is applied and the results are summarized in Table 4.57.

Table 4.57. Results of t-test: Users’ and Non-Users’ Perception of ATMs

Variable	DF	t value	P value
ATMs are conveniently located	358	8.58	0.000
I find 24 hour ATM service is convenient for me	358	12.79	0.000
I am comfortable with ATMs	358	11.01	0.000
ATM operations are very easy for me	358	12.1	0.000
I can easily find an ATM when I need one	358	7.61	0.000
The queues of the ATM are quite large	358	2.91	0.004
ATM makes banking services easy for me.	358	14.97	0.000
ATMs are quick to use than visiting the bank branch personally	358	10.26	0.000
ATM saves much time	358	14.41	0.000
ATMs are more accurate than human tellers	358	6.27	0.000
I am concerned about the security of ATMS	358	2.61	0.009
I believe it is risky to deposit cash through ATMs	358	0.51	0.609
I do not feel the need to use ATMs	358	20.27	0.000

The results of the analysis reveals that except in the case of the statement ‘it is risky to deposit cash through ATMs’, there is a significant difference between the perception of users and non users toward ATMs.

Internet Bank Users' and Non-Users' Perception of Technology used in Banking

In order to check whether the differences found in the mean values of users' and non users' perception of technology enabled banking services, t-test is applied at 5% level of significance and the results are presented in Table 4.58.

Table 4.58. Results of t-test: Perception of Internet Banking

Variable	DF	t value	P value
Since innovations and technology exists, we better use them	358	5.29	0.000
Technology eases once life	358	6.11	0.000
I like to use new methods to conduct banking transactions like ATM, internet/mobile banking etc	358	7.00	0.000
I prefer technological convenience	358	7.04	0.000
I prefer machines rather than people in doing my banking	358	6.57	0.000
The employees who I have contact with have the knowledge to answer my questions	358	4.27	0.000
Banks should provide proper awareness regarding new technology enabled services	358	-0.62	0.533
I find technology enabled services are complicated to use	358	7.32	0.000
I am not a very active user of banking services	358	11.31	0.000
I am satisfied with existing mode of banking	358	13.66	0.000
I always prefer to have someone to explain me how to use ATMs and internet banking	358	7.42	0.000

The results of the analysis reveal that except in the case of both group's opinion that 'banks should provide proper awareness regarding new technology enabled services', p-values of all statements are less than 0.05. Hence, the implication is that there is a significant difference between the general perception of user's and non user's towards technology used in banking.

Users' and Non-Users' Perception about the Quality of Internet Banking

In order to check whether the differences found in the mean values of users' and non users' perception about the quality of internet banking, t-test is applied at 5% level of significance and the results are presented in Table 4.59.

Table 4.59. Results of t-test: Perception of Quality of Internet Banking

Variable	DF	t value	P value
I am comfortable with internet banking	358	17.26	0.000
A feel branch banking is more convenient than internet banking	358	11.65	0.000
It is easy to learn internet banking	358	15.49	0.000
I do not have the facility (computer/internet connections) to use internet banking	358	18.47	0.000
Technology enabled services are quick to use than visiting the bank branch personally	358	7.65	0.000
Branch banking is very time consuming	358	6.36	0.000
I am concerned about the security of technology enabled banking services	358	3.89	0.000
In using these, I am concerned about the consequences of making a mistake	358	3.15	0.002
I think branch banking is much safer than internet banking	358	4.96	0.000
I do not use internet banking due to the fear of losing my money	358	12.39	0.000
I do not feel the need to use internet banking	358	17.91	0.000
I prefer going to bank branch rather than doing my banking at home	358	7.98	0.000
I prefer to deal face to face with banking personnel in doing my transactions	358	6.14	0.000
Transactions done at bank branches are costly	358	3.60	0.000
Internet banking transactions are cheap	358	6.07	0.000
Charges on various internet banking transactions are unknown	358	3.69	0.000
I am knowledgeable of all the benefits of internet banking	358	16.46	0.000
I do not know what needed to be done to become an internet banking user	358	28.36	0.000

The result of the analysis shows that p-values are less than 0.05 in the case of all perceptual variables. Hence it is concluded that user's perception of internet banking is entirely different from that of non users.

Users' and Non-Users' Perception of Mobile Banking

In order to know whether users and non-users significantly differ in their perception of mobile banking, t-test at 5% level of significance is applied. The results of the analysis in Table 4.60 reveal that all p-values are less than 0.05. Therefore it can be concluded that there is significant difference between users and non user's perception of mobile banking.

Table 4.60. Results of t-test: Perception of Mobile banking

Variable	DF	Z value	P value
I believe mobile banking is an unpractical device for banking.	358	7.58	0.000
Mobile banking is very convenient for me	358	15.33	0.000
I do not understand sufficiently well to use it.	358	13.77	0.000

Users' and Non-Users' Perception of Credit Card

In order to find out whether users and non-users significantly differ in their perception of credit cards, t-test at 5% level of significance is applied and the results are shown in Table 4.61. The results clearly reveal that all p-values are below 0.05zero, hence it can be concluded that users and non-users significantly differ in their perception of credit cards.

Table 4.61. Results of t-test: Perception of Credit cards

Variable	DF	Z value	P value
Credit card is very useful for me	358	10.12	0.000
I prefer cash then credit card for my shopping	358	9.20	0.000

Conclusion

Overall it is understood from the above analysis that e-banking users' general perception towards technology used in banking as well as their perception towards the quality of various technology driven banking delivery channels are significantly different from that of non users.

Hypothesis 6: There is no association between perceptual factors and the adoption of multiple bank delivery channels.

Relationship between Perceptual Factors and Usage of ATMs

For the purpose of knowing whether there is any association between the perceptual factors and adoption and usage of ATMs, regression analysis was conducted and the results are discussed below.

Regression Analysis - ATMs

The four factors such as **convenience, perceived risk, speed of operations** and **accessibility** which were emerged from among the 13 attributes of ATMs are used as predictor variables in a regression analysis where the response variable refers to ATM usage frequency which was defined as customer's frequency of use ranging from 'Never', 'Once in three months', 'Once in a month', 'One/ two times a month', 'One/two times a week' and 'Everyday'. The regression test done between the factor variables and ATM usage frequency has yielded R^2 value of 0.568 with F value of 79.89 (Table 4.62) which implies that the four factors together predict 57 percent of the variations in ATM adoption. This shows that there is a significant relationship between the predictor variables and ATM usage. Further, the perceptual factors are also considered to be strong predictors of ATM usage (Fig.4.1). The results of regression test are presented in Table 4.58.

Table 4.62. Results of Regression Test-ATMs

Model	R	R²	DF	F value	Significance
Regression	0.754	0.568	4	79.89	0.000

Beta coefficients of regression equation are computed and presented in Table 4.63.

Table 4.63. Beta Coefficients of Regression Equation

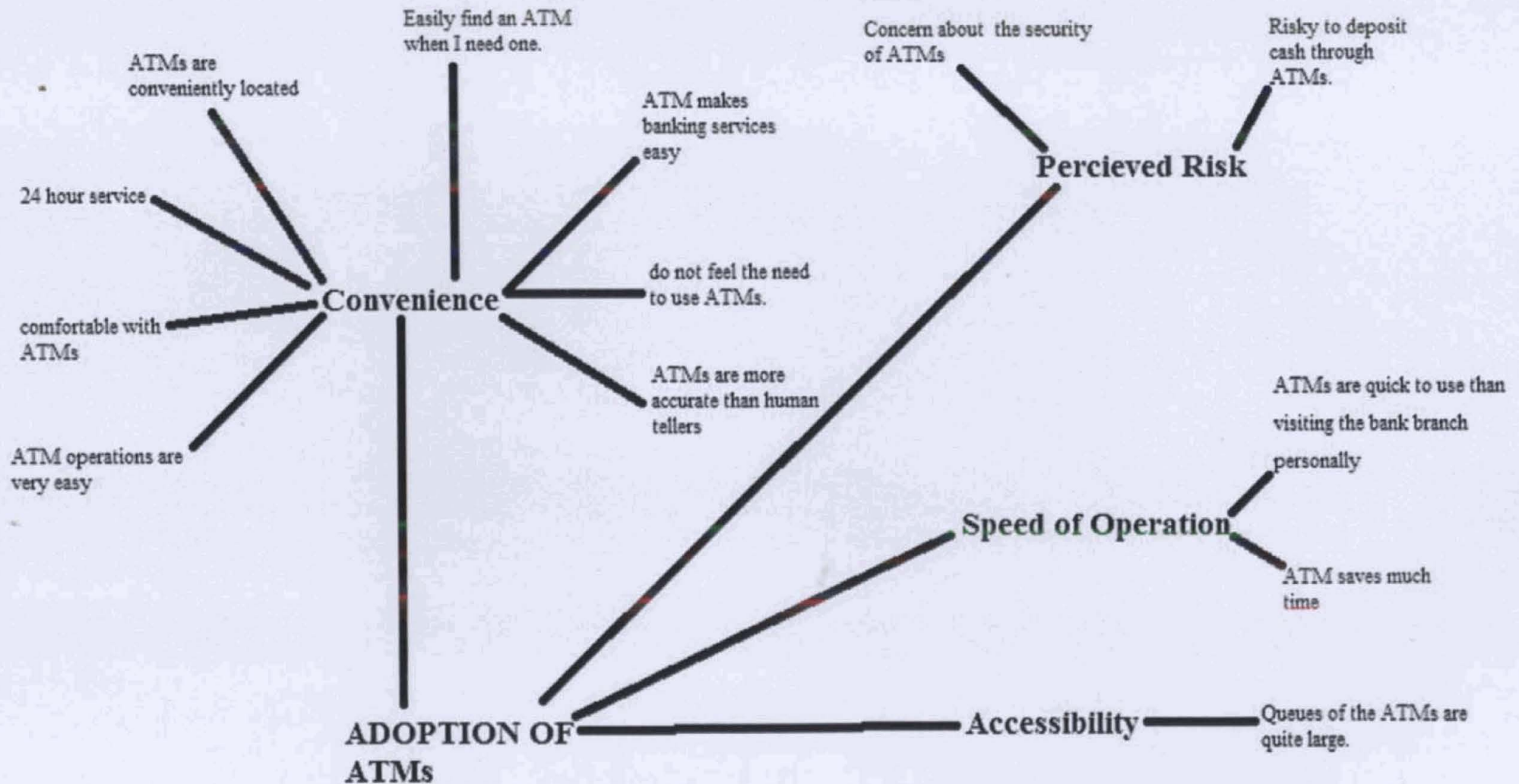
Factors	Beta
Constant Value	-2.2312
Convenience	1.4142
Perceived Risk	-0.0797
Speed of Operations	0.0103
Accessibility	0.0122

The regression equation of perceptual variables is

$$Y = - 2.23 + 1.41 V1 - 0.0797 V2 + 0.0103 V3 + 0.0122 V4.$$

Here, the dependent variable Y represents ATM usage pattern and V1 represents the factor convenience, V2 is perceived risk, V3 shows the factor speed of operations and V4 represents accessibility. The regression analysis suggests that the factors, convenience, speed of operations and accessibility are positively associated with the adoption of ATMs and perceived risk is significantly negatively associated with the adoption of ATMs. These four factors are important in predicting ATM usage in such a way that individuals who perceive ATMs as convenient, quick to use, time saving and easily accessible are more likely to use ATMs whereas those who perceive ATMs as risky to use, inconvenient, inaccessible and unreliable are unlikely to use the same. These results indicate that the active users of ATMs consider convenience as the most important attribute which greatly influences their adoption and active usage of ATMs. It is seen that the value of R^2 is 0.568 which implies that if we add more related variables in the model, the regression coefficient's explanatory power would increase.

Figure 4.1. Factors Influencing the Adoption of ATMs



Relationship between Perceptual Factors and Usage of Internet Banking

For the purpose of knowing whether there is any association between the perceptual factors and adoption and usage of ATMs, regression analysis was conducted and the results are discussed below.

Regression Analysis–Internet Banking

The four factors such as, **perceived risk, personal contact, convenience and cost effectiveness** which were emerged from among the fourteen attributes of internet banking are used as predictor variables in a regression analysis where the response variable refers to internet banking usage frequency which is defined as customer's frequency of use ranging from 'Never', 'Once in three months', 'Once in a month', 'One/two times a month', 'One/two times a week' and 'Everyday'. The regression test done between the factor variables and internet banking usage frequency has yielded R^2 value of 0.558 with F value of 114.23 (Table 4.64) which implies that the four factors together predict 56 percent of the variations in internet banking adoption. This shows that there is a significant relationship between the predictor variables and internet banking usage (Fig. 4.2). Further, the perceptual factors are also considered to be strong predictors of internet banking usage. The results of regression test are presented in Table 4.62.

Table 4.64. Results of Regression Test-Internet banking

Model	R	R²	Df	F value	Significance
Regression	.747	.558	4	114.23	0.000

Beta coefficients of regression equation are computed and presented in Table 4.65.

Table 4.65. Beta Coefficients of Regression Equation

Factors	Beta
Constant Value	5.15
Perceived Risk	-0.119
Personal Contact	-0.0357
Convenience	1.44
Cost Effectiveness	0.346

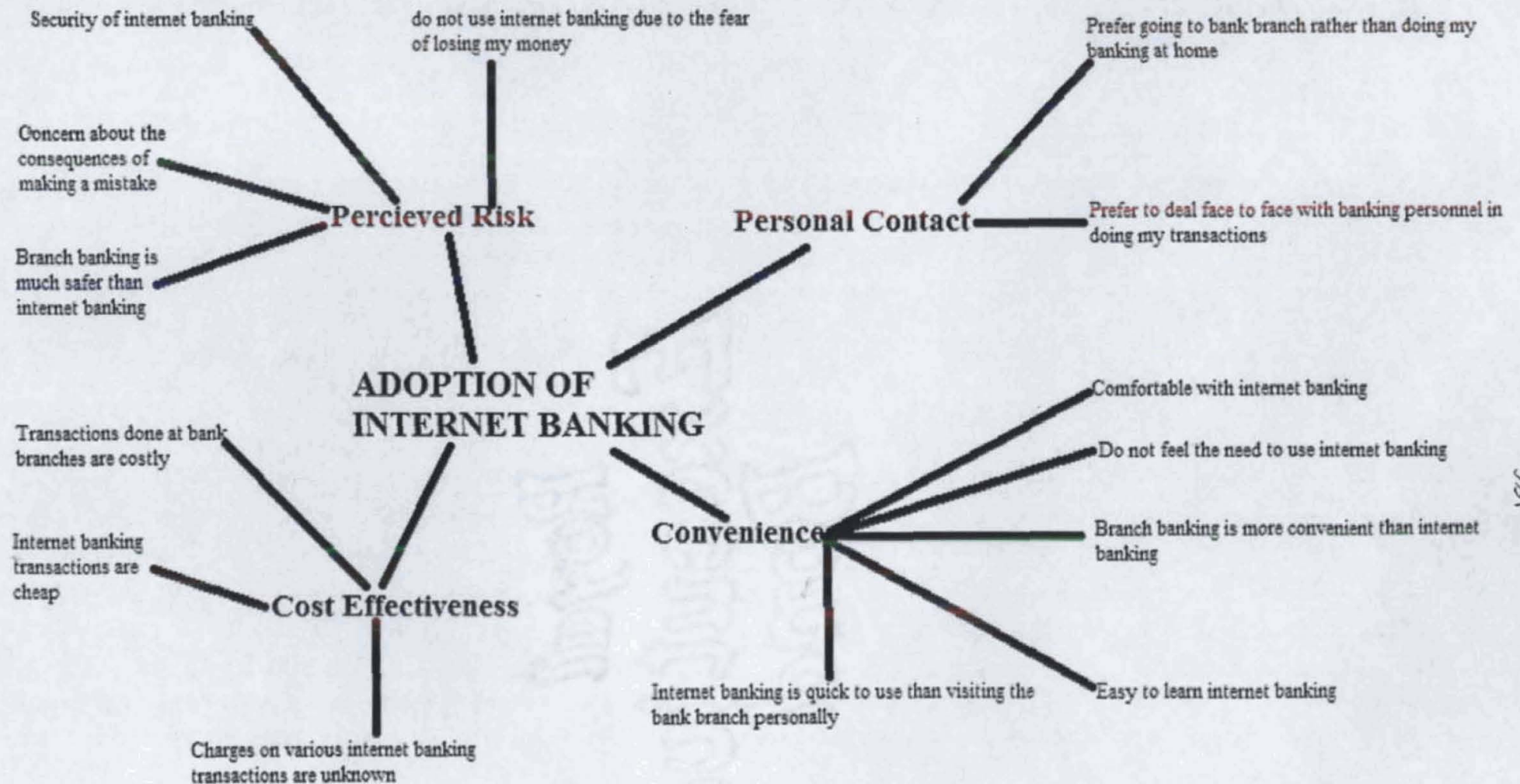
The regression equation of perceptual variables is

$$Y = 5.15 - 0.119 f1 - 0.0357 f2 + 1.44 f3 + 0.346 f4.$$

Here, the dependent variable Y represents internet banking usage pattern and f 1 represents the factor perceived risk, f 2 is personal contact, f 3 represents convenience and f4 represents cost effectiveness. The regression analysis suggests that perceived risk, personal contact, convenience and cost effectiveness are the important predictors of internet banking usage. It shows that the factors convenience and cost effectiveness are positively associated with the adoption of internet banking whereas the factors perceived risk and personal contact are negatively associated with the adoption of internet banking. Specifically, a person who perceives internet banking to be more convenient and cost effective is more likely to be an internet banking user. On the other hand, perceived risk and personal contact are negatively affecting the rate of adoption of internet banking in the sense that if customers feel transactions done through internet is more risky, they would not be ready to post financial information over the internet. Similarly, those who prefer the presence of bank staff than machines while making their banking transactions are less likely to adopt internet banking.

It is seen that the value of R^2 is 0.568 which implies that if we add more related variables in the model, the regression coefficient's explanatory power would increase.

Figure 4.2. Factors Influencing the Adoption of Internet Banking



Conclusion

Overall, it is identifiable from the above analysis is that there is a close association between perceptual factors and the usage of the selected e-banking delivery channels.

PART C - EXPERIENCE OF USING E-BANKING DELIVERY CHANNELS

Effectiveness of adoption of e-banking delivery channels can also be measured by way of analyzing the problems experienced by the users. Users may have different experiences while doing these technology oriented banking transactions. Here, an attempt is made to assess the different experiences the users encountered by way of applying five point Lickert scale ranging from 'Always (1), frequently (2), occasionally (3) rarely (4) and never (5). Firstly, ATMs, internet banking, mobile banking and credit card user's different experiences are studied as a whole. In the next level, users are classified on the basis of the different selected aspects and analysis is done accordingly.

a. ATMs

Here, users' different experiences of using ATMs are analyzed. For this, twelve important statements are selected and the users are asked to express their opinion. The relevant data is tabulated and presented in Table 4.66 which clearly shows that most of the respondents rarely have the specified problems while using ATMs. Some users opined that they occasionally have the problem of waiting in long queues at ATMs. Certain others are of the opinion that they occasionally insert ATM card incorrectly. In the case of all other statements, mean values are more than four implying that most of the users rarely have problems with ATMs.

Table 4.66. Users' Experience with Regard to ATMs

Variable	Mean	Std. Dev
Having to wait in long queues at ATMs	3.7539	0.8866
ATM running out of order	4.0530	0.8480
Inserting card incorrectly	3.9439	0.9601
ATM working too slowly	4.2056	0.7298
ATM doing wrong transactions	4.4143	0.7243
Forgetting PIN	4.5732	0.7039
Unclear instructions on ATM	4.5576	0.6354
ATM not able to print slips	4.3302	0.8120
Not being able to see the screen well	4.5483	0.6650
ATM running out of money	4.2773	0.8557
ATM not releasing card	4.6822	0.5690
Theft of ATM card	4.8692	0.3812
Aggregate	4.3507	0.7309

Bank wise Classification of Users' Experience with Regard to ATMs

In order to have a clear picture of problems encountered by the respondents while using ATMs, nationalized, Kerala based and new generation bank customer's experiences have been analyzed separately. The mean values are presented in Table 4.67 which discloses that nationalized bank customers occasionally experiences the problem of 'Having to wait in long queues at ATMs' and 'ATM running out of order' as compared to Kerala based and new generation bank customers. In the case of all other variables the three types of bank customers rarely experience these problems.

Table 4.67. Users' Experience with Regard to ATMs-Bank wise Classification

Variable	Nationalized banks		Kerala based banks		New generation banks	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Having to wait in long queues at ATMs	3.0000	0.8584	4.0000	0.6971	4.1453	0.6600
ATM running out of order	3.5208	0.9731	4.1759	0.6532	4.3761	0.6788
Inserting card incorrectly	3.8854	0.9046	3.9444	1.0216	3.9915	0.9514
ATM working too slowly	3.9375	0.8054	4.3056	0.6761	4.3333	0.6565
ATM doing wrong transactions	4.0521	0.8255	4.5000	0.6767	4.6325	0.5508
Forgetting PIN	4.5729	0.6766	4.5833	0.6284	4.5641	0.7920
Unclear instructions on ATM	4.3854	0.7591	4.6111	0.5774	4.6496	0.5464
ATM not able to print slips	4.3229	0.8012	4.3611	0.8255	4.3077	0.8143
Not being able to see the screen well	4.5313	0.7248	4.5833	0.6133	4.5299	0.6640
ATM running out of money	3.8021	1.0117	4.5463	0.6888	4.4188	0.6853
ATM not releasing card	4.5521	0.6303	4.7500	0.5490	4.7265	0.5190
Theft of ATM card	4.8125	0.4659	4.8889	0.3702	4.8974	0.3047
Aggregate	4.1145	0.7863	4.4374	0.6647	4.4643	0.6519

Age wise Classification of Users' Experience with Regard to ATMs

In order to get a clear idea about the user's experience while using ATMs, age wise analysis is done and the relevant data is presented in Table 4.68. It can be noted from the table that with regard to having to wait in long queues at ATMs, the elder group and older group occasionally have the experience whereas the other two groups rarely experience it. Further the older group opined that ATMs are working slowly but other groups rarely have this experience. In the case of all other variables, the mean values of all age groups are more or less equal implying that they rarely have these experiences while using ATMs.

Table 4.68. Users' Experience with Regard to ATMs-Age wise Presentation

Variable	Below 30 Years		30-45 Years		45-60 Years		Above 60 Years	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Having to wait in long queues at ATMs	3.8079	0.8541	3.8851	0.8549	3.5294	0.9996	3.5833	0.6686
ATM running out of order	4.0530	0.8625	4.0778	0.8377	4.0000	0.8639	4.1667	0.7177
Inserting card incorrectly	4.0265	0.9161	3.8556	1.0446	3.8235	0.9454	4.2500	0.8660
ATM working too slowly	4.2384	0.7184	4.2000	0.7818	4.2500	0.6551	3.5833	0.6686
ATM doing wrong transactions	4.4901	0.6720	4.2556	0.7870	4.4412	0.7408	4.5000	0.6742
Forgetting PIN	4.5695	0.7617	4.5889	0.6686	4.5588	0.6552	4.5455	0.5222
Unclear instructions on ATM	4.5497	0.6397	4.5778	0.6530	4.5588	0.6320	4.5000	0.5222
ATM not able to print slips	4.3179	0.8031	4.2667	0.8319	4.5000	0.7431	4.0000	1.0445
Not being able to see the screen well	4.5497	0.6500	4.5000	0.7071	4.6176	0.6471	4.5000	0.6742
ATM running out of money	4.3046	0.8246	4.1444	0.8554	4.4118	0.9181	4.1667	0.8348
ATM not releasing card	4.7417	0.4825	4.6333	0.6439	4.6765	0.5844	4.3333	0.7785
Theft of ATM card	4.8675	0.3946	4.8556	0.3840	4.9265	0.3146	4.6667	0.4924
Aggregate	4.3763	0.7149	4.3200	0.7541	4.3578	0.7249	4.2329	0.7053

Education wise Classification of Users' Experience with Regard to ATMs

Here, ATM users are classified on the basis of education and their experiences of using ATMs are analyzed. The relevant data is tabulated and presented in Table 4.69 which shows that with regard to having to wait in long queues at ATMs, graduates and post graduates occasionally have this experience whereas others opined that they rarely experience it. In the case of ATM running out of order, highly educated groups rarely experience it as compared to others. Again, pre-degree and post graduate groups opined that they occasionally have the experience of inserting card incorrectly whereas other groups rarely experience it. In the case of all other variables, all education groups have rare experience when they use ATMs.

Table 4.69. Users' Experience with Regard to ATMs-Education wise Presentation

Variable	SSLC		Pre-Degree/ Plus Two		Graduation		PG		Professional	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Having to wait in long queues at ATMs	4.0000	0.9381	3.8276	0.8048	3.6542	0.9625	3.6709	0.9019	3.8125	0.8728
ATM running out of order	4.5000	0.6481	4.3448	0.6695	3.9434	0.9840	3.9873	0.7424	3.9630	0.9280
Inserting card incorrectly	4.1154	1.1429	3.8621	0.9533	3.9717	0.9607	3.7975	1.0301	3.9877	0.9286
ATM working too slowly	4.4231	0.6433	4.4138	0.6278	4.1321	0.8845	4.1266	0.7047	4.1605	0.7324
ATM doing wrong transactions	4.7308	0.4523	4.5517	0.5724	4.3396	0.8382	4.3418	0.7988	4.3704	0.7491
Forgetting PIN	4.4615	0.9047	4.5862	0.8245	4.5377	0.8068	4.5696	0.6734	4.5926	0.6667
Unclear instructions on ATM	4.6154	0.5711	4.4828	0.7378	4.5094	0.8076	4.4937	0.6578	4.6296	0.5349
ATM not able to print slips	4.5769	0.7027	4.3448	.8975	4.3208	0.8679	4.3671	0.8035	4.1605	0.8726
Not being able to see the screen well	4.7308	0.4523	4.4483	0.7831	4.6226	0.7362	4.4304	0.7456	4.4815	0.6729
ATM running out of money	4.4615	0.7060	4.3793	0.7752	4.2264	0.9389	4.1013	0.9418	4.3580	0.8413
ATM not releasing card	4.7308	0.4523	4.7241	0.5914	4.6509	0.6907	4.4878	1.1138	4.6543	0.5282
Theft of ATM card	4.8077	0.4915	4.9310	0.2579	4.9143	0.2813	4.5976	1.0407	4.9012	0.3002
Aggregate	4.5128	0.6754	4.4137	0.7079	4.3185	0.8132	4.2476	0.8462	4.3393	0.7189

Income wise Classification of Users' Experience with Regard to ATMs

Lastly, income wise analysis is done to determine how different income groups experience ATMs. The relevant data is presented in Table 4.70 which shows that except very high income group, all others occasionally have the experience of waiting in long

queues at ATMs whereas very high income group rarely have this experience. In the case of all other variables different income groups rarely have these experiences with ATMs.

Table 4.70. Users' Experience with Regard to ATMs-Income wise Presentation

Variable	Below Rs.50000		Rs.50000-150000		Rs.150000-300000		Rs.300000-500000		Above 500000	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Having to wait in long queues at ATMs	3.5625	1.0308	3.7885	0.8777	3.8070	0.8079	3.4714	1.0730	4.0588	0.7475
ATM running out of order	4.4375	0.8139	4.0143	1.0563	3.9386	0.8651	4.1058	0.7622	4.0000	0.7906
Inserting card incorrectly	4.0625	1.1236	4.0000	1.0495	3.9649	0.9306	3.8365	0.9864	3.8235	0.9510
ATM working too slowly	4.1875	0.8342	4.2571	0.8459	4.1842	0.7934	4.1827	0.6934	4.0000	0.6124
ATM doing wrong transactions	4.5000	0.7303	4.4429	0.8450	4.3947	0.7362	4.4135	0.7583	4.0588	0.6587
Forgetting PIN	4.4375	1.0308	4.4857	0.9128	4.5965	0.7493	4.6058	0.5816	4.4118	0.6183
Unclear instructions on ATM	4.5000	0.6325	4.4000	0.8748	4.5965	0.6341	4.5962	0.6156	4.3529	0.6063
ATM not able to print slips	4.3750	0.8851	4.4429	0.8950	4.3333	0.8690	4.2788	0.7690	3.8824	0.8575
Not being able to see the screen well	4.5625	0.6292	4.6143	0.8391	4.5439	0.7057	4.5096	0.6385	4.2353	0.6642
ATM running out of money	4.1875	0.8342	4.2429	1.0555	4.3158	0.8342	4.2500	0.8785	4.1176	0.6966
ATM not releasing card	4.7500	0.4472	4.7571	0.7109	4.6754	0.5874	4.5673	0.6501	4.7647	0.4372
Theft of ATM card	4.8125	0.4031	4.7857	0.7400	4.8947	0.3611	4.8750	0.3323	4.7647	0.4372

b. Internet Banking

Here, the internet banking users are asked to rate their experience of using internet banking with regard to five variables; working too slowly, doing wrong transactions, not getting up-to-date information, charges on various transactions not known and fear of lack of security and confidentiality in transactions. Mean values are presented in Table 4.71 which shows that the users occasionally experience that internet banking is working too slowly, charges on various internet banking transactions are not known and they feel fear of lack of security and confidentiality in transactions. Again it can be seen that users rarely have the problem of not getting up-to-date information and internet banking is doing wrong transactions.

Table 4.71. Users' Experience with Regard to Internet Banking

Variable	Mean	Std. Dev
Working too slowly	3.6292	0.831
Doing wrong transactions	4.3034	0.775
Not getting up-to-date information	3.933	0.963
Charges on various IB transactions not known	3.742	1.061
Fear of lack of security and confidentiality in transactions	3.618	1.143
Aggregate	3.8451	0.9546

Bank wise Analysis of User's Experience with Regard to Internet Banking

Bank wise analysis shows that nationalized bank customers occasionally have the experience of slow working of internet banking and they feel that charges on various internet banking are not known as compared to Kerala based and new generation bank customers (4.72). In the case of fear of lack of security and confidentiality in transactions all the three groups of customers occasionally have this experience.

Table 4.72. Users' Experience with Regard to Internet Banking-Bank wise Analysis

Variable	Nationalized banks		Kerala based banks		New generation banks	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Working too slowly	3.6667	1.0000	4.0000	0.7802	4.4643	0.7854
Doing wrong transactions	4.0000	0.7071	4.3750	0.7109	4.3214	0.8114
Not getting up-to-date information	3.7778	0.8333	3.9583	0.9079	3.9464	1.0166
Charges on various IB transactions not known	3.222	0.972	3.958	0.999	3.732	1.087
Fear of lack of security and confidentiality in transactions	3.444	1.014	3.458	1.103	3.714	1.187
Aggregate	3.6221	0.9052	3.9498	0.9002	4.0356	0.9774

Age wise Analysis of Users' Experience with Regard to Internet Banking

For getting a clear insight into users' experience of internet banking, age wise analysis is carried out. The relevant data is presented in Table 4.73 which shows that youngsters and middle aged occasionally feels that internet banking is working too slowly as compared to their counter parts. In the case of doing wrong transactions, all age groups opined that they rarely have this experience. Again, elder group opined that occasionally they have the problem of not getting up-to-date information, whereas others rarely experience this problem. All age groups except the older group complained that charges on various IB transactions are not known, and they are also concerned of the security aspect of internet banking.

Table 4.73. Users' Experience with Regard to Internet Banking**Age wise Presentation**

Variable	Below 30 Years		30-45 Years		45-60 Years		Above 60 Years	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Working too slowly	3.5000	0.8882	3.7353	0.7904	4.0000	0.7071	4.0000	0
Doing wrong transactions	4.3043	0.8398	4.4118	0.7014	4.0000	0.7071	4.000	0
Not getting up-to-date information	4.0217	1.0850	3.9697	0.8833	3.4444	0.5270	4.0000	0
Charges on various IB transactions not known	3.533	1.179	3.882	0.913	3.889	0.782	5.000	0
Fear of lack of security and confidentiality in transactions	3.652	1.197	3.618	1.206	3.222	0.441	5.000	0
Aggregate	3.8022	1.0378	3.9233	0.8982	3.7110	0.6328	4.4	0

Education wise Analysis of Users' Experience with Regard to Internet Banking

Next, education wise analysis is done to thoroughly determine the users' experience of internet banking. The relevant data is summarized and presented in Table 4.74 which shows that SSLC group opined that they frequently have the experience of slow working of internet banking whereas others occasionally experience this problem. Further, all education groups rarely have the experience of their internet bank doing wrong transactions. Pre-degree group frequently have the problem of not getting up-to-date information, graduates and post graduates occasionally experience this whereas this is not a problem for SSLC group and professionals. Again, pre-degree, graduates and professionals complained that they frequently do not know the charges of IB transactions

whereas their counter parts occasionally have this experience. With regard to security aspect, we find that fear of security increases as we go down from high level of education to low level of education.

Table 4.74. Users' Experience with Regard to Internet Banking
Education wise Presentation

Variable	SSLC		Pre-Degree/ Plus Two		Graduation		PG		Professional	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Working too slowly	3.2500	0.5000	3.8750	0.6409	3.6970	0.8472	3.5625	0.8139	3.6207	0.9416
Doing wrong transactions	4.75	.5	4.2500	0.7071	4.1563	0.8076	4.5000	0.6325	4.3103	0.8495
Not getting up-to-date information	4.5000	1.0000	3.3750	0.9161	3.8485	0.9722	3.8125	0.6551	4.1724	1.0375
Charges on various IB transactions not known	4.000	1.155	3.500	0.756	3.688	1.176	4.000	0.966	3.655	1.045
Fear of lack of security and confidentiality in transactions	3.000	1.633	3.000	1.195	3.697	1.075	3.563	1.153	3.828	1.104
Aggregate	3.9	0.9576	3.6	0.8430	3.8176	0.9756	3.8876	0.8441	3.9178	0.9955

Income wise Analysis of Users' Experience with Regard to Internet Banking

Lastly, income wise analysis is done to identify the different income groups experience of using internet banking. The relevant data is tabulated and presented in Table 4.75 which shows that very low income, middle income and high income groups are of the opinion that they occasionally experience slow working of internet banking, whereas low income and very high income groups rarely experience this problem. Again, very high income group opined that they very rarely experience internet banking doing wrong transactions while others rarely have this problem. Further, middle income and high income groups occasionally feel that they are not getting up-to-date information in

internet banking, low income and very high income groups rarely experience it whereas very low income group never have this problem. Middle income and high income groups are of the opinion that they occasionally have the problem of not knowing charges on various IB transactions, whereas low income groups rarely experience it. In the case of fear of lack of security, we can find that this experience increases as we go down from very high income to very low income groups.

Table 4.75. Users' Experience with Regard to Internet banking
Income wise Presentation

Variable	Below Rs.50000		Rs.50000-150000		Rs.150000-300000		Rs.300000-500000		Above 500000	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Working too slowly	3.000	0.000	3.8889	0.6009	3.5882	0.8209	3.6190	0.8540	4.0000	1.4142
Doing wrong transactions	4.0000	0.000	4.2222	0.6667	4.2647	0.8637	4.2791	0.7344	4.7500	0.5000
Not getting up-to-date information	5.0000	0.000	4.4444	0.5270	3.8824	0.9134	3.7619	1.0314	4.5000	0.5774
Charges on various IB transactions not known	5.000	0.000	4.222	0.667	3.588	1.019	3.714	1.111	3.750	1.258
Fear of lack of security and confidentiality in transactions	3.000	0.000	3.444	1.424	3.529	1.187	3.595	1.083	4.500	0.577
Aggregate	4	0.000	4.0443	0.7771	3.7704	0.9608	3.7938	0.9628	4.3	0.8653

c. Mobile Banking

The mobile banking users are asked to express their experiences while using mobile banking regarding four variables, fear of security, unclear instructions, not getting the needed information and complicated procedures. The mean values as per Table 4.76 shows that most of the mobile banking users encounter these problems rarely. Thus it is clear that mobile banking users are very comfortable while using the same.

Table 4.76. Users' Experience with Regard to Mobile Banking

Variable	Mean	Std. Dev
Fear of security	4.136	1.002
Unclear instructions	4.000	1.057
Not getting the needed information	4.409	0.693
Complicated procedures	4.250	0.811

Bank wise Analysis of Users' Experience with Regard to Mobile Banking

Here three groups of bank customer's mobile banking experiences are separately analyzed. It can be observed from the Table 4.77 that nationalized bank customers occasionally experience fear of security while using mobile banking whereas in the case of Kerala based and New generation bank customers, they rarely experience 'fear of security'. Nationalized bank customers also revealed that they occasionally get unclear instructions regarding mobile banking transactions. But Kerala based and New generation bank customers opined that they rarely get unclear instructions. Further all the three groups of bank customers have the opinion that they get needed information of how to use mobile banking. They also express that mobile banking does not have complicated procedures while transacting.

Table 4.77. Users' Experience with Regard to Mobile Banking-Bank wise Analysis

Variable	Nationalized banks		Kerala based banks		New generation banks	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Fear of security	3.2500	1.7078	4.4444	0.8819	4.1290	0.9217
Unclear instructions	3.500	1.291	3.889	1.691	4.097	0.7018
Not getting the needed information	4.2500	0.9574	4.7778	0.4410	4.3226	0.7018
Complicated procedures	3.7500	1.2583	4.4444	0.7265	4.2581	0.7732

Age wise Analysis of Users' Experience with Regard to Mobile Banking

Further, age wise analysis is done to identify different age group's experiences with mobile banking. Relevant data is tabulated and presented in Table 4.78 which reveals that the elder group occasionally experiences fear of security whereas other groups rarely have this experience. Again, all users regardless of their age opined that they rarely experience that instruction for mobile banking is unclear. Further, younger groups very rarely experience the problem of inadequate information through mobile banking while the older groups rarely experience it. In the case of complicated procedure also, youngsters very rarely experience it as compared to their counter parts. Overall, it is understandable that all users regardless of their age experience few problems with mobile banking.

Table 4.78. Users' Experience with Regard to Mobile Banking

Age wise Presentation

Variable	Below 30 Years		30-45 Years		45-60 Years		Above 60 Years	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Fear of security	4.250	1.020	3.944	1.349	3.000	0	4.000	0
Unclear instructions	3.800	1.322	4.050	1.099	4.000	0	4.000	0
Not getting the needed information	4.5000	0.8272	4.3000	0.8013	4.000	0	4.000	0
Complicated procedures	4.4500	0.8256	4.0000	1.0000	4.000	0	4.000	0

Education wise Analysis of Users' Experience with Regard to Mobile Banking

Next, users are classified on the basis of education and their different experiences with mobile banking are analyzed and the results are presented in Table 4.79. It can be noted that pre-degree group opined that they frequently experience fear of security while using mobile banking, whereas graduates and post graduates rarely have this problem and SSLC and professionals very rarely experience it. Again, graduates feel that they are frequently getting unclear instructions in mobile banking, whereas post graduates and pre-degree groups rarely experience this problem, SSLC and professionals very rarely experience it. In the case of inadequate information and complicated procedures, except pre-degree category, all others very rarely have these experiences.

Table 4.79. Users' Experience with Regard to Mobile Banking**Education wise Presentation**

Variable	SSLC		Pre-Degree/ Plus Two		Graduation		PG		Professional	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Fear of security	4.600	0.548	2.500	2.121	3.882	0.993	4.000	1.732	4.500	1.000
Unclear instructions	4.333	1.231	4.000	1.000	2.000	1.414	3.824	1.074	4.200	1.304
Not getting the needed information	4.6000	0.5477	3.0000	1.4142	4.235	0.8314	4.4000	0.8944	4.8182	0.4045
Complicated procedures	4.5000	0.5774	3.0000	1.4142	4.176	0.8828	4.2000	1.3038	4.4545	0.8202

Income wise Analysis of Users' Experience with Regard to Mobile Banking

Lastly, income wise analysis is done to identify different income group's mobile banking experiences. Here, no one from the very income category is using mobile banking; hence they are excluded from this analysis. The relevant data is presented in Table 4.80 which shows that very high income group never experience fear of security while using mobile banking, whereas the other categories rarely have this experience. Again, very high income group opined that they very rarely get unclear instructions, high and middle income groups rarely have this problem whereas low income group complained that they occasionally get unclear instructions in mobile banking. In the case of inadequate information and complicated procedures, middle income and very high income groups very rarely experience these problems whereas low income and high income groups rarely have these experiences.

Table 4.80. Users' Experience with Regard to Mobile banking**Income wise Presentation**

Variable	Rs.50000-150000		Rs.150000-300000		Rs.300000-500000		Above 500000	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Fear of security	4.000	0	4.357	0.929	3.880	1.269	5.000	0.000
Unclear instructions	3.000	0	3.929	1.207	3.960	1.241	4.500	0.707
Not getting the needed information	4.0000	0	4.6154	0.5064	4.2800	0.9363	4.5000	0.7071
Complicated procedure	4.0000	0	4.4615	0.6602	4.0800	1.0376	4.5000	0.7071

d. Credit Cards

Here, users' different experiences of using credit cards are analyzed. The relevant data is presented in Table 4.81. It shows the mean values of four variables in connection with user's experiences regarding credit cards which reveals that users frequently experiences the problem of 'Interest charged is very high'. Again it shows that they occasionally experience the problems of 'Danger of losing credit card', 'It involves hidden costs', 'Unreasonable charges on late payments/outstanding balance'. These results go in parity with the low level of satisfaction disclosed by the respondents especially in the case of interest charged on credit cards.

Table 4.81. Users' Experience with Regard to Credit Cards

Variable	Mean	Std. Dev
Interest charged is very high	2.319	1.431
Danger of losing credit card	3.128	1.312
It involves hidden costs	2.809	1.313
Unreasonable charges on late payments/outstanding balance	2.851	1.285

Bank wise Analysis of Users' Experience with Regard to Credit Cards

In the next level, mean values of credit card users who belong to three different groups of banks are taken in to account. The relevant data is tabulated and presented in Table 4.82 which shows that all users irrespective of the types of banks they belong to, frequently experiences the problem of charging of a very high interest. In the case of the

danger of losing credit cards, Kerala based and new generation bank customers occasionally have the experience as compared to nationalized bank customers. Further, Kerala based and new generation bank customers frequently experience the problem of hidden costs whereas nationalized bank customers occasionally have this experience. Regarding unreasonable charges on late payments, all users regardless of the banks they belong to, occasionally experience this problem.

Table 4.82. Users' Experience with Regard to Credit Cards-Bank wise Analysis

Variable	Nationalized banks		Kerala based banks		New generation banks	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Interest charged is very high	2.000	1.604	2.4000	1.673	2.382	1.393
Danger of losing credit card	3.625	1.408	3.000	0.707	3.029	1.359
It involves hidden costs	3.125	1.246	2.600	1.517	2.765	1.327
Unreasonable charges on late payments/ outstanding balance	3.000	0.535	3.000	1.581	2.794	1.388

Age wise Analysis of Users' Experience with Regard to Credit Cards

Next, credit card users are categorized on the basis of age and their different experiences with credit cards are studied. The relevant data is presented in Table 4.83 which shows that except the older category, all others opined that they frequently feel that interest charged is very high whereas the response of older group is that they always experience this problem. Regarding danger of losing credit card, all groups regardless of their age occasionally have this problem. Further, the first three groups opined that they occasionally experience that credit cards involve hidden costs and unreasonable charges on late payments whereas the older group frequently have these problems.

Table 4.83. Users' Experience with Regard to Credit Cards-Age wise Presentation

Variable	Below 30 Years		30-45 Years		45-60 Years		Above 60 Years	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Interest charged is very high	2.619	1.396	2.250	1.372	2.545	1.214	1.000	0.000
Danger of losing credit card	3.381	1.117	2.950	1.191	3.273	1.555	3.333	2.082
It involves hidden costs	2.762	1.261	2.850	1.268	3.091	1.221	2.333	1.155
Unreasonable charges on late payments/outstanding balance	2.810	1.401	2.800	1.056	3.182	1.079	2.333	1.155

Education wise Analysis of Users' Experience with Regard to Credit Cards

Here, users' different experiences of using credit cards are analyzed education wise and the results are presented in Table 4.84. It can be seen that except SSLC group, all other education categories opined that they frequently experience the problem of high interest charged for credit cards whereas SSLC group rarely have this problem. Again, SSLC and post graduates rarely have the danger of losing credit cards whereas others occasionally experience this problem. In the case of hidden costs and charges on late payments, except the SSLC category, all others occasionally experience these problems whereas the SSLC category rarely have this experience.

Table 4.84. Users' Experience with Regard to Credit Cards**Education wise Presentation**

Variable	SSLC		Pre-Degree/ Plus Two		Graduation		PG		Professional	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Interest charged is very high	4.250	0.957	2.400	0.894	1.813	1.223	2.357	1.216	2.188	1.377
Danger of losing credit card	3.800	0.837	3.375	1.258	3.071	1.141	3.750	1.893	2.813	1.328
It involves hidden costs	4.250	0.957	2.800	1.095	2.813	1.424	2.769	1.013	2.625	1.204
Unreasonable charges on late payments/outstanding balance	3.750	0.957	2.800	1.095	2.688	1.352	3.000	0.961	2.688	1.302

Income wise Analysis of Users' Experience with Regard to Credit Cards

Lastly, income wise analysis is done to identify different income group's experiences of using credit cards. No one from the very low income group is using credit cards; hence they are excluded from this analysis. The relevant data is tabulated and presented in Table 4.85. It can be seen that low income and high income groups reveal that they frequently experience the problem of high interest whereas middle income and very high income categories occasionally have this problem. In the case of danger of losing credit card, it can be noted that this problem increases as we move up from low income group to very high income group. Further, low income group seems to have very much bothered about the hidden costs involved in credit cards, high income group frequently experience this problem whereas middle income and very high income categories occasionally have this experience. In the case of unreasonable charges on late payments, low income and high income groups frequently experience it while middle income and very high income groups opined that they occasionally have this experience.

Table 4.85. Users' Experience with Regard to Credit Cards**Income wise Presentation**

Variable	Rs.50000-150000		Rs.150000-300000		Rs.300000-500000		Above 500000	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Interest charged is very high	2.250	1.500	2.714	1.384	2.080	1.352	2.600	0.894
Danger of losing credit card	3.750	0.957	3.429	1.207	3.040	1.369	2.600	1.140
It involves hidden costs	1.750	0.957	3.286	1.102	2.600	1.258	3.000	1.225
Unreasonable charges on late payments/ outstanding balance	2.333	1.528	3.190	1.167	2.640	1.221	2.800	1.095

4.2.7. Hypotheses Testing of Users' Experiences Regarding E-Banking**Delivery Channels**

Hypothesis 7. Users' different experiences regarding e-banking delivery channels are independent of the type of bank which they maintain account, their age, education and income.

a. ATMs**Bank wise Presentation**

For the purpose to know whether the three groups of bank customers differ significantly on their experiences regarding ATMs, ANOVA is done. The Table 4.86 shows the results of the ANOVA which implies that in the case of variables, 'Having to wait in long queues at ATMs', 'ATM running out of order', 'ATM working too slowly', 'ATM doing wrong transactions', 'Unclear instructions on ATM', 'ATM running out of money', 'ATM not releasing card', the three groups of bank customers have different experiences. This implies that nationalized bank customers occasionally face these problems while using ATMs as compared to their counterparts.

Table 4.86. Users' Experience with Regard to ATMs

Variable	Sum of Squares	Mean Sum of Squares	F value	P value
Having to wait in long queues at ATMs	79.028	39.514	72.83	0.000
ATM running out of order	41.031	20.515	34.51	0.000
Inserting card incorrectly	0.593	0.296	0.32	0.726
ATM working too slowly	9.888	4.944	9.79	0.000
ATM doing wrong transactions	18.958	9.479	20.24	0.000
Forgetting PIN	0.021	0.010	0.02	0.979
Unclear instructions on ATM	4.145	2.073	5.27	0.006
ATM not able to print slips	0.168	0.084	0.13	0.881
Not being able to see the screen well	0.200	0.100	0.23	0.799
ATM running out of money	31.837	15.919	25.00	0.000
ATM not releasing card	2.351	1.176	3.69	0.026
Theft of ATM card	0.444	0.222	1.53	0.218

Age wise presentation

To check whether the different age groups significantly differ in their experience of using ATMs, one way ANOVA at 5 per cent level of significance was carried out and the results are presented in Table 4.87.

Table 4.87. Users' Experience with Regard to ATMs-Age wise Presentation

Variable	Sum of Squares	Mean Sum of Squares	F value	P value
Having to wait in long queues at ATMs	5.698	1.899	2.44	0.064
ATM running out of order	0.401	0.134	0.18	0.907
Inserting card incorrectly	3.842	1.281	1.39	0.244
ATM working too slowly	4.946	1.649	3.16	0.025
ATM doing wrong transactions	3.272	1.091	2.10	0.100
Forgetting PIN	.046	0.015	0.03	0.993
Unclear instructions on ATM	0.086	0.029	0.07	0.976
ATM not able to print slips	3.655	1.218	1.86	0.136
Not being able to see the screen well	0.565	0.188	0.42	0.736
ATM running out of money	3.078	1.026	1.41	0.241
ATM not releasing card	2.213	0.738	2.31	0.077
Theft of ATM card	.732	0.244	1.69	0.169

The results of the analysis clearly show that p-value of only one variable, ATMs working too slowly, is less than 0.05 indicating that the various age groups significantly differ in this matter. In the case of all other variables, the differences are found to be insignificant.

Education wise Presentation

To know whether there is any significant differences exist in the various education groups' experience of using ATMs, one way ANOVA at 5 per cent level of significance is done and the results are presented in Table 4.88.

Table 4.88. Users' Experience with Regard to ATMs-Education wise Presentation

Variable	Sum of Squares	Mean Sum of Squares	F value	P value
Having to wait in long queues at ATMs	3.565	0.891	1.08	0.369
ATM running out of order	9.885	2.471	3.30	0.011
Inserting card incorrectly	2.862	0.715	0.74	0.567
ATM working too slowly	3.606	0.901	1.54	0.191
ATM doing wrong transactions	4.237	1.059	1.83	0.122
Forgetting PIN	0.416	0.104	0.18	0.947
Unclear instructions on ATM	1.161	0.290	0.62	0.650
ATM not able to print slips	3.961	0.990	1.39	0.237
Not being able to see the screen well	3.124	0.781	1.55	0.186
ATM running out of money	4.356	1.089	1.39	0.237
ATM not releasing card	2.260	0.565	0.96	0.430
Theft of ATM card	5.883	1.471	0.002	0.21

The results of the analysis reveal that the p-value of only one variable, ATM running out of order, is less than 0.05, hence it is implied that the difference in this matter that exists among different education groups is statistically significant. In the case of all other variables, the differences are found to be insignificant.

Income wise Presentation

To know whether the differences found in the mean values of different income group's experiences of using ATMs are statistically significant, one way ANOVA at 5 per cent level of significance is done and the results are presented in Table 4.89.

Table 4.89. Users' Experience with Regard to ATMs–Income wise Presentation

Variable	Sum of Squares	Mean Sum of Squares	F value	P value
Having to wait in long queues at ATMs	7.998	2.000	2.45	0.046
ATM running out of order	4.221	1.055	1.38	0.240
Inserting card incorrectly	1.863	0.466	0.48	0.751
ATM working too slowly	0.939	0.235	0.40	0.810
ATM doing wrong transactions	2.289	0.572	0.98	0.419
Forgetting PIN	1.368	0.342	0.61	0.657
Unclear instructions on ATM	2.679	0.670	1.42	0.228
ATM not able to print slips	4.556	1.139	1.60	0.174
Not being able to see the screen well	2.053	0.513	1.01	0.400
ATM running out of money	.813	0.203	0.25	0.907
ATM not releasing card	1.883	0.471	1.20	0.309
Theft of ATM card	0.725	0.181	0.82	0.510

The result of the analysis shows that p-value of the first variable is less than 0.05, hence the implication is that the differences found in the mean values of that variable is statistically significant. In the case of all other variables, different income groups have more or less similar experiences with ATMs.

b. Internet Banking

Bank wise Analysis

In order to identify whether the three groups of bank customers significantly differ on their experiences while using internet banking, ANOVA is carried out. Table 4.90 shows the results of the analysis which implies that the three groups of customers have significant difference in case of only one variable i.e., 'working too slowly'. In all other cases, the three groups have more or less the same kind of experiences.

Table 4.90. ANOVA-Users' Experience with Regard to Internet Banking

Bank wise Analysis

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Working too slowly	4.835	2	2.418	3.72	0.028
Doing wrong transactions	0.970	2	0.485	0.80	0.451
Not getting up-to-date information	0.242	2	0.121	0.13	0.880
Charges on various IB transactions not known	3.56	2	1.78	1.60	0.207
Fear of lack of security and confidentiality in transactions	1.40	2	0.70	0.53	0.590

Age wise Analysis

For checking whether the differences found in the mean values of different age group's experiences of using internet banking are statistically significant, one way ANOVA at 5 per cent level of significance is carried out and the results are presented in Table 4.91.

Table 4.91. ANOVA-Users' Experience with Regard to Internet Banking**Age wise Analysis**

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Working too slowly	2.505	3	0.835	1.19	0.317
Doing wrong transactions	1.314	3	0.438	0.72	0.540
Not getting up-to-date information	2.549	3	0.850	0.90	0.444
Charges on various IB transactions not known	4.36	3	1.45	1.32	0.273
Fear of lack of security and confidentiality in transactions	3.37	3	1.12	0.85	0.472

The results of the analysis clearly show that since p-values of all variables are more than 0.05, the differences found in the mean values are not statistically significant.

Education wise Analysis

To know whether there is any significant difference among the various education categories in their experience of using internet banking, one way ANOVA at 5 per cent level of significance is done and the results are presented in Table 4.92.

Table 4.92. ANOVA-Users' Experience with Regard to Internet Banking**Education wise Analysis**

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Working too slowly	1.262	4	0.316	0.44	0.781
Doing wrong transactions	2.133	4	0.533	0.88	0.477
Not getting up-to-date information	5.907	4	1.477	1.66	0.167
Charges on various IB transactions not known	2.10	4	0.53	0.46	0.763
Fear of lack of security and confidentiality in transactions	6.11	4	1.53	1.19	0.321

The results of the analysis show that even though some differences are found in the mean values, these differences are not statistically significant since p-values of all variables are more than 0.05.

Income wise Analysis

For checking whether the differences found in the mean values of different income group's experiences of using internet banking are statistically significant, one way ANOVA at 5 per cent level of significance is carried out and the results are presented in Table 4.93.

Table 4.93. ANOVA-Users' Experience with Regard to Internet Banking

Income wise Analysis

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Working too slowly	1.593	4	0.398	0.55	0.696
Doing wrong transactions	0.997	4	0.249	0.42	0.797
Not getting up-to-date information	6.085	4	1.521	1.74	0.149
Charges on various IB transactions not known	4.49	4	1.12	1.02	0.400
Fear of lack of security and confidentiality in transactions	3.98	4	0.99	0.76	0.557

The results of the analysis show that p-values of all variables are more than 0.05, hence the implication is that even though some differences are noticed in the means values of different income groups, these are found to be statistically insignificant.

c. Mobile Banking

Bank wise Analysis

In order to check whether there is any significant difference among the three groups of bank customers regarding their experience of using mobile banking one way ANOVA at 5% level of significance is adopted and the results are presented in Table 4.94. The results of the analysis clearly indicate that p-values of all the four variables are more than 0.05. Hence it can be concluded that even though some differences are found in the mean values of the three groups of bank customers, these differences are found to be insignificant.

Table 4.94. ANOVA-Users' Experience with Regard to Mobile Banking

Bank wise Analysis

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Fear of security	3.976	2	1.988	2.01	0.146
Unclear instructions	1.40	2	0.70	0.62	0.545
Not getting the needed information	1.557	2	0.778	1.67	0.200
Complicated procedures	1.342	2	0.671	1.02	0.369

Age wise Analysis

For checking whether there are any significant differences in various age group's mobile banking experiences, one way ANOVA at 5 per cent level of significance is done and the results are presented in Table 4.95.

Table 4.95. ANOVA-Users' Experience with Regard to Mobile Banking**Age wise Analysis**

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Fear of security	2.91	2	0.97	0.69	0.565
Unclear instructions	1.75	2	0.58	0.40	0.757
Not getting the needed information	0.919	2	0.306	0.46	0.710
Complicated procedures	2.611	2	0.870	1.04	0.386

The results of the analysis show that the p-values of all variables are more than 0.05, hence it is implied that all age groups have more or less equal experiences with mobile banking.

Education wise Analysis

To know whether the different education categories significantly differ in their experiences of using mobile banking, one way ANOVA at 5 per cent level of significance is carried out and the results are presented in Table 4.96.

Table 4.96. ANOVA-Users' Experience with Regard to Mobile Banking-**Education wise Analysis**

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Fear of security	9.15	4	2.29	1.85	0.140
Unclear instructions	9.97	4	2.49	1.87	0.137
Not getting the needed information	6.505	4	1.626	2.98	0.032
Complicated procedures	3.925	4	0.981	1.15	0.350

The results of the analysis reveal that the p-value of the variable, not getting the needed information, is less than 0.05, hence it is implied that difference found in the mean values of this particular variable is statistically significant. In the case of all other matters, the differences are found to be insignificant.

Income wise Analysis

In order to check whether the different income categories significantly differ in their experience of using mobile banking, one way ANOVA at 5 per cent level of significance is carried out and the results are presented in Table 4.97.

Table 4.97. ANOVA-Users' Experience with regard to Mobile Banking

Income wise Analysis

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Fear of security	3.76	3	1.25	0.96	0.423
Unclear instructions	1.52	3	0.51	0.34	0.796
Not getting the needed information	1.139	3	0.380	0.57	0.638
Complicated procedures	1.454	3	0.485	0.57	0.640

Results of the analysis clearly reveal that p-values of all variables are more than 0.05, hence it is concluded that even though some differences are found in the mean values of different income group's experiences with respect to mobile banking, these differences are not statistically significant.

d. Credit Card

In order to check whether the differences in mean values of three group's of bank customer's experiences of credit card are significantly different, ANOVA is done and the results are presented in Table 4.98. The results of the analysis show that all p-values are more than 0.05. Hence it is implied that users who belong to three different groups of banks have more or less the same kind of experience while using credit cards.

Table 4.98. ANOVA-Users' Experience with Regard to Credit Cards**Bank wise Analysis**

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Interest charged is very high	0.98	2	0.49	0.23	0.794
Danger of losing credit card	2.39	2	1.19	1.19	0.510
It involves hidden costs	1.08	2	0.54	0.30	0.739
Unreasonable charges on late payments/outstanding balance	0.40	2	0.20	0.12	0.891

Age wise Analysis

In order to know whether the differences found in the mean values of different age groups regarding their credit card experiences are statistically significant, one way ANOVA at 5 per cent level of significance is done and the results are presented in Table 4.99.

Table 4.99. ANOVA-Users' Experience with Regard to Credit Cards**Age wise Analysis**

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Interest charged is very high	7.55	3	2.52	1.44	0.243
Danger of losing credit card	2.05	3	0.68	0.41	0.746
It involves hidden costs	1.59	3	0.53	0.34	0.798
Unreasonable charges on late payments/outstanding balance	2.10	3	0.70	0.48	0.700

The results of the analysis reveals that the p-values of all variables are more than 0.05, hence it is implied that the differences found in the mean values are not statistically significant.

Education wise Analysis

For checking whether the different education categories significantly differ in their experience of using credit cards, one way ANOVA at 5 per cent level of significance is done and the results are presented in Table 4.100.

Table 4.100. ANOVA-Users' Experience with Regard to Credit Cards

Education wise Analysis

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Interest charged is very high	19.31	3	4.83	3.17	0.021
Danger of losing credit card	6.13	3	1.53	0.95	0.443
It involves hidden costs	8.77	3	2.19	1.49	0.219
Unreasonable charges on late payments/outstanding balance	4.41	3	1.10	0.76	0.555

The results of the analysis show that the p-value the first variable, 'interest charged is very high' is less than 0.05, hence it is implied that in this case the different education categories significantly differ. In the case of all other matters, the differences are found to be insignificant.

Income wise Analysis

In order to identify whether the different income groups significantly differ in their experience of using credit cards, one way ANOVA at 5 per cent level of significance is carried out and the results are presented in Table 4.101.

Table 4.101. ANOVA-Users' Experience with Regard to Credit Cards- Income wise Analysis

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Interest charged is very high	4.91	3	1.64	0.91	0.445
Danger of losing credit card	4.75	3	1.58	0.98	0.408
It involves hidden costs	10.49	3	3.50	2.51	0.069
Unreasonable charges on late payments/outstanding balance	4.35	3	1.45	1.00	0.400

The results of the analysis show that p-values of all variables are more than 0.05, hence it is implied that the differences found in the mean values are not statistically significant.

Conclusion

Overall, it is very clear from the above analysis that user's different experiences while using the selected e-banking products and services are independent of the type of bank which they maintain account, age, education and income.

PART D - CUSTOMER SATISFACTION OF BRANCH BANKING AND E-BANKING DELIVERY CHANNELS

After having identified the respondent's adoption status of e-banking services, this study focuses its attention on identifying the level of satisfaction of those who are using branch banking and e-banking services. Effectiveness of adoption can be evaluated by way of measuring the level of user's satisfaction. A satisfied group of customers is an asset for the banks; hence the importance of studying this significant aspect arises. This section is divided into two parts, namely, Part D1 and Part D2. Part D1 deals with customer's level of satisfaction of branch banking whereas part D2 deals with user's satisfaction of ATMs, internet banking, mobile banking and credit cards.

Part D1. CUSTOMER SATISFACTION OF BRANCH BANKING

Here, an attempt is made to ascertain the customer's level of satisfaction on different aspects of branch banking. For this, they are asked to rate their satisfaction level in a five point scale ranging from fully satisfied (5) to completely dissatisfied (1). Relevant data is tabulated and presented in Table 4.102. The information of the mean values shows that majority of the customers are satisfied with their bank's location, quality of services provided by the bank, operating hours of the bank, and the behavior of the staff. But in the case of commission charged on services, provision of up-to-date information and awareness provided by the banks and parking facility, their overall satisfaction is low.

Table 4.102. Level of Satisfaction of Branch Banking

Variable	Mean	Std. Dev
Location of the bank	4.1750	0.6694
Quality of services	4.0583	0.5983
Operating hours of the bank	3.9583	0.7821
Behavior of the staff	3.8833	0.8320
Commission charged on services	3.3667	1.0366
Provision of up-to-date information	3.5750	0.9136
Awareness provided by the banks	3.5083	0.9614
Parking facility	3.333	1.147
Aggregate	3.7322	0.8675

The Table 4.102 gives idea about the overall satisfaction of branch banking. The picture will be clearer in the bank wise analysis of the level of satisfaction of branch banking.

Bank wise Classification of Level of Satisfaction

The above data on customer satisfaction of branch banking with various aspects is classified bank wise and presented in Table 4.103. The table gives mean values of nationalized, Kerala based scheduled and new generation bank customer's level of satisfaction towards their respective banks which shows that regarding location of the bank, and quality of services, level of satisfaction of the three group's bank customers is more or less equal. But in the case of all other variables, new generation bank customers are more satisfied as compared to the other two groups of bank customers.

Table 4.103. Level of Satisfaction of Branch Banking-Bank wise Presentation

Variable	Nationalized banks		Kerala based banks		New generation banks	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Location of the bank	4.125	0.6158	4.3	0.6025	4.175	0.6694
Quality of services	3.9	0.6404	3.8917	0.7077	4.0583	0.5983
Operating hours of the bank	3.6750	0.8903	3.8000	0.8260	3.9583	0.7821
Behavior of the staff	3.6417	0.8481	3.5667	0.9234	3.8833	0.8320
Commission charged on services	3.017	1.012	3.192	0.990	3.367	1.037
Provision of up-to-date information	3.2417	0.8792	3.3500	0.8759	3.5750	0.9136
Awareness provided by the banks	3.1917	0.8821	3.4167	0.8848	3.5083	0.9614
Parking facility	3.117	1.055	3.267	1.075	3.333	1.147
Aggregate	3.4886	0.8528	3.5980	0.8606	3.7322	0.8676

Age wise Classification of Level of Satisfaction of Branch Banking

The above data on customer satisfaction of branch banking with various aspects is classified age wise and presented in Table 4.104. it can be noted from the table that with regard to location of the bank, quality of services, behavior of the staff, commission charged on services, provision of up-to-date information and awareness, mean values of different age groups are more or less similar, whereas in the case of operating hours of the bank, youngsters are less satisfied as compared to elder groups. With respect to parking facility, only older group is satisfied, whereas others are not much satisfied in this matter.

Table 4.104. Level of Satisfaction of Branch Banking-Age wise Presentation

Variable	Below 30 Years		30-45 Years		45-60 Years		Above 60 Years	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Location of the bank	4.1538	0.7198	4.2913	0.5356	4.1605	0.5800	4.2500	0.5501
Quality of services	3.8718	0.7337	4.0388	0.6250	3.9383	0.5326	4.1500	0.4894
Operating hours of the bank	3.6603	0.9052	3.9223	0.8006	3.8889	0.7746	4.1000	0.5525
Behavior of the staff	3.6090	0.9057	3.7864	0.8928	3.7160	0.8099	3.8500	0.8127
Commission charged on services	3.141	1.044	3.272	0.962	3.148	1.050	3.350	1.040
Provision of up-to-date information	3.3654	0.9442	3.4466	0.8601	3.3333	0.8660	3.5000	0.8885
Awareness provided by the banks	3.3205	0.9638	3.4854	0.8268	3.2840	0.9385	3.5500	0.8870
Parking facility	3.179	1.086	3.379	1.077	3.062	1.133	3.700	0.923
Aggregate	3.5376	0.9128	3.7027	0.8224	3.5663	0.8355	3.8062	0.7679

Education wise Classification of Level of Satisfaction of Branch Banking

Further, the respondent's satisfaction of their branch banking is thoroughly analyzed education wise and the relevant data is presented in Table 4.105. It can be seen that mean values of location of the bank, quality of services, commission charged on services, awareness provided by banks and parking facility with respect to all education groups are more or less equal given that their level of satisfaction is high in the case of first two variables whereas it is low in the case of other three variables. Further, post graduates and professionals are less satisfied with the operating hours of the bank as compared to their counter parts. Regarding behavior of the staff, SSLC and professionals

are very much satisfied compared to other categories. Again, only pre-degree/plus two category is satisfied with up-to-date information provided by banks whereas others are not much satisfied in this matter. Overall it is understandable that all the five education groups are satisfied with branch banking.

Table 4.105. Level of Satisfaction of Branch Banking-Education wise Presentation

Variable	SSLC		Pre-Degree/ Plus Two		Graduation		PG		Professional	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Location of the bank	4.2703	0.6078	4.2188	0.6082	4.1453	0.6468	4.1538	0.6311	4.2805	0.6339
Quality of services	4.1081	0.6139	3.8750	0.7071	3.9316	0.5978	3.9670	0.5860	3.9024	0.7795
Operating hours of the bank	4.0270	0.6449	3.8438	0.8076	3.7607	0.8372	3.6484	0.9472	3.6390	0.7754
Behavior of the staff	3.9189	0.7593	3.5625	0.8400	3.6325	0.8570	3.6264	0.9735	3.8049	0.8380
Commission charged on services	3.378	1.037	3.219	1.184	3.171	0.931	3.077	1.077	3.244	1.013
Provision of up-to-date information	3.2973	0.9962	3.6875	0.7378	3.3761	0.8380	3.2747	0.8827	3.4390	0.9825
Awareness provided by the banks	3.4865	1.0171	3.5313	0.7177	3.2906	0.8716	3.3297	0.9074	3.4024	1.0044
Parking facility	3.486	1.121	3.250	0.916	3.214	1.089	3.132	1.118	3.256	1.120
Aggregate	3.7465	0.8496	3.6484	0.8148	3.5652	0.8335	3.5542	0.8879	3.4585	0.8933

Income wise Classification of Level of Satisfaction of Branch Banking

Lastly, the satisfaction level of different income groups with respect to branch banking is undertaken. The relevant data is tabulated and presented in Table 4.106. It is revealed through the mean values that regarding location of the bank, quality of services, behaviour of the staff and awareness provided by the bank, level of satisfaction of all income groups are more or less equal. But in the case of operating hours of the bank, middle income groups are less satisfied compared to others, whereas in the case of commission charged on services and parking facility, only very low income group is satisfied while others are not much satisfied in this matter. Regarding provision of up-to-

date information provided by banks, very high income group is not much satisfied as compared to other groups. The aggregate figures reveal that all income groups are fairly satisfied with branch banking.

Table 4.106. Level of Satisfaction of Branch Banking-Income wise Presentation

Variable	Below Rs.50000		Rs.50000-150000		Rs.150000-300000		Rs.300000-500000		Above 500000	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Location of the bank	4.1786	0.5480	4.1519	0.6810	4.1339	0.6710	4.2642	0.5572	4.3889	0.6077
Quality of services	4.0357	0.6929	3.9114	0.7195	3.9055	0.6599	3.9906	0.5773	4.0556	0.5393
Operating hours of the bank	3.7215	0.8761	3.6425	0.8109	3.6208	0.8815	3.8929	0.7373	4.0000	0.5941
Behavior of the staff	3.7468	0.7757	3.6378	0.9143	3.6698	0.9534	3.7500	0.8444	3.8889	0.6764
Commission charged on services	3.429	1.034	3.165	1.067	3.189	0.990	3.142	1.009	3.167	1.150
Provision of up-to-date information	3.3571	1.0261	3.3165	0.8555	3.4724	0.8529	3.4245	0.9045	2.9444	0.9984
Awareness provided by the banks	3.3038	0.9386	3.4173	0.8586	3.3585	0.9380	3.4286	0.9974	3.2222	1.0033
Parking facility	3.571	1.103	3.190	1.122	3.252	1.112	3.170	1.064	3.222	1.060
Aggregate	3.6679	0.8743	3.5790	0.8786	3.6002	0.8823	3.6328	0.8363	3.6667	0.8286

PART D2-CUSTOMER SATISFACTION OF E-BANKING DELIVERY CHANNELS

It is widely accepted that customer satisfaction is a significant variable for evaluating the success or failure of a newly introduced product or service in the market. It is a major determinant of measuring the achievement of service marketing. Hence, in this study, an attempt is made to assess the level of user's satisfaction of ATMs, internet banking, mobile banking and credit cards on different aspects.

i. Level of Satisfaction of ATMs

Here, level of satisfaction of users of ATMs is analyzed. For this purpose, eight variables in connection with ATMs such as location, operating hours, accuracy, reliability, safety and privacy of ATM transactions, ease of use and parking facility are selected and the respondents are asked to rate their level of satisfaction on these matters. The mean scores are presented in Table 4.107 and it is found that most of the respondents are very much satisfied with their ATMs except in the case of parking facility.

Table 4.107. Level of Satisfaction of ATMs

Variable	Mean	Std. Deviation
Location	4.2840	0.7123
Operating hours	4.2901	0.6410
Accuracy of transactions	4.0710	0.7616
Reliability of transactions	4.0370	0.7288
Safety of ATMs	4.0401	0.7092
Privacy of transactions	4.0525	0.7214
Ease of use	4.1235	0.6884
Parking facility	3.5864	1.0448
Aggregate	4.0605	0.7509

Bank wise Classification of Level of Satisfaction of ATMs

For the purpose to know which group of bank customers is more satisfied with their ATMs, bank wise analysis of satisfaction of ATMs has been undertaken. The mean values are presented in Table 4.108 which shows that Kerala based scheduled bank and new generation bank customers are well satisfied with their ATMs whereas level of satisfaction of nationalized bank customers is slightly low as compared to others.

Table 4.108 Level of Satisfaction of ATMs–Bank wise Analysis

Variable	Nationalized banks		Kerala based banks		New generation banks	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Location	4.1122	0.6717	4.4128	0.6413	4.3077	0.7819
Operating hours	4.1020	0.6500	4.3578	0.6165	4.3846	0.6276
Accuracy of transactions	3.8776	0.8029	4.0826	0.7713	4.2222	0.6837
Reliability of transactions	3.8061	0.8206	4.1009	0.6659	4.1709	0.6603
Safety of ATMs	3.8469	0.7230	4.0550	0.7049	4.1880	0.6687
Privacy of transactions	3.8673	0.7127	4.0642	0.7610	4.1966	0.6597
Ease of use	3.9388	0.7008	4.1835	0.6961	4.2222	0.6448
Parking facility	3.296	1.038	3.633	1.077	3.7863	0.9723
Aggregate	3.8559	0.7649	4.1112	0.7417	4.1848	0.7124

Age wise Classification of Level of Satisfaction of ATMs

Here, the user's level of satisfaction of ATMs on the basis of age is determined. Mean values presented in the Table 4.109 clearly reveals that the level of satisfaction of all age groups except the older ones, is more or less same. Older groups opined that they are very well satisfied with all aspects of ATM transactions. In the case of parking facility, the level of satisfaction of all age groups is less as compared to other factors.

Table 4.109. Level of Satisfaction of ATMs–Age wise Analysis

Variable	Below 30 Years		30-45 Years		45-60 Years		Above 60 Years	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Location	4.2303	0.7761	4.3261	0.7575	4.2714	0.5626	4.4167	0.5149
Operating hours	4.2876	0.7405	4.2967	0.6749	4.2029	0.5578	4.4167	0.6686
Accuracy of transactions	4.0658	0.7518	4.0879	0.8647	4.0000	0.6642	4.4167	0.5149
Reliability of transactions	3.9803	0.8012	4.1758	0.6927	3.9265	0.5812	4.4167	0.5149
Safety of ATMs	4.0526	0.7528	4.0879	0.6774	3.8841	0.6539	4.4167	0.5149
Privacy of transactions	4.0329	0.8008	4.0769	0.7185	4.0290	0.5415	4.2500	0.6216
Ease of use	4.0855	0.7182	4.1868	0.6978	4.0580	0.6156	4.5000	0.5222
Parking facility	3.493	1.048	3.736	1.042	3.536	1.065	3.917	0.793
Aggregate	4.0285	0.7986	4.1217	0.7656	3.9884	0.6552	4.3438	0.5831

Education wise Classification of Level of Satisfaction of ATMs

Further, satisfaction level of different education groups with regard to different aspects of ATMs is analyzed and the results are presented in Table 4.110. It can be noted from the Table that in the case of location and operating hours of ATMs the satisfaction level of all education groups are more or less equal. Regarding accuracy of transactions, Pre-Degree and Post graduates are relatively less satisfied as compared to others whereas for reliability of transactions, safety of ATMs and ease of use, Pre-Degree group's level of satisfaction is less as compared to their counterparts. In the case of parking facility, only SSLC group is satisfied whereas others are less satisfied in this matter.

Table 4.110. Level of Satisfaction of ATMs-Education wise Presentation

Variable	SSLC		Pre-Degree/ Plus Two		Graduation		PG		Professional	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Location	4.200	0.8867	4.3103	0.4708	4.2453	0.7535	4.1625	0.863	4.3704	0.6791
Operating hours	4.178	1.0905	4.2759	0.5276	4.2925	0.6614	4.2000	0.682	4.3704	0.5798
Accuracy of transactions	4.185	0.6815	3.8966	0.7720	4.1226	0.7771	3.9375	0.801	4.1605	0.7151
Reliability of transactions	4.259	0.6559	3.9310	0.5935	3.9906	0.7867	4.0125	0.684	4.0741	0.7546
Safety of ATMs	4.222	0.7511	3.9310	0.5935	4.0189	0.7035	3.9750	0.762	4.1111	0.6892
Privacy of transactions	4.185	0.7357	3.8966	0.4888	4.0660	0.7207	4.0125	0.7377	4.0741	0.7710
Ease of use	4.333	0.6794	3.8621	0.6930	4.0472	0.7607	4.1500	0.618	4.2222	0.6325
Parking facility	4.000	0.961	3.207	0.726	3.481	1.053	3.663	0.967	3.642	1.186
Aggregate	4.195	0.8052	3.9138	0.6081	4.0330	0.7770	4.01	0.768	4.1281	0.7509

Income wise Classification of Level of Satisfaction of ATMs

Here, ATM user's level of satisfaction on the basis of income is analyzed. The relevant data is tabulated and presented in Table 4.111. Regarding location, level of satisfaction reduces as we go down from very high income group to very low income group. In the case of operating hours, level of satisfaction is more or less same for all income groups whereas for accuracy of transactions, satisfaction level of very high income group is the highest whereas it is lowest in the case of low income group. Satisfaction level of reliability of transactions is low in the case of low income and middle income groups whereas it is high in the case of very high income group. Regarding safety of ATMs and privacy of transactions, very high income group is more satisfied as compared to their counter parts. In the case of ease of use, high income group is more satisfied followed by very low income group, very high income group, middle income and low income group. In the case of parking facility level of satisfaction of all

income groups except very low income group is low. Overall it is understandable that all income groups are fairly satisfied with ATMs.

Table 4.111 Level of Satisfaction of ATMs-Income wise Presentation

Variable	Below Rs.50000		Rs.50000-150000		Rs.150000-300000		Rs.300000-500000		Above 500000	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Location	3.8500	0.9881	4.2143	0.7202	4.2348	0.8412	4.3846	0.5962	4.4706	0.5145
Operating hours	4.1857	0.7478	4.3043	0.6905	4.3558	0.5899	4.0000	0.8660	4.2778	.6691
Accuracy of transactions	4.0000	0.7071	3.8429	0.8787	4.0870	0.8009	4.1058	0.7748	4.3333	0.5941
Reliability of transactions	4.1176	0.6966	3.8714	0.8327	3.9826	0.7834	4.0865	0.7388	4.3333	0.4851
Safety of ATMs	4.0588	0.7475	4.0000	0.7802	3.9913	0.7550	4.0385	0.7363	4.1667	0.5145
Privacy of transactions	3.9571	0.7882	4.0174	0.8055	4.1058	0.7094	4.0588	0.7475	4.1667	0.5145
Ease of use	4.1765	0.6359	3.9143	0.8119	4.0696	0.7342	4.2692	0.6570	4.1111	0.6764
Parking facility	3.824	1.074	3.343	0.991	3.609	1.065	3.663	1.103	3.444	1.097
Aggregate	3.9672	0.8423	3.9959	.8001	4.0722	0.7805	4.0517	0.7650	4.1629	0.6467

ii. Level of Satisfaction of Credit Cards

Here, credit card user's level of satisfaction is analyzed and the relevant data is presented in Table 4.112. It shows the mean values of four variables of credit cards such as usefulness, safety, interest charged on payments and ease of use which indicates how much users are satisfied with credit cards. It can be noted from Table 4.112 that in the case of usefulness, safety and ease of use, respondents are fairly satisfied but in the case of interest charged on payments, most of the respondents feel dissatisfied.

Table 4.112. Level of Satisfaction of Credit Card

Variable	Mean	Std. Dev
Usefulness	3.9630	0.6432
Safety	3.722	0.787
Interest charged on payments	2.648	1.012
Ease of use	3.722	0.834
Aggregate	3.5137	0.8190

Bank wise Analysis of Level of Satisfaction of Credit Card

In the next level, three groups of bank customer's level of satisfaction of credit cards are examined separately, and the relevant data is presented in Table 4.113. From the mean values it is very clear that nationalized bank customer's satisfaction level is low in the case of all variables, especially in the case of interest charged on payments, they feel dissatisfied. Kerala based and new generation bank customers are satisfied with the usefulness, safety and ease of use of credit cards, but in the case of interest charged on payments, they also expressed dissatisfaction.

Table 4.113. Level of Satisfaction of Credit Card-Bank wise Analysis

Variable	Nationalized banks		Kerala based banks		New generation banks	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Usefulness	3.500	0.926	4.0769	0.2774	4.030	0.637
Safety	3.375	0.916	3.769	0.832	3.788	0.740
Interest charged on payments	2.250	0.463	2.385	0.961	2.848	1.093
Ease of use	3.500	0.327	3.923	0.641	3.697	0.883
Aggregate	3.1562	0.658	3.5384	0.6778	3.5907	0.8382

Age wise Analysis of Level of Satisfaction of Credit Card

Further, credit card user's satisfaction level of credit cards on the basis of age is analyzed and the relevant data is presented in Table 4.114. It can be noted that the mean values of usefulness is exactly the same for all age groups which gives the idea that all are satisfied in the usefulness of credit cards, whereas in the case of safety, the level of

satisfaction of elder group is slightly less as compared to their counter parts. Regarding interest charged on payments, level of satisfaction of all age groups is very low, where the older group opined that they are dissatisfied in this matter. In the case of ease of use, level of satisfaction of middle aged is the highest followed by youngsters and elder group whereas it is low for older group. Altogether it is understandable that level of satisfaction declines as we go down from youngsters to older groups.

Table 4.114. Level of Satisfaction of Credit cards–Age wise Analysis

Variable	Below 30 Years		30-45 Years		45-60 Years		Above 60 Years	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Usefulness	4.0000	0.7746	4.0000	0.5620	3.8182	0.6030	4.0000	0.0000
Safety	3.8571	0.7928	3.7500	0.7164	3.3636	0.9244	4.0000	0.0000
Interest charged on payments	2.762	1.179	2.450	0.826	2.909	1.044	2.000	0.0000
Ease of use	3.7143	0.9024	3.9000	0.7182	3.5455	0.8202	3.0000	1.4142
Aggregate	3.5833	0.9122	3.525	0.7056	3.4090	0.8479	3.25	0.3535

Education wise Classification of Level of Satisfaction of Credit cards

Further, analysis of different education group's satisfaction level of credit cards is undertaken. The relevant data is presented in Table 4.115 which shows that with regard to usefulness, level of satisfaction of post graduates is the highest whereas for Pre-Degree and graduates it is slightly less. In the case of safety of credit cards, Pre-Degree category has the highest satisfaction followed by graduates, post graduates, professionals and SSLC group. Regarding interest charged on payments, satisfaction level of all education categories are less as compared to other variables, among them, SSLC and professionals has the lowest satisfaction as compared to their counter parts. In the case of ease of use, post graduates are more satisfied followed by SSLC group, whereas for other it is slightly less. The aggregate figures show that post graduates are more satisfied followed by Pre-Degree, graduates, SSLC and professionals.

Table 4.115. Level of Satisfaction of Credit cards-Education wise Presentation

Variable	SSLC		Pre-Degree/ Plus Two		Graduation		PG		Professional	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Usefulness	4.0000	0.0000	3.8333	0.4082	3.7143	0.6112	4.2000	0.4140	4.0000	0.9258
Safety	3.2500	0.5000	4.0000	0.0000	3.8571	0.6630	3.8000	0.8619	3.5333	0.9904
Interest charged on payments	2.40	0	3.000	1.095	2.786	1.051	2.533	1.060	2.400	0.986
Ease of use	4.0000	0	3.6667	0.8165	3.5000	0.8549	4.0667	0.7037	3.5333	0.9904
Aggregate	3.4125	0	3.625	0.7733	3.4643	0.8390	3.6499	0.7599	3.3666	0.9731

Income wise Analysis of Level of Satisfaction of Credit Card

In the next level, different income group's satisfaction level of credit cards is assessed and the results are presented in Table 4.116. It is seen from the Table that in the case of usefulness, safety and ease of use, level of satisfaction reduces as we go up from the low income group to very high income group. Regarding interest charged on payments, only the low income group is satisfied while others are not much satisfied in this matter. Altogether, it is noted that low income group is more satisfied as compared to their counter parts.

Table 4.116. Level of Satisfaction of Credit cards-Income wise Presentation

Variable	Rs.50000-150000		Rs.150000-300000		Rs.300000-500000		Above 500000	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Usefulness	4.2500	0.5000	4.0000	0.6489	3.9615	0.5987	3.5000	1.0000
Safety	4.2500	0.5000	3.7000	0.6569	3.6923	0.8840	3.5000	1.0000
Interest charged on payments	3.5000	1.7321	2.7500	0.9665	2.3846	0.8521	3.0000	1.1547
Ease of use	4.2500	0.5000	3.8000	0.8335	3.6154	0.8521	3.5000	

ii. Level of Satisfaction of Internet Banking

Here, internet banking user's level of satisfaction is assessed using five variables such as usefulness, ease of use, 24 hour service facility, security of transactions and speed of transactions. The relevant data is calculated and presented in Table 4.117. The

information from the Table shows that the users of internet banking are satisfied with all the variables. In the case of security of transactions, level of satisfaction is low as compared to other factors. The overall figure is 3.94 which clearly indicate that users are fairly well satisfied with internet banking.

Table 4.117. Level of Satisfaction of Internet Banking

Variable	Mean	Std. Dev
Usefulness	4.1429	0.7828
Ease of use	4.0659	0.7273
24 hour service facility	4.0330	0.8492
Security of transactions	3.549	1.088
Speed of transactions	3.9121	0.8900
Aggregate	3.9405	0.8674

Bank wise Classification of Level of Satisfaction of Internet Banking

In order to have a better insight into the issue, bank wise analysis of satisfaction level of internet banking is undertaken and the relevant data are presented in Table 4.118. The study shows the three groups of bank customer's satisfaction of internet banking. The mean values shows that Kerala based scheduled and new generation bank customers are well satisfied with their internet banking as compared to nationalized bank customers. In the case of security of transactions and speed of transactions, Kerala based bank customers are more satisfied followed by new generation bank customers, whereas nationalized bank customers are not much satisfied in these matters. Altogether it is understandable that Kerala based and new generation bank customers are well satisfied with internet banking, but the level is low in the case of nationalized bank customers.

Table 4.118 . Level of Satisfaction of Internet Banking-Bank wise Analysis

Variable	Nationalized banks		Kerala based banks		New generation banks	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Usefulness	3.8182	1.0787	4.1667	0.8165	4.1964	0.6986
Ease of use	3.7273	0.9045	4.0000	0.7223	4.1607	0.6816
24 hour service facility	3.6364	0.8090	4.0417	0.6241	4.1071	0.9279
Security of transactions	3.182	1.079	3.792	1.021	3.518	1.112
Speed of transactions	3.3636	1.1201	4.0833	0.7173	3.9464	0.8826
	3.5455	0.9983	4.01674	0.78024	3.9857	0.8605

Age wise Analysis of Level of Satisfaction of Internet Banking

Further, internet banking user's level of satisfaction on the basis of income is analyzed here. The relevant data is tabulated and presented in Table 4.119 which shows that elder group has the highest level of satisfaction with respect to usefulness of internet banking followed by youngsters. Level of satisfaction of middle aged and older groups are more or less equal in this matter. Regarding ease of use, youngsters are more satisfied whereas the satisfaction level of elder group is slightly less. In the case of 24 hour service facility, all age groups are more or less equally satisfied. For security of transactions, satisfaction levels of all age groups are less wherein the level reduces as we go up from youngsters to older groups. In the case of speed of transactions, first three age groups opined that they are satisfied whereas the older group is dissatisfied in this matter.

Table 4.119. Level of Satisfaction of Internet Banking–Age wise Analysis

Variable	Below 30 Years		30-45 Years		45-60 Years		Above 60 Years	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Usefulness	4.1957	0.7186	4.0286	0.9231	4.3333	0.5000	4.0000	0
Ease of use	4.1739	0.6431	4.0000	0.8402	3.7778	0.6667	4.0000	0
24 hour service facility	4.0652	0.7424	4.0909	0.6784	4.0000	1.0000	4.0000	0
Security of transactions	3.630	1.082	3.588	1.076	3.111	1.167	2.000	0
Speed of transactions	3.8696	0.8847	3.9697	0.8833	4.0000	0.8660	2.0000	0
Aggregate	3.9868	0.8141	3.9354	0.8802	3.8444	0.8399	3.2	0

Education wise Classification of Level of Satisfaction of Internet Banking

Here, internet banking user's level of satisfaction on the basis of education is analyzed and the relevant data is presented in Table 4.120. It can be noted from the Table that professionals has the highest level of satisfaction regarding usefulness followed by graduates, Pre-Degree, SSLC and post graduates. In the case of ease of use also, professionals has got the highest level of satisfaction and post graduates has the least satisfaction. For 24 hour service facility all education groups are fairly satisfied. In the case of security of transactions, satisfaction level of all education groups are less, among them, Pre-Degree and post graduate groups have the lowest satisfaction. In the case of speed of transactions also, pre-degree and post graduate groups are not much satisfied as compared to their counter parts. This phenomenon is also noticed in the aggregate figures also.

Table 4.120. Level of Satisfaction of Internet banking-Education wise Presentation

Variable	SSLC		Pre-Degree/ Plus Two		Graduation		PG		Professional	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Usefulness	4.0000	0.8165	4.1250	0.3536	4.1563	0.8076	3.9412	0.8993	4.2500	0.7993
Ease of use	4.0000	0.0000	4.1250	0.3536	4.0625	0.8007	3.8235	0.7276	4.1786	0.7724
24 hour service facility	4.0000	0.8165	4.1250	0.3536	4.1212	0.7398	4.0000	0.6124	4.0690	0.8836
Security of transactions	3.750	1.258	3.250	1.035	3.758	1.062	3.118	0.928	3.621	1.178
Speed of transactions	4.0000	0.8165	3.0000	1.0690	4.0938	0.7344	3.7059	0.9196	4.0690	0.8836
Aggregate	3.95	0.7415	3.725	0.6329	4.0383	0.8289	3.7177	0.8173	4.0375	0.9033

Income wise Classification of Level of Satisfaction of Internet banking

Lastly, income wise analysis of internet banking user's level of satisfaction is done and the relevant data is presented in Table 4.121. It can be seen that regarding usefulness, satisfaction level of middle income group is the highest whereas that of very high income group is comparatively less. In the case of ease of use very high income group is very much satisfied as compared to their counter parts. Regarding 24 hour service facility, the low income group's satisfaction level is little bit less while others are fairly satisfied in this matter. In the case of security of transactions, very high income group is highly satisfied whereas that of others is very less. Very low income group opined that they are not satisfied in this matter. For speed of transactions, very high income group has the highest level of satisfaction followed by middle income group, high income group and very low income group. Low income group has the least satisfaction level in this matter. Overall it can be understandable that level of satisfaction declines as we move from the highest level of satisfaction to the lowest level of satisfaction.

Table 4.121. Level of Satisfaction of Internet Banking-Income wise Presentation

Variable	Below Rs.50000		Rs.50000-150000		Rs.150000-300000		Rs.300000-500000		Above 500000	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std.Dev
Usefulness	4.0000	0.00	4.0000	0.0000	4.2647	0.5672	4.0952	0.8782	3.7500	1.8930
Ease of use	4.0000	0.00	4.0000	0.0000	4.1176	0.5374	4.0698	0.7987	4.3333	0.5774
24 hour service facility	4.0000	0.00	3.8889	0.3333	4.2059	0.6410	4.0000	0.8452	4.2500	0.9574
Security of transactions	2.000	0.00	3.222	0.972	3.618	0.985	3.488	1.162	4.750	0.500
Speed of transactions	4.0000	0.00	3.3333	1.0000	3.9697	0.7282	3.9048	0.9830	4.7500	0.5000
Aggregate	3.6	0.00	3.6888	0.4611	4.0351	0.6917	3.9116	0.9334	4.3666	0.8855

iv. **Level of Satisfaction of Mobile Banking**

Lastly, whether the users of mobile banking are satisfied is checked. Mean values of three variables, usefulness, ease of use and 24 hour service facility of mobile banking is used for evaluating the level of satisfaction of mobile banking users. As in Table 4.122, it is quite clear that 4.5 is the average value of satisfaction in the case of usefulness which implies that most of the users are very much satisfied in using mobile banking. Similarly most of them find it easy to use with the mean value of 4.363 and are well satisfied with the 24 hour service facility of mobile banking, mean value is 4.227. Overall it is clear that users feel very much satisfied with mobile banking.

Table 4.122. Level of Satisfaction of Mobile Banking

Variable	Mean	Std. Dev
Usefulness	4.5000	0.5906
Ease of use	4.3636	0.5743
24 hour service facility	4.227	0.743
Aggregate	4.3635	0.6359

Bank wise Classification of Level of Satisfaction of Mobile Banking

For getting a better insight to the issue, three groups of bank customer's level of satisfaction of mobile banking is separately analyzed. It can be noted from the Table 4.123 that Kerala based bank customers and new generation bank customers are highly satisfied regarding the usefulness of mobile banking with mean values of 4.89 and 4.52 respectively whereas in the case of nationalized banks it is slightly low with 3.75. In the case of ease of use also, mean value of Kerala based bank customer's is high with 4.56 followed by new generation bank customers with 4.387 indicating that both the groups are well satisfied in the ease of use of mobile banking whereas 3.75 is the mean value of nationalized bank customers revealing that their level of satisfaction in the case of ease of use is comparatively low. For 24 hour service facility also, the trend is same where Kerala based bank customer's level of satisfaction is higher with the mean value of 4.667 followed by new generation bank customers with 4.161 and nationalized bank customers with 3.75. The overall figures clearly show that level of satisfaction of Kerala based bank customers are more satisfied followed by new generation bank customers and nationalized bank customers.

Table 4.123. Level of Satisfaction of Mobile Banking–Bank wise Classification

Variable	Nationalized banks		Kerala based banks		New generation banks	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Usefulness	3.7500	0.5000	4.8889	0.3333	4.5161	0.5699
Ease of use	3.7500	0.5000	4.5556	0.5270	4.3871	0.5584
24 hour service facility	3.7500	0.5000	4.6667	0.7071	4.1613	0.7347
Aggregate	3.75	0.5	4.7037	0.5224	4.3548	0.621

Age wise Classification of Level of Satisfaction of Mobile Banking

Further, mobile banking user's level of satisfaction on the basis of age is analyzed here. In this case, only youngsters and middle aged groups are using mobile banking, hence the analysis is restricted to these two groups only. Mean values shown in Table 4.124 reveals that regarding all the three variables middle aged category is more satisfied as compared to their counterparts.

Table 4.124. Level of Satisfaction of Mobile Banking–Age wise Analysis

Variable	Below 30 Years		30-45 Years	
	Mean	Std.Dev	Mean	Std.Dev
Usefulness	4.364	0.658	4.632	0.597
Ease of use	4.273	0.631	4.474	0.612
24 hour service facility	4.136	0.834	4.368	0.684
Aggregate	4.2576	0.7076	4.4913	0.631

Education wise Classification of Level of Satisfaction of Mobile banking

In the next level, users of mobile banking are classified into different groups on the basis of education and their level of satisfaction is measured separately. The relevant data is presented in Table 4.125 which shows that with respect to usefulness and 24 hour service facility, satisfaction level of SSLC, graduates and professionals are more or less equal whereas that of post graduates is slightly less. Pre-degree group opined that they are satisfied with all aspects of mobile banking. In the case of ease of use, professionals are more satisfied followed by graduates, SSLC, pre-degree and finally post graduates. In the aggregate figures also we can see this order where the professionals have the highest level of satisfaction and post graduates have the lowest.

Table 4.125. Level of Satisfaction of Mobile banking-Education wise Presentation

Variable	SSLC		Pre-Degree/ Plus Two		Graduation		PG		Professional	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Usefulness	4.6000	0.5477	4.0000	0	4.5263	0.6118	3.6667	0.5774	4.5833	0.6686
Ease of use	4.2000	0.4472	4.0000	0	4.4211	0.6070	3.6667	0.5774	4.4615	0.6602
24 hour service facility	4.2000	0.8367	4.0000	0	4.2632	0.7335	3.6667	0.5774	4.2308	0.9268
Aggregate	4.3333	0.6105	4	0	4.4035	0.6508	3.6667	0.5774	4.4252	0.7519

Income wise Classification of Level of Satisfaction of Mobile Banking

Lastly, income wise analysis is carried out to thoroughly assess the user's level of satisfaction of mobile banking. It can be seen that since no one from the very low income group is using mobile banking, they are excluded from the analysis. Mean values presented in Table 4.126 shows that regarding usefulness of mobile banking, all income groups are more or less fairly satisfied. In the case of ease of use, low income group is more satisfied followed by high income category, middle income group and lastly, very high income group. For 24 hour service facility, satisfaction level declines as we move from very high income group to low income group. Overall figure shows that except low income group, other categories are very well satisfied with mobile banking.

Table 4.126. Level of Satisfaction of Mobile Banking-Income wise Presentation

Variable	Rs.50000-150000		Rs.150000-300000		Rs.300000-500000		Above Rs. 500000	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
Usefulness	4.5000	0.7071	4.6000	0.5071	4.4348	0.7278	4.5000	0.7071
Ease of use	4.5000	0.7071	4.2857	0.4688	4.4348	0.7278	4.0000	0.0000
24 hour service facility	3.0000	0.0000	4.2000	0.7746	4.3043	0.7648	4.5000	0.7071
Aggregate	4	0.4714	4.3619	0.5835	4.3913	0.7401	4.3333	0.4714

4.2.8. Hypothesis Testing-Satisfaction of Branch Banking and E-Banking Delivery Channels

Hypothesis 8: Users have a reasonable degree of satisfaction of branch banking and various e-banking delivery channels and the level of satisfaction is independent of type of bank, age, education and income.

i. Satisfaction of Branch Banking

Bank wise Presentation

Table 4.127 shows differences in the mean values of satisfaction experienced by the three different bank customers. In order to check whether this difference is statistically significant, ANOVA is carried out and the results of the analysis are presented in Table 4.128.

Table 4.127. Level of Satisfaction of Branch Banking-ANOVA

Bank wise Presentation

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Location of the bank	1.950	2	0.975	2.46	0.087
Quality of services	2.117	2	1.058	2.50	0.083
Operating hours of the bank	4.839	2	2.419	3.48	0.032
Behavior of the staff	6.572	2	3.286	4.35	0.014
Commission charged on services	7.35	2	3.67	3.58	0.029
Provision of up-to-date information	6.939	2	3.469	4.38	0.013
Awareness provided by the banks	6.372	2	3.186	3.85	0.022
Parking facility	2.96	2	1.48	1.24	0.292

Table 4.127 shows that p-values of the first two variables such as location of the bank and quality of services, are more than 0.05, hence it is implied that all customers are

equally satisfied. In the case of parking facility, three groups are not significantly different but their level of satisfaction is low. In the case of all other variables, p-values are less than 0.05, hence it is implied that there are significant differences among the three groups of bank customers with respect to satisfaction of these variables. Here, new generation bank customers are more satisfied with the operating hours of the bank, behavior of the staff, commission charged on services, provision of up-to-date information and awareness provided by the bank as compared to their counter parts. Level of satisfaction of nationalized bank customers is low regarding these variables.

Age wise Presentation

For knowing whether there is any significant difference among various age groups regarding level of satisfaction of branch banking, one way ANOVA at 5 percent level of significance was carried out and the results are presented in Table 4.128.

Table 4.128. Level of Satisfaction of Branch Banking-ANOVA

Age wise Presentation

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Location of the bank	1.367	3	0.456	1.14	0.333
Quality of services	2.578	3	0.859	2.03	0.109
Operating hours of the bank	6.983	3	2.328	3.37	0.019
Behavior of the staff	2.530	3	0.843	1.10	0.350
Commission charged on services	1.72	3	0.57	0.55	0.650
Provision of up-to-date information	0.926	3	0.309	0.38	0.767
Awareness provided by the banks	3.001	3	1.000	1.19	0.313
Parking facility	9.36	3	3.12	2.64	0.049

It can be noted from the Table 4.128 that the p-values of only two variables, operating hours of the bank and parking facility, are less than 0.05. Here, statistical analysis clearly supports the information drawn from the mean values which clearly indicates that there is significant difference among various age groups in the case of level

of satisfaction of operating hours of the bank and parking facility. In the case of all other matters, the differences are found to be insignificant.

Education wise Presentation

In order to check whether the differences found in the mean values of various education groups are significant, one way ANOVA at 5 per cent level of significance was carried out and the results are presented in Table 4.129.

Table 4.129. Level of Satisfaction of Branch Banking-ANOVA

Education wise Presentation

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Location of the bank	1.267	4	0.317	0.79	0.531
Quality of services	1.353	4	0.338	0.80	0.529
Operating hours of the bank	5.805	4	1.451	2.09	0.032
Behavior of the staff	4.292	4	1.073	1.41	0.231
Commission charged on services	2.78	4	0.70	0.67	0.617
Provision of up-to-date information	4.568	4	1.142	1.43	0.223b
Awareness provided by the banks	2.304	4	0.576	0.69	0.602
Parking facility	3.40	4	0.85	0.71	0.584

The result of the analysis shows that p-value of only one variable, operating hours of the bank, is less than 0.05.hence it is implied that the differences found in the level of satisfaction of the different education groups are statistically significant. In the case of all other variables, the differences are found to be insignificant.

Income wise Presentation

To test whether various income groups significantly differ in their satisfaction of branch banking, one way ANOVA at 5 per cent level of significance is carried out and the results are presented in Table 4.130.

Table 4.130. Level of Satisfaction of Branch Banking-ANOVA**Income wise Presentation**

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Location of the bank	1.811		0.453	1.14	0.336
Quality of services	0.950		0.237	0.57	0.688
Operating hours of the bank	1.562		0.390	0.56	0.690
Behavior of the staff	1.455		0.364	0.47	0.760
Commission charged on services	1.90		0.48	0.770	0.45
Provision of up-to-date information	5.019		1.255	1.58	0.179
Awareness provided by the banks	1.128		0.282	0.33	0.855
Parking facility	3.82		0.95	0.79	0.530

Results of the analysis clearly reveal that p-values of all variables are more than 0.05, hence it is concluded that even though some differences are noted in the mean values of certain variables, these are not statistically significant.

ii. Level of Satisfaction-ATMS

In order to know whether the three groups of bank customers significantly differ in their level of satisfaction of ATMs, ANOVA is carried out and the results are presented in Table 4.131.

Table 4.131. Level of Satisfaction of ATMs-ANOVA–Bank wise Analysis

Variable	Sum of Squares	DF	Mean Squares	F value	P value
Location	4.766	2	2.383	4.81	0.009
Operating hours	5.011	2	2.505	6.30	0.002
Accuracy of transactions	6.358	2	3.179	5.64	0.004
Reliability of transactions	7.768	2	3.884	7.61	0.001
Safety of ATMs	6.241	2	3.121	6.41	0.002
Privacy of transactions	5.803	2	2.902	5.74	0.004
Ease of use	4.877	2	2.438	5.28	0.006
Parking facility	13.18	2	6.59	6.23	0.002

The results of the analysis show that p-values of all variables are less than 0.05. hence it is revealed that the three groups of bank customers significantly differ in their level of satisfaction of ATMs.

Age wise Analysis

For knowing whether there is any significant difference among the various age groups in their satisfaction level of ATMs, one way ANOVA at 5 per cent level of significance is done and the results are shown in Table 4.132.

Table 4.132. Level of Satisfaction of ATMs-ANOVA-Age wise Analysis

Variable	Sum of Squares	DF	Mean Squares	F value	P value
Location	0.785	3	0.262	0.50	0.681
Operating hours	0.665	3	0.222	0.47	0.701
Accuracy of transactions	1.812	3	0.604	1.04	0.374
Reliability of transactions	4.800	3	1.600	3.08	0.028
Safety of ATMs	3.614	3	1.205	2.43	0.066
Privacy of transactions	.619	3	0.206	0.39	0.757
Ease of use	2.581	3	0.860	1.83	0.142
Parking facility	4.84	3	1.61	1.48	0.219

The results of the analysis clearly reveal that the p-value of the variable, reliability of transactions, is less than 0.05 implying that the differences among the various age group in this matter is statistically significant. In the case of all other variables, differences are found to insignificant.

Education wise Analysis

To test whether the differences found in the mean values are statistically significant, one way ANOVA at 5 per cent level of significance is carried out and the results are presented in Table 4.133.

Table 4.133. Level of Satisfaction of ATMs-ANOVA–Education wise Analysis

Variable	Sum of Squares	DF	Mean Squares	F value	P value
Location	1.950	4	0.487	0.85	0.495
Operating hours	1.477	4	0.369	0.79	0.534
Accuracy of transactions	3.592	4	0.898	1.55	0.186
Reliability of transactions	2.045	4	0.511	0.96	0.427
Safety of ATMs	2.036	4	0.509	1.01	0.403
Privacy of transactions	1.363	4	0.341	0.65	0.625
Ease of use	4.634	4	1.159	2.48	0.044
Parking facility	10.68	4	2.67	2.49	0.044

The results of the analysis show that in the case of ease of use and parking facility, p-values are less than 5 per cent indicating that different age groups significantly differ in their satisfaction level of these two variables. In the case of all other variables, the differences are found to be insignificant.

Income wise Analysis

In order to know whether differences found in the mean values of different income groups in respect of their satisfaction of ATMs are statistically significant, one way ANOVA at 5 per cent level of significance was done and the results are presented in Table 4.134.

Table 4.134. Level of Satisfaction of ATMs-ANOVA-Income wise Analysis

Variable	Sum of Squares	DF	Mean Square	F value	P value
Location	5.935		1.484	2.71	0.030
Operating hours	2.619		0.655	1.41	0.231
Accuracy of transactions	4.971		1.243	1.96	0.100
Reliability of transactions	4.095		1.024	1.76	0.137
Safety of ATMs	0.570		0.143	0.26	0.905
Privacy of transactions	1.281		0.320	0.56	0.691
Ease of use	5.580		1.395	2.69	0.031
Parking facility	6.07		1.52	1.34	0.255

The results of the analysis show that in the case of location and ease of use, p-value is less than 0.05, hence it is implied that there are significant differences among various income groups in these matters. In the case of other variables, the differences are found to be insignificant.

iii. Satisfaction of Credit Cards

Bank wise Presentation

For the purpose to know whether the three groups of bank customers significantly differ in their level of satisfaction of credit cards ANOVA is carried out and the results are presented in Table 4.135.

Table 4.135. Level of Satisfaction of Credit Card–ANOVA-Bank wise Presentation

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Usefulness	2.033	2	1.017	2.61	0.084
Safety	1.135	2	0.568	0.91	0.408
Interest charged on payments	3.495	2	1.748	1.75	0.183
Ease of use	0.941	2	0.470	0.67	0.517

The results of the analysis reveal that the three groups of bank customers have difference of opinion only in the case of usefulness of credit cards and in the case of other variables, they do not significantly differ in their satisfaction level of credit cards.

Age wise Analysis

In order to check whether there are any significant differences in the satisfaction level of various age groups with respect to credit cards, one way ANOVA at 5 per cent level of significance is done and the results are presented in Table 4.136.

Table 4.136. Level of Satisfaction of Credit cards-ANOVA–Age wise Analysis

Variable	Sum of Squares	DF	Mean Squares	F value	P value
Usefulness	0.290	4	0.097	0.22	0.880
Safety	1.966	4	0.655	1.06	0.374
Interest charged on payments	2.65	4	0.88	0.85	0.471
Ease of use	2.020	4	0.673	0.97	0.416

The results of the analysis show that since p-values of all variables are more than 0.05 the differences shown in the mean values are found to be insignificant.

Education wise Analysis

For checking whether any significant difference exists among the different education groups with regard to level of satisfaction of credit cards, one way ANOVA at 5 per cent level of satisfaction is done and the results are presented in Table 4.137.

Table 4.137. Level of Satisfaction of Credit cards-ANOVA–Education wise Analysis

Variable	Sum of Squares	DF	Mean Squares	F value	P value
Usefulness	1.835		0.459	1.12	0.358
Safety	2.236		0.559	0.90	0.474
Interest charged on payments	2.62		0.66	0.62	0.649
Ease of use	3.333		0.833	1.22	0.315

The results of the analysis reveals that since p-values of all variables are more than 0.05, it is implied that the differences found in the mean values are not statistically significant.

Income wise Analysis

For checking whether there are significant differences among the various income groups with respect to the satisfaction level of credit cards, one way ANOVA at 5 per cent level of significance was carried out and the results are presented in Table 4.138.

Table 4.138. Level of Satisfaction of Credit cards-ANOVA–Income wise Analysis

Variable	Sum of Squares	DF	Mean Squares	F value	P value
Usefulness	1.214		0.405	0.98	0.411
Safety	1.345		0.448	0.71	0.550
Interest charged on payments	5.411		1.804	1.84	0.151
Ease of use	1.729		0.576	0.82	0.488

The results of the analysis clearly show that since the mean values of all variables are more than 0.05, the differences are found to be insignificance.

iv. Satisfaction of Internet Banking

Bank wise analysis

In order to check whether the difference in mean values of internet banking satisfaction of the three groups of bank customers is statistically significant one way ANOVA at 5 per cent level of significance is done and the results are presented in Table 4.139.

Table 4.139. Level of Satisfaction of Internet Banking-ANOVA–Bank wise Analysis

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Usefulness	1.334	2	0.667	1.09	0.340
Ease of use	1.869	2	0.935	1.80	0.172
24 hour service facility	2.040	2	1.020	1.43	0.245
Security of transactions	2.95	2	1.48	1.25	0.291
Speed of transactions	4.079	2	2.039	2.67	0.075

The results of the analysis reveal that, since p-values of all variables are less than 0.05, the differences shown by the mean values are not statistically significant.

Age wise Analysis

To test whether the different age groups significantly differ in their satisfaction level of internet banking, one way ANOVA at 5 per cent level of satisfaction is carried out and the results are presented in Table 4.140.

Table 4.140. Level of Satisfaction of Internet Banking-ANOVA–Age wise Analysis

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Usefulness	0.932	3	0.311	0.50	0.684
Ease of use	1.440	3	0.480	0.90	0.442
24 hour service facility	0.064	3	0.021	0.04	0.990
Security of transactions	4.48	3	1.49	1.26	0.293
Speed of transactions	3.903	3	1.301	1.67	0.179

It can be seen that p-values of all variables are more than 0.05, hence it is concluded that the differences are not statistically significant.

Education wise Analysis

For checking whether there is any significant difference among the various education groups with regard to the level of satisfaction of internet banking, one way

ANOVA at 5 per cent level of significance is done and the results are presented in Table 4.141.

Table 4.141. Level of Satisfaction of Internet Banking-ANOVA

Education wise Analysis

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Usefulness	1.097	4	0.274	0.43	0.785
Ease of use	1.391	4	0.348	0.64	0.632
24 hour service facility	0.209	4	0.052	0.09	0.984
Security of transactions	5.62	4	1.41	1.20	0.317
Speed of transactions	9.179	4	2.295	3.14	0.018

The results of the analysis show that the p-value of only one variable, speed of transactions is less than 0.05, hence it is implied that the different education groups significantly differ in the satisfaction of speed of transactions. In the case of other variables, the differences are found to be insignificant.

Income wise Analysis

To know whether the different income groups significantly differ in their satisfaction of internet banking, one way ANOVA at 5 per cent level of satisfaction was done and the results are presented in Table 4.142.

Table 4.142. Level of Satisfaction of Internet Banking-ANOVA**Income wise Analysis**

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Usefulness	2.136	4	0.534	0.86	0.494
Ease of use	0.302	4	0.076	0.17	0.951
24 hour service facility	1.264	4	0.316	0.58	0.681
Security of transactions	9.45	4	2.36	2.09	0.089
Speed of transactions	5.942	4	1.486	1.91	0.116

The results of the analysis show that since p-values of all variables are more than 0.05, the differences in the mean values are found to be insignificant.

v. Satisfaction of Mobile Banking**Bank wise Classification**

In order to find whether the three groups of bank customers significantly differ in their satisfaction of mobile banking one way ANOVA at 5% level of significance is applied and the results are included in Table 4.143.

Table 4.143. Level of Satisfaction of Mobile Banking-ANOVA**Bank wise Classification**

Variable	Sum of Squares	DF	Mean Sum of Squares	F value	P value
Usefulness	3.596	2	1.798	6.48	0.004
Ease of use	1.855	2	0.927	3.08	0.057
24 hour service facility	2.784	2	1.392	2.72	0.077

The results of the analysis show that the p-value of usefulness is less than 0.05, hence the implication is that in this case, differences among the three groups of bank customers regarding their level of satisfaction are found to be statistically significant. In the case of ease of use and 24 hour service facility, p-values are more than 0.05, hence the differences are found to be statistically insignificant.

Age wise Classification

For checking whether the differences found in the mean values of youngsters and middle aged with respect to their satisfaction of mobile banking are statistically significant, t-test at 5 per cent level of significance is done and the results are presented in Table 4.144.

Table 4.144. Level of Satisfaction of Mobile Banking-ANOVA

Age wise Classification

Variable	DF	T value	P value
Usefulness	39	-1.36	0.183
Ease of use	39	-1.03	0.309
24 hour service facility	39	-0.96	0.341

The results of the analysis show that p-values of all variables are more than 0.05. Hence it is indicated that even though some differences are found in the mean values, these differences are considered to be insignificant.

Education wise Classification

For checking whether any significant difference exists in the satisfaction level of different education groups with respect to mobile banking, one way ANOVA at 5 per cent level of significance was carried out and the results are presented in Table 4.145.

Table 4.145. Level of Satisfaction of Mobile Banking-ANOVA**Education wise Classification**

Variable	DF	SS	MS	F value	P value
Usefulness	4	2.455	0.614	1.59	0.199
Ease of use	4	1.890	0.473	1.28	0.297
24 hour service facility	4	0.980	0.245	0.38	0.824

The results of the analysis clearly reveal that since p-values of all variables are more than 0.05, the differences shown by the mean values are not statistically significant.

Income wise Classification

To know whether there is any significant difference in the satisfaction level of various income groups, one way ANOVA at 5 per cent level of satisfaction was done and the results are presented in Table 1.146.

Table 1.146. Level of Satisfaction of Mobile Banking-ANOVA**Income wise Classification**

Variable	DF	Sum of Squares	Mean Sum of Squares	F value	P value
Usefulness	4	0.248	0.083	0.19	0.900
Ease of use	4	0.503	0.168	0.41	0.744
24 hour service facility	4	3.302	1.101	1.92	0.143

The results of the analysis clearly show that the p-values of all variables are more than 0.05. Hence it is concluded that even though some differences are found in the mean values, these differences are considered to be statistically insignificant.

Conclusion

Overall it can be concluded that users are reasonably satisfied with all e-banking channels except credit card. In the case of credit card user's overall level of satisfaction is

low. Further, the above analysis reveals that user's level of satisfaction in respect of all e-banking channels is independent of the type of bank which customers maintain account, age, education and income.

**A STUDY ON THE BANKING HABITS
OF THE PEOPLE OF KERALA**

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Chapter 5

SUMMARY, FINDINGS, CONCLUSION AND SUGGESTIONS

5.1. SUMMARY

There has been a sea change across the banking and financial sector in India in the last ten years, the major credit for which is attributable to the Information Processing and Communication Technology, commonly known as IT. It has changed the way in which banking business is being done today. Bankers are now convinced that to 'create and retain a customer is the key to succeed in this competitive market. Therefore banks re-focus on their core asset the customer. IT has changed the entire scenario of customer-bank relationship, adding growth to bank business and convenience to customers. Technology has already helped in providing various delivery channels to customers. Now the customers no longer have to go inside the bank for their regular banking needs. The options are many to go to the nearest ATM or to the nearest internet enabled computer for access to their account or they can use their own mobile handsets for doing banking transactions. Computerization has reduced processing time in banking transactions. A cheque now deposited gets cleared quickly.

Significance of the Study

Kerala has a long history of strong banking habits. Most of the Keralites have bank accounts and are very active in banking. There has been a drastic change in the way banking services are delivered to the customers. The infusion of technology in to banking has changed the entire picture of delivering services to the customers. Customers no

longer have to wait for getting their services inside the bank branch. Banking services will reach the customers whenever and wherever they want. It is highly imperative to know how far technology has influenced the banking habits of the people of Kerala. This study lays emphasis on the fast changing banking habits of the people of Kerala. For the banking sector also, it is very essential to know whether there is a wide gap between adopters and non adopters of e-banking delivery channels introduced by them.

Scope of the study

The scope of the study is confined to an indepth analysis of the banking habits of the selected household bank customers belonging to three districts; Kozhikode, Ernakulum and Pathanamthitta of Kerala state. The present study started with an analysis of the general banking habits of the respondents. Later, it focused its attention on the electronic banking habits of the respondents. Even though a variety of multiple e-banking delivery channels are operating in the state, the scope of the study is confined to four popular e-banking delivery channels namely; ATMs, internet banking, mobile banking and credit card.

Research Problem

During the last decade, technology has been dramatically transforming the banking activities in the state. It extends greater convenience and multiple options for customers. But some electronic banking services are still in their infancy while others are more mature. It seems that only a small subset of consumers has adopted certain e-banking channels. Non-adopters still comprise the majority of the bank customers. Awareness of e-banking delivery channels is an essential pre-requisite for the adoption of the same. So there is a need to identify the awareness, the reasons for the adoption, non-adoption and rejection of these bank delivery channels. Again it is necessary to identify whether there is a wide gap between users and non-users of various e-banking channels. There are a number of factors which influence the customer usage frequency of bank delivery channels such as demographic and psychographic variables. There is a need to investigate which factors are more influential in taking the decision whether to adopt or not to adopt different banking channels. After having identified the level of adoption and

usage of e-banking channels, it is essential to identify whether the users are satisfied with these delivery channels. It is also necessary to explore the difficulties faced by the users of e-banking delivery channels.

Major Objectives

This study mainly aims to identify the bank customer's level of awareness with regard to the four major e-banking delivery channels such as ATMs, internet banking, mobile banking and credit card. The next objective is to identify how far awareness leads to the adoption of the same. Examining the influence of demographic and perceptual factors on the adoption of these delivery channels is the next objective. It also analyses the user's different experiences and their level of satisfaction in using these e-banking delivery channels.

Major Hypotheses

After setting the objectives, hypothesis to be tested are listed out. Major hypothesis are; bank customers in Kerala has a reasonable degree of awareness about various technology driven banking channels and the level of awareness is independent of type of bank which they belong to, their age, education and income and bank customers in Kerala has a reasonable degree of adoption of various technology driven banking channels and the level of adoption is independent of type of bank which they belong to, their age, education and income.

Variables Used

Variables used for the study are; the banks associated with, age, education and income of the informants, and further eleven perceptual variables such as convenience, accessibility, ease of use, usefulness, perceived risk, perceived need, personal contact, cost effectiveness, reliability, knowledge and informativeness.

Methodology

This study is designed as a descriptive one. Data used for this study is derived from primary and secondary sources. Secondary data is collected from various reports of

RBI, SBI, IBA, economic review of Planning Commission, research papers in various national and international journals and e-journals, articles etc. Primary data was collected by way of conducting sample survey among the customers of selected banks operating in Kerala state. A public opinion was gathered through a detailed survey, using structured and pre-tested questionnaire. For pre-testing the questionnaire, a pilot study was conducted among 35 selected bank customers of Calicut district. A reliability analysis was conducted on the 84 scaled statements used for pilot study in order to check the internal consistency of these statements and found that the collected data was highly reliable. The size of the sample is taken as 360 which was determined by way of applying a scientific formula.

Sample Design

Multistage sampling technique was adopted for collecting the data wherein the first stage, Kerala state is divided into three regions namely, northern, central and southern. From the northern region which consists of seven districts, Kozhikode district was selected randomly, from central region it is Ernakulam district and from southern region it is Pathanamthitta district. In the next stage, SBI, Federal bank and ICICI were selected from Kozhikode district as representatives of nationalized banks, Kerala based private banks and new generation banks. From Ernakulam district, it is Canara bank, SIB and Axis banks respectively and from Pathanamthitta district, it is Syndicate bank, CSB and HDFC banks respectively. In the last stage, 20 customers each were selected conveniently from two bank branches of each bank.

Scaling Technique Used

Most of the information required for the study is qualitative in nature. A Five point Likert continuous scaling technique was used for quantifying the various qualitative aspects of the study such as the degree of awareness, experience of use, level of satisfaction of customers, customer's perception of the selected electronic banking delivery channels provided by the selected banks in Kerala. The collected primary data has been classified on the basis of the type of the bank which the respondents belong to, age, education and annual income level of the informants.

Measures and Tools of Analysis

For the measurement and analysis of the information gathered, appropriate mathematical and statistical techniques have been used. The Classified primary data has been summarized by using simple mathematical techniques like mean and standard deviation, percentages and averages. To test the statistical difference between mean values, chi-square test, t-test and F-test were used. A factor analysis was conducted to identify the factors influencing the adoption and usage of ATMs and internet banking. Regression analysis was also applied to identify how these factors affect the adoption of ATMs and internet banking.

Time Period of the Study

This study covered a period of five years from 2007-08 to 2011-2012. Six months time was taken for collecting the primary data.

Major Limitations

Since it is a descriptive study based on the qualitative information collected from the respondents, scaling techniques have been used for converting the information into quantitative data. Hence the limitations of scaling techniques also affected the study. As the respondents supplied their information using 'Recall Method', some recall errors might have affected the study. Only 18 bank branches operating in the state and only four e-banking delivery channels were selected for the study due to time and cost constraints. However the researcher has taken serious efforts to reduce the effect of these limitations.

Literature Review

A detailed review of relevant literature for the study is undertaken by the researcher. All the available literature in connection with the progress and development of e-banking delivery channels are reviewed, and the major findings are described. Most of the research papers related to e-banking published in international e-journals were reviewed for this particular study. The relevant literature regarding awareness, adoption,

factors influencing the adoption of ATMs, Internet banking, Credit card and Mobile banking are reviewed. It further deals with the review of the available literature in connection with the user's experience and satisfaction of e-banking delivery channels.

Literature Review in the Development of E-Banking Delivery Channels

Here, the researcher reviewed all the available literature in connection with how different e-banking delivery channels were developed through the passage of time. It is ATMs which were developed as the first self service machine for conducting banking transactions outside the bank premises followed by phone banking, PC banking, internet banking and finally mobile banking. But it is found that the literature is not sufficient to give a complete picture of the development of all the e-banking delivery channels across the world.

Relevant Literature Related to the Awareness and Adoption of E-Banking

Here, relevant literature in connection with the awareness and adoption of technology driven bank delivery channels were reviewed. This gives a broad idea about the importance of having good awareness with regard to different e-banking channels for its adoption and active usage. It also discussed the common factors which affect the adoption of e-banking channels such as convenience, ease of use, usefulness, security aspect, perceived risk, cost factor, personal contact with the bank employees, speed and accuracy, reliability and confidentiality etc.

Literature Review of Factors Influencing the Adoption of ATMs

A detailed review of all the available literature describing the important demographic, economic, psychographic and perceptual factors influencing the adoption of ATMs, internet banking and credit card is undertaken. The key factors that has a positive influence on the adoption of ATMs are convenience, accessibility, trialability, observability, ease of use, usefulness, speed of operations etc whereas perceived risk, complexity, lack of knowledge and fear of safety and confidentiality are the major factors that discourage the use of ATMs.

Literature Review of Factors Influencing the Adoption of Internet Banking

For adoption of internet banking, major positive factors are convenience, easiness, user-friendly, user involvement, accuracy, time saving, 24 hour availability of service etc whereas lack of access to computers and internet, lack of knowledge, preference to personal contact with the bank staff, security concerns, complexity, reluctance to change etc; act as major hindrances to the adoption of the same. Likewise, available literature in connection with the adoption of credit card is also discussed.

From this review, the implications for the present study are drawn.

Models Discussed

In this review, two models; namely Diffusion Innovation Model by Rogers (1961) and Technology Acceptance Model by Davis (1989) are studied and all the variables used in these models are also discussed. Rogers in his Diffusion Innovation theory, identified five characteristics or attributes of innovations that affect the rate at which innovations are adopted; their relative advantage, compatibility, complexity, divisibility (trialability), and communicability (observability). Additional characteristics were later adopted; perceived risk by Ostlund (1974) and financial and social cost by Zeithaml (1981). In TAM, Davis identifies the perceived usefulness and the perceived ease of use of a technology as determining user behaviour. He found that perceived usefulness has a stronger influence on usage than does ease of use. Davis's study shows that users are driven to adopt a technology primarily because of the functions it provides them, and secondarily because of the easiness of benefiting from those functions. Variables chosen for the present study are based on some of the variables of these models such as relative advantage, compatibility, complexity, perceived risk, cost effectiveness, ease of use and usefulness. Further in this review, a number of factors are seemed to have an influence on the adoption of the selected e-banking delivery channels. These factors can be bifurcated into two, demographic and perceptual factors. In the present study also, these two groups of factors are taken into account for checking their influence on the adoption of e-banking delivery channels.

Research Gap

From the detailed literature review, it is revealed that a number of studies were conducted in the area of awareness and adoption of e-banking delivery channels all over the world. But very few studies have been conducted in India. Coming to Kerala, a detailed study in this respect has not been initiated. Kerala state is declared as the first total bank literacy state in India. Again, Keralites are considered to be more techno-savvy. In this context, it is highly imperative to have an in depth study regarding the banking habits especially the electronic banking habits of the people of Kerala.

Sample Profile

A sample profile of the 360 respondents is described in detail. A profile of the respondents based on the type of bank, geographical area, gender, age, education, occupation, and annual income are presented to get a broad idea about the socio, economic and demographic characteristics of the sample population. 61 percent of the respondents are male people indicating that they are more active in banking as compared to their counter parts. Nearly 70 percent of the respondents are below 45 years of age and about 80 percent of them have atleast graduation. Further, people belong to high level occupation are actively involved in this study as compared to their counter parts.

Banking Habits of the Respondents

Since it is very essential to identify the banking habit of the respondents, it is analyzed by way of checking their association with their respective banks and their frequency of branch visit. Important reasons for their bank visit and the major factors affecting the choice of their banks are also assessed to better understand the respondent's banking habits. Further, to gain deeper insight into the study, four important variables are selected such as type of bank, age, education and income and analysis is done in different aspects.

Period of Association with the Banker

Period of association with a banker is an indication of loyalty to the institution. Longer is the period of association; higher is the loyalty and vice versa. For examining this, respondents are asked to express how long they have been taking the service of the present banker. Statistical analysis is done by way of finding the mean and standard deviation of the collected data. It is revealed that most of the customers have close association with their bank. In order to get a clear insight in to the issue, variable wise analysis is also done.

Frequency of Visit of Bank Branch

Respondents are also asked to give information about the frequency of visiting their bank branch which show that the average frequency of visit by customers is once in a month. This highlights the fact that most of the banks have a strong group of loyal customers. Customers are more interested in branch banking in spite of all the technological advances and entry of non banking entities. They consider bank branches are significant growth engines and the best place to get personalized advice and attention and to conduct complex banking activities.

Reasons for Bank Visit

After having analyzed the period of association with the bank and the frequency of bank visit, the various reasons for the customer's bank visit are analyzed. There are many reasons for customer's bank visit such as to deposit cash / cheque, to withdraw cash, to transfer money, for taking demand draft, to pay bills, to take loans, to pay interest/repay loans and to make enquiries/complaints. It is very essential for the researcher to know the major reasons for the customers bank visit. The assessment of the various reasons for bank visit reveals that majority of the customers visit their bank branches for making deposits. It is also identified that many still depend on their bank for withdrawal of money. This highlights the importance of taking emergent action to persuade the bank customers to depend on ATMs for withdrawals. Again it is very much essential that bank authorities should make necessary arrangements for depositing money through ATMs.

Key Factors in Bank Selection

The researcher also made an attempt to identify the key factors that account for the customer's selection of their bank. For the purpose of knowing this eight factors were identified such as 'convenience', 'favorable interest rates on loans/deposits', 'brand image', 'bank has an ATM near your home/working place', 'bank provides technology enabled products and services', 'customer friendly environment', 'advertisements' and 'influence of friends and relatives'. The respondents are asked to distribute in 100 points in the order of importance. An assessment of the factors that account for customer's choice of selection of bank clearly revealed that most of the customers prefer those banks which are at convenient locations and deliver the needed services to the customer's convenience. They also ensure that the bank have ATMs at convenient location near their home, workplace or easily accessible locations while selecting their bank.

Table 5.1. Result of Hypotheses Testing

No.	Hypotheses Tested	Tools Used	Results of Hypotheses Testing
H1	Bank customers in Kerala has a reasonable degree of awareness about various technology driven banking channels and the level of awareness is independent of type of bank which they maintain account, their age, education and income.	Arithmetic mean, Standard Deviation, F-test	Respondents have high degree of awareness in case of ATMs and credit card whereas it is low in case of internet banking and mobile banking. Respondent's level of awareness of selected e-banking delivery channels is clearly dependent on the four variables used in the study such as type of bank which the customers maintain account, age, education and income. Hence, H1 is rejected.
H2	Bank customers in Kerala has adopted various technology driven banking channels at a reasonable rate and the level of adoption is independent of type of bank which they maintain account, their age, education and income.	Chi-Square	Rate of adoption of ATMs is very high whereas it is low in case of all other e-banking channels. Further, adoption of ATMs and internet banking is clearly dependent on the type of bank, age, education and income. Adoption of credit card is independent of age and education whereas mobile banking adoption is independent of all variables except the type of bank which the customers maintain their accounts.

No.	Hypotheses Tested	Tools Used	Results of Hypotheses Testing
H3	The period of association with multiple bank delivery channels is independent of the type of bank, age, education and income.	One-way ANOVA	Period of association with the selected e-banking channels is independent of the type of bank which the customers maintain their accounts. Again, age, education and income of the users have no influence on their period of association with the selected e-banking channels except ATMs. Hence H3 is accepted.
H4	The usage frequency of multiple bank delivery channels is independent of the type of bank, age, education and income.	One way ANOVA	Average frequency of usage of all the multiple bank delivery channels is independent of the variable 'age'. Average frequency of using ATMs is dependent on the variables, type of bank and income, whereas that of mobile banking is dependent on education and credit card is dependent on income.
H5	There is no difference between users' and non users' perception of various technology driven banking channels.	t-test	E-banking users' general perception towards technology used in banking as well as their perception towards the quality of various technology driven banking channels are significantly different from that of non users'. Hence H5 is rejected.
H6	There is no association between perceptual factors and the adoption of multiple bank delivery channels.	Factor Analysis, Regression Analysis	There is a close association between perceptual factors and the adoption of multiple bank delivery channels. Hence H6 is rejected.
H7	Users' different experiences regarding e-banking delivery channels are independent of the type of bank which they maintain account, their age, education and income.	One-way ANOVA	Users' different experiences while using the selected e-banking delivery channels are independent of the type of bank which they maintain account, age, education and income. Hence H7 is accepted.
H8	Users have a reasonable degree of satisfaction of branch banking and various e-banking delivery channels and the level of satisfaction is independent of type of bank, age, education and income.	Arithmetic mean, Standard Deviation, One way ANOVA	Users are reasonably satisfied with all e-banking channels except credit card. In the case of credit card user's overall level of satisfaction is low. Further, user's level of satisfaction in respect of all e-banking channels is independent of the type of bank which customers maintain account, age, education and income. Hence H8 is accepted.

5.2. FINDINGS

Major findings with regard to the banking habits of the respondents are listed below:

5.2.1. Period of Association with the Bank and Frequency of Visit

The study reveals that majority of the customers are taking the service of their respective banks for nearly seven years. They visit their bank branch atleast once in a month. Bank wise classification gives the idea that even though new generation bank customers have six years of experience with their banks, they are more active in branch banking as compared to nationalized and Kerala based bank customers. The result of age wise study shows that the older groups have been using the services of the their respective banks for the last ten years followed by elder group with seven years and youngsters with four years. However, it is revealed that even though younger groups have less experience with their banks as compared to older groups, they are more active users of banking than their counterparts. Education wise study reveals that professionals and graduates have six years of experience with their banks, for post graduates it is nearly eight years, for SSLC group it is seven years and for Pre degree it is only five years. Regarding frequency of bank visit, all education groups have more or less similar habit of visiting their bank branch at least once in a month. In the case of income, high income groups have comparatively long years of experience in banking as compared to low income groups. However it is clear that even though very high income group has comparatively long years of experience in banking, they are not much active in dealing with their banks.

5.2.2. Reasons for Bank Visit

Findings related to the reasons for the customer's bank visit reveal that the most important reason is to deposit cash/cheque followed by for taking demand draft and for withdrawing cash. Overall this gives the impression that even though ATMs are very prevalent, many customers still approach bank branches for withdrawing cash. Results of the bank wise classification clearly show that all the three groups of bank customers give prime importance to depositing cash, but nationalized bank customers give second

importance to withdrawal of cash, KSB customers give third importance to this factor. However, new generation bank customers give least importance to this factor implying that they heavily use other banking channels for meeting this purpose. Results of all other studies based on age, education and income give the idea that depositing cash is the most important reason for their bank visit. However in the case of cash withdrawal different customer groups have different habits. Older groups give second importance to this factor as compared to youngsters and middle aged. It is also understandable that dependence on bank branches for withdrawal of cash reduces as we go up from low level of education to high level of education. Similarly, low income groups still depending on bank branches for withdrawal of cash whereas this tendency is less in the case of average and high income groups. This indicates that youngsters, people having at least graduation and above average income groups are increasingly depending on other banking delivery channels, especially ATMs, for taking their money.

5.2.3. Factors Affecting Customers' Choice of Their Banks

Major findings related to the key factors that account for customers' choice of retail banks reveal that 'convenience' is the most important factor which influences the respondents while selecting their bank. The next important influencing factor is 'the bank has an ATM near to home or working place' followed by 'customer friendly environment in the bank' as the third factor and 'favorable interest rates on loans/deposits' as the fourth factor. The least important factor which influences the selection of a bank is 'advertisements'. The results of all the selected variable wise classifications also support the above findings. This clearly proves that customers prefer those banks which are at convenient location and deliver the needed services to the customer's convenience. They also ensure that the bank have ATMs at convenient location near their home, workplace or easily accessible locations while selecting their bank.

5.2.4. Awareness of E-Banking Delivery Channels

Key findings related to the awareness of electronic bank delivery channels clearly indicate that all customers very well aware that their respective banks provide the facility of ATMs, different types of transactions done through ATMs and the mechanism of using

ATMs. As far as internet banking is concerned, majority of the customers aware that their respective banks provide the facility of internet banking, but regarding internet banking transactions and how to use internet banking, their level of awareness is low. In the case of availability of mobile banking and transactions done through this facility, majority of the respondents have limited awareness. Again most of the respondents are aware of the availability of debit card and credit card.

5.2.4.1. Bank Wise Awareness

Bank wise analysis reveals that with respect to ATMs, all three groups of bank customers have high level of awareness. But in the case of internet banking and mobile banking, nationalized bank customer's level of awareness is low. Kerala based customers are in a better position. New generation bank customers have good awareness regarding all aspects of e-banking products and services as compared to the other two groups of bank customers. Statistical analysis also supports these findings.

5.2.4.2. Age Wise Awareness

Age wise classification shows that all respondents irrespective of their age group have good awareness regarding ATM availability, ATM transactions and how to use ATMs. But in the case of awareness of all other e-banking products and services it is very clear that youngsters and middle aged are more aware as compared to other age groups. Level of awareness of elder and older groups are very low in the case of internet banking transactions, how to use internet banking, availability of mobile banking and mobile banking transactions. In the case of debit card and credit card, all age groups are aware of but the awareness level of elder and older groups is slightly less as compared to the younger categories. Statistical analysis also supports these findings.

5.2.4.3. Education Wise Awareness

Education wise analysis gives the information that all respondents irrespective of their level of education are well aware of availability of ATMs, ATM transactions and the mechanism of using them. But in the case of all other e-banking services, level of awareness declines as we go down from high level of education to low level of education.

It can be seen that for SSLC group level of awareness in the case of availability of internet banking and mobile banking is very low as compared to their counter parts. Regarding transactions done through internet banking and how to use it, except professionals, all other group's level of awareness is low. It is the same with that of mobile banking transactions also. In the case of debit cards and credit cards majority of the respondents are well aware of but the level of awareness goes on declining from high level of education to low level of education. Statistical analysis also support that highly educated groups have high awareness as compared to their counterparts.

5.2.4.4. Income Wise Awareness

Income wise analysis also reveal that in the case of availability of ATMs, and ATM transactions, all groups irrespective of their income status are well aware, but in the case of mechanism of using ATMs, awareness level of very low income group is slightly less as compared to other income categories. All income groups except very low income group are aware of the facility of internet banking. But in the case of internet banking transactions and how to use internet banking, level of awareness of all income groups except high income group, is low. It is revealed that most of the low income categories are unaware of these transactions. Further, majority of the respondents from all income groups, except the very low income category, are aware that their banks provide the facility of mobile banking whereas regarding mobile banking transactions, many of them are unaware except the high income groups. In the case of debit card and credit card, awareness level of high income categories is high and it goes on reducing as we go to the lower levels of income groups. Overall it is understandable that the awareness of all e-banking delivery channels reduces as we go down from higher income group to lower income group. Statistical analysis also supports these findings.

5.2.5. Adoption of E-Banking Delivery Channels

The information about the level of adoption of e-banking products and services reveals that adoption of ATM was highest followed by internet banking, credit card and mobile banking. Among the 360 respondents, rate of adoption in the case of ATMs is 90 percent, for internet banking, it is 26 percent, for mobile banking, only 13 percent and

credit cards it is 18 percent. Further it is found that usage of these services is different from adoption. In the case of ATMs, only two adopters have dropped using it. In the case of internet banking out of 95 adopters, 91 are using and in the case of mobile banking, three adopters have dropped using these service. Regarding credit card, out of the 64 adopters, 11 persons are not using this. Droppage rate is high in the case of credit cards followed by mobile banking, internet banking and ATMs.

5.2.6. Usage of E-Banking Delivery Channels

It is found that majority of ATM users have been using it for more than three years. In the case of credit card, average period is three years whereas in the case of internet banking it is less than two years. Mobile banking services are used by the users for the last two years. Regarding frequency of use it is found that majority of ATM users are using it for at least twice in a month. For credit card, it is once in a month which is low as compared to the frequency of usage of other services. Majority of Internet banking users are using it for at least twice in a month whereas in the case of mobile banking, average frequency of usage is near to once in a week. Hence it is revealed that even though rate of adoption of mobile banking is low as compared to other services, the intensity of its use is relatively high. Overall, the implication is that average frequency of usage of mobile banking is the highest followed by ATMs, internet banking and credit cards.

5.2.7. Transactions Performed Through E-Banking Delivery Channels

Main findings related to the transactions performed through e-banking delivery channels are that all are using ATMs for cash withdrawal, majority makes balance enquiry. Only six percent make deposit of cash/cheque, 33 percent takes mini statements and eight percent makes bill payments. In the case of internet banking, account balance inquiry is the most commonly used banking services followed by air/rail ticket booking, fund transfer and online shopping. For mobile banking, 95 percent of the users make balance enquiry and many of them takes information on last three transactions in their bank account.

5.2.8. Bank Wise Classification of Adoption of E-Banking Delivery Channels

Bank wise classification of adoption of e-banking products and services revealed that new generation bank customers are ahead of other two groups of bank customers in adoption of all the four e-banking delivery channels. KBS bank customers are in a better position as compared to nationalized bank customers. Results of the statistical analysis also support that adoption of the selected e-banking products and services is clearly dependent on the types of banks which the users belong to.

Nationalized bank customers have been using ATMs for three years; KBS bank customers for more than three years. Majority of new generation bank customers have been using it for nearly four years. In the case of credit cards, for nationalized bank customers it is more than five years but in the case of Kerala based and new generation bank customers, it is nearly three years. Again new generation bank customers have been using internet banking for two years and mobile banking for more than two years. Internet banking and mobile banking users of KBS banks have been using these for more than one year. Nationalized bank customer's period of being the user of internet banking and mobile banking is low, one year in the case of internet banking and less than one year in the case of mobile banking. Results of the statistical analysis reveal that these differences found among the three groups of bank customers are not significant.

Further it is found that regarding ATMs, nationalized and Kerala based customer's using ATMs twice in a month. But new generation bank customer's frequency of usage of ATM is much higher; most of them are using it every week. In the case of credit card, nationalized bank customers' and new generation bank customers' usage frequency is once in a month. For Kerala based scheduled banks customers, it is twice in a month. Majority of the three groups of customers are using internet banking twice in a month. Majority of mobile banking users belonging to the three groups of banks are using it nearly once in a week. All users irrespective of the bank group which they belong to, do not differ significantly on their frequency of usage of credit card, internet banking and mobile banking.

5.2.8.1. Age Wise Adoption

Findings of the age wise analysis reveal that the demographic variable 'age' has significant influence on the adoption of ATMs and internet banking whereas age is found to be independent of the adoption of credit card and mobile banking. Majority of the youngsters have been using ATMs for nearly three years indicating the presence of many respondents in this category who are new to ATMs. The middle aged group is using ATMs for more than three years whereas that of elder group is nearly four years. The older group has been using ATMs for nearly five years. In the case of credit card, the younger groups have been using it for more than three years. Middle aged and elder groups have been using credit card for nearly three years whereas older group is for more than five years. Regarding internet banking, younger group have been using it for nearly two years whereas the same as that of middle aged and elder group is more than one year. Only one person from the older category is using internet banking who has only one year experience of using internet banking. In the case of mobile banking also younger generation has more than two years experience. Middle aged group have been using it for two years. Only two persons from the elder group are now using mobile banking, both have one year experience of using the same. The result of the statistical analysis shows that there is significant difference among the four age groups regarding the average period of using ATMs. But in the case of all other services, credit card, internet banking and mobile banking, the difference is not significant.

It is also found that all users of e-banking products and services are equally active in using the same. In the case of ATMs and internet banking, average frequency of usage is more than twice in a month, for credit cards once in a month, for mobile banking it is once in a week.

5.2.8.2. Education Wise Adoption

It is found that the adoption of ATMs and internet banking is dependent on education. 99 percent of the professionally qualified people have adopted ATMs followed by post graduates with 87%. It also gives the information that 90% of the respondents from the graduation and pre-degree/plus two group have adopted ATMs. But the rate is low in the case of those who have SSLC, 71%. In the case of internet banking

professionals have high rate of adoption with 35%. In the case of all other categories, the rate is low. The factor education has no influence on the adoption of credit cards and mobile banking.

Further findings show that nearly four years is the average period of use of ATMs for the highly qualified group, three years is that of graduates and around two years is for the less educated groups. These differences are also statistically significant. However, in the case of other channels, the different education group's average period of use is more or less the same. For credit cards, average period of use is more than three years, for internet banking and mobile banking, it is two years.

It is found that regarding frequency of use, different education groups significantly differ only in the case of mobile banking wherein, low education group is not very much active as compared to other education categories.

5.2.8.3. Income Wise Adoption

There is close association between income of the respondents and adoption of ATMs, credit cards and internet banking implying that above average income group's rate of adoption of these is high as compared to low income categories, but in the case of mobile banking it is not true where income does not have any influence on its adoption. This proves that mobile banking is the cheapest e-banking delivery channel. Again, above average income groups are found to have long years of experience with ATMs as compared to other categories. They are also very active users of ATMs and credit cards as compared to other categories. But in the case of internet banking and mobile banking all are equally active irrespective of their level of income.

5.2.9. ATM Users' and Non-Users' Attitude towards Banking Technology

ATM users have positive attitude towards technology used in banking which is fully reflected in their adoption and usage of the same. ATM non users are concerned with the security of the technology enabled banking services. They express their unwillingness to use new methods to conduct banking transactions. They also have the opinion that technology enabled banking services are complicated and highly insecure to use. They admit that they are not very active users of banking services and they are very

much satisfied with the existing mode of banking services. They strongly agree that they do not feel the need to use ATMs. They also have strong negative perception towards ATMs which plays a crucial role in dissuading them from using ATMs. Another important point to be noted here that these two groups strongly agree that bank should provide proper awareness regarding technology enabled banking services.

5.2.10. Attitudinal Differences between Users and Non-Users of ATMs

Users of ATMs feel that location and 24 hour availability of ATMs are very convenient for them and they are very much comfortable with the same. They also experience that ATM operations are very easy for them. Majority of the users can access ATMs whenever they need it, and they do not feel that the queues of the ATM are quite large. They also agree that ATM makes banking services easy for them, it is time saving, accurate and quicker than visiting the bank branch. But majority of the users express concern over the security of ATMs. They also opined that it is not safe to deposit money through ATMs. Finally they strongly agree that ATMs are very essential for their banking. In the case of non users, one of the main reasons for their low average usage value is that they do not have the experience of using ATMs. They feel that the location of ATMs are not very convenient for them and find it difficult to access the same. They also think that going to bank branch is better than using ATMs. They are very much concerned about the security of using ATMs and they opined that it is risky to deposit money through ATMs. Finally, they strongly agree that they do not feel the need to use ATMs. Non users have strong negative perception towards ATMs and this is fully reflected in their action of not using ATMs.

5.2.11. Influence of Perceptual Factors on the Adoption of ATMs

A factor analysis reduced the 13 perceptual statements into four factors corresponding to convenience, perceived risk, speed of operations and accessibility.

The regression analysis suggests that the factors, convenience, speed of operations and accessibility are positively associated with the adoption of ATMs and perceived risk is significantly negatively associated with the adoption of ATMs. These four factors are important in predicting ATM usage in such a way that individuals who perceive ATMs

as convenient, quick to use, time saving and easily accessible are more likely to use ATMs whereas those who perceive ATMs as risky to use, inconvenient, inaccessible and unreliable are unlikely to use the same. These results indicate that the active users of ATMs consider convenience as the most important attribute which greatly influences their adoption and active usage of ATMs. Further it is found that there is a significant relationship between the predictor variables and ATM usage. Perceptual factors are also considered to be strong predictors of ATM usage.

5.2.12. Internet Bank Users' and Non-Users' General Perception of Banking

Technology

Findings show that internet bank user's general perception of technology used in banking is very positive; this is clearly reflected in their approach to internet banking. They are very much interested in using new methods to conduct banking transactions. They disagree that technology enabled services are complicated to use. They also opined that they are very active users of banking and they feel they are not satisfied with branch banking.

Non users of internet banking feel that technology enabled banking services are little bit complicated to use. They also agree that they are not very active in banking and many of them are satisfied with branch banking. They are not against of technology used in banking but they do not support complete replacement of people with machines in discharging banking transactions. This support the fact that most of the non users of internet banking have adopted ATMs, some are using credit cards and mobile banking. Hence we cannot say that they are against of banking technology.

5.2.13. Attitudinal Differences between Users and Non-Users of Internet Banking

Internet users are comfortable with internet banking. As compared to branch banking, for them, internet banking is more convenient since it is quick to use than visiting the bank branch personally. They also feel that internet banking is very much needed for conducting their banking activities. But regarding the security aspect, even users are concerned about the security of internet banking and also the consequences of making mistakes. They also admit that branch banking is safer than internet banking. But

at the same time, they are not ready to stay away from internet banking due to the fear of losing money.

Many of the users of internet banking still like to maintain personal contact with their bank branch and they prefer to deal face to face with banking personnel in doing banking transactions. Regarding the economic aspect of internet banking, users of internet banking do not agree that branch banking is very costly but at the same time they believe that internet banking transactions are cheap compared to branch banking transactions. Further, majority of them strongly agree that charges on various internet banking transactions are unknown. They also opined that they are knowledgeable of all the benefits of internet banking.

On the other hand, non users are not at all interested in internet banking. They strongly feel that branch banking is more convenient than internet banking even though majority of them opined that branch banking is little bit time consuming. It is very important to note that majority of the non users do not have the basic facility, computer/internet connection, to do internet banking. They are also very much concerned about the security of internet banking and consequences of making mistakes. They also agree that they do not use internet banking due to the fear of losing money. They strongly believe that branch banking is much safer than internet banking. Due to these factors, they do not feel the need to use internet banking. Non users of internet banking prefer to go to branch banking and like to deal face to face with banking personnel for doing their banking transactions.

5.2.14. Influence of Perceptual Factors on the Adoption of Internet Banking

The factor analysis condensed the eighteen perceptual statements into four factors corresponding to perceived risk, personal contact, convenience and cost effectiveness.

The regression test done between the factor variables and internet banking usage frequency implied that the four factors together predict 56 percent of the variations in internet banking adoption. This shows that there is a significant relationship between the predictor variables and internet banking usage. Further, the perceptual factors are also considered to be strong predictors of internet banking usage. The regression analysis suggests that perceived risk, personal contact, convenience and cost effectiveness are the

important predictors of internet banking usage. It shows that the factors convenience and cost effectiveness are positively associated with the adoption of internet banking whereas the factors perceived risk and personal contact are negatively associated with the adoption of internet banking. Specifically, a person who perceives internet banking to be more convenient and cost effective is more likely to be an internet banking user. On the other hand, perceived risk and personal contact are negatively affecting the rate of adoption of internet banking in the sense that if customers feel transactions done through internet is more risky; they would not be ready to post financial information over the internet. Similarly, those who prefer the presence of bank staff than machines while making their banking transactions are less likely to adopt internet banking.

5.2.15. Attitudinal Differences between Users and Non-Users of Mobile Banking

Mobile banking users do not have the opinion that it is an unpractical device for banking like non-users. Users support that mobile phone is very convenient for conducting their banking transactions whereas non-users do not believe like that. Further the users very well understand how to use mobile banking whereas non-users reveal that they do not understand sufficiently well to use it. Overall it is understandable that users have strong positive perception towards mobile banking as compared to their counterparts.

5.2.16. Attitudinal Differences between Users and Non-Users of Credit Card

It is found that users and non-users significantly differ in their perception of credit cards. Users are of the opinion that credit card is very useful for them whereas non-users do not believe it. Again, majority of credit card users opined that they prefer credit cards than cash for their shopping whereas non-users feel the other way round. They always prefer cash than credit card for their shopping. This gives the idea that users of credit card have positive perception whereas non-users have negative perception towards credit cards.

5.2.17. Users' Experience of ATMs

Main findings of the users' experiences with regard to ATMs reveal that most of the users rarely have the specified problems while using ATMs. Some users occasionally have the problem of waiting in long queues at ATMs. Certain others occasionally insert ATM card incorrectly. Nationalized bank customers occasionally experience the problem of waiting in long queues at ATMs and 'ATM running out of order' as compared to Kerala based and new generation bank customers.

It is found that older groups occasionally have the experience of waiting in long queues at ATMs whereas the other two groups rarely experience it. Further the older group opined that ATMs are working slowly but other groups rarely have this experience.

Findings show that with regard to having to wait in long queues at ATMs, graduates and post graduates occasionally have this experience whereas others opined that they rarely experience it. In the case of ATM running out of order, highly educated groups rarely experience it as compared to others. Again, pre-degree and post graduate groups opined that they occasionally have the experience of inserting card incorrectly whereas other groups rarely experience it.

Except very high income group, all others occasionally have the experience of waiting in long queues at ATMs. In the case of all other variables different income groups rarely have these experiences with ATMs

5.2.18. Users' Experience of Internet Banking

Users occasionally experience that internet banking is working too slowly, charges on various internet banking transactions are not known and they feel fear of lack of security and confidentiality in transactions. Again it can be found that users rarely have the problem of not getting up-to-date information and internet banking is doing wrong transactions.

Bank wise analysis shows that nationalized bank customers occasionally have the experience of slow working of internet banking and they feel that charges on various internet banking are not known as compared to Kerala based and new generation bank customers. In the case of fear of lack of security and confidentiality in transactions all the three groups of customers occasionally have this experience.

Youngsters and middle aged occasionally feels that internet banking is working too slowly as compared to their counter parts. In the case of doing wrong transactions, all age groups opined that they rarely have this experience. Again, elder group opined that occasionally they have the problem of not getting up-to-date information, whereas others rarely experience this problem. All age groups except the older group complained that charges on various IB transactions are not known, and they are also concerned of the security aspect of internet banking.

SSLC group opined that they frequently have the experience of slow working of internet banking whereas others occasionally experience this problem. Further, all education groups rarely have the experience of their internet bank doing wrong transactions. Pre-degree group frequently have the problem of not getting up-to-date information, graduates and post graduates occasionally experience this whereas this is not a problem for SSLC group and professionals. Again, pre-degree, graduates and professionals complained that they frequently do not know the charges of IB transactions whereas their counter parts occasionally have this experience. With regard to security aspect, we find that fear of security increases as we go down from high level of education to low level of education.

Findings show that very low income, middle income and high income groups occasionally experience slow working of internet banking, whereas low income and very high income groups rarely experience this problem. Again, very high income group opined that they very rarely experience internet banking doing wrong transactions while others rarely have this problem. Further, middle income and high income groups occasionally feel that they are not getting up-to-date information in internet banking, low income and very high income groups rarely experience it whereas very low income group never have this problem. Middle income and high income groups are of the opinion that they occasionally have the problem of not knowing charges on various IB transactions, whereas low income groups rarely experience it. In the case of fear of lack of security, we can find that this experience increases as we go down from very high income to very low income groups.

5.2.19. Users' Experience of Mobile Banking

Findings show that mobile banking users encounter the specified problems rarely. Thus it is clear that mobile banking users are very comfortable while using the same.

Nationalized bank customers occasionally experience fear of security while using mobile banking whereas in the case of Kerala based and new generation bank customers; they rarely experience 'fear of security'. Nationalized bank customers also revealed that they occasionally get unclear instructions regarding mobile banking transactions. But Kerala based and New generation bank customers opined that they rarely get unclear instructions. Further all the three groups of bank customers have the opinion that they get needed information of how to use mobile banking. They also express that mobile banking does not have complicated procedures while transacting.

It is understandable that all users regardless of their age, education, occupation and income experience few problems with mobile banking.

5.2.20. Users' Experience of Credit Cards

Findings show that credit card users frequently experience the problem of 'Interest charged is very high', occasionally experience the problems of 'Danger of losing credit card 'It involves hidden costs', 'Unreasonable charges on late payments/outstanding balance'. These results go in parity with the low level of satisfaction disclosed by the respondents especially in the case of interest charged on credit cards.

All users irrespective of the types of banks they belong to, frequently experiences the problem of charging of a very high interest and unreasonable charges on late payments. In the case of the danger of losing credit cards, Kerala based and new generation bank customers occasionally have the experience as compared to nationalized bank customers. Further, Kerala based and new generation bank customers frequently experience the problem of hidden costs. Except the older category, all others feel that interest charged is very high whereas the response of older group is that they always experience this problem. Regarding danger of losing credit card, all groups regardless of their age occasionally have this problem. Further, the first three groups opined that they

occasionally experience that credit cards involve hidden costs and unreasonable charges on late payments whereas the older group frequently have these problems.

It can be found that except SSLC group, all other education categories opined that they frequently experience the problem of high interest charged for credit cards, hidden costs and charges on late payments. It can be found that low income and high income groups reveal that they frequently experience the problem of high interest and unreasonable charges on late payments. In the case of danger of losing credit card, it can be noted that this problem increases as we move up from low income group to very high income group. Further, low income group seems to have very much bothered about the hidden costs involved in credit cards.

It is found that most of the credit card users expressed their dislike in using credit cards. They think it will create a spending culture among the people. Usage of credit card is still confined to the upper class of the society. Some of the adopters have dropped using it frustrated with the high rate of interest charged for using credit cards.

5.2.21. Customer Satisfaction of Branch Banking

The findings show that majority of the customers are satisfied with their bank's location, quality of services provided by the bank, operating hours of the bank, and the behavior of the staff. But in the case of commission charged on services, provision of up-to-date information and awareness provided by the banks and parking facility, their overall satisfaction is low. Regarding location of the bank, and quality of services, level of satisfaction of the three group's bank customers is more or less equal. But in the case of operating hours, behavior of the staff, provision of up-to-date information, awareness provided by the banks and parking facility, new generation bank customers are more satisfied as compared to the other two groups of bank customers.

In the case of operating hours of the bank, youngsters are less satisfied as compared to elder groups. With respect to parking facility, only older group is satisfied, whereas others are not much satisfied in this matter. Post graduates and professionals are less satisfied with the operating hours of the bank as compared to their counter parts. Regarding behavior of the staff, SSLC and professionals are very much satisfied as compared to other categories. Again, only pre-degree/plus two category is satisfied with

up-to-date information provided by banks whereas others are not much satisfied in this matter. Overall it is understandable that all the five education groups are satisfied with branch banking. Operating hours of the bank , middle income groups are less satisfied compared to others, whereas in the case of commission charged on services and parking facility, only very low income group is satisfied while others are not much satisfied in this matter. Regarding provision of up-to-date information provided by banks, very high income group is not much satisfied as compared to other groups. The aggregate figures reveal that all income groups are fairly satisfied with branch banking.

5.2.22. Customer Satisfaction of ATMs

Most of the users are very much satisfied with their ATMs except in the case of parking facility. Kerala based scheduled bank and new generation bank customers are well satisfied with their ATMs whereas level of satisfaction of nationalized bank customers is slightly low as compared to others. Level of satisfaction of all age groups except the older ones, is more or less same. Older groups opined that they are very well satisfied with all aspects of ATM transactions. In the case of parking facility, the level of satisfaction of all age groups is less as compared to other factors

In the case of location and operating hours of ATMs the satisfaction level of all education groups are more or less equal. Regarding accuracy of transactions, Pre-Degree and Post graduates are relatively less satisfied as compared to others whereas for reliability of transactions, safety of ATMs and ease of use, Pre-Degree group's level of satisfaction is less as compared to their counterparts. In the case of parking facility, only SSLC group is satisfied whereas others are less satisfied in this matter.

Further it is found that all income groups are fairly satisfied with ATMs.

5.2.23. Customer Satisfaction of Credit Cards

In the case of usefulness, safety and ease of use, users are fairly satisfied with credit cards but in the case of interest charged on payments, most of the users feel dissatisfied. Nationalized bank customer's satisfaction level is low in the case of all variables, especially in the case of interest charged on payments, they feel dissatisfied. Kerala based and new generation bank customers are satisfied with the usefulness, safety

and ease of use of credit cards, but in the case of interest charged on payments, they also expressed dissatisfaction.

Regarding interest charged on payments, level of satisfaction of all age groups is very low, where the older group opined that they are dissatisfied in this matter. In the case of ease of use, level of satisfaction of middle aged is the highest followed by youngsters and elder group whereas it is low for older group. Altogether it is understandable that level of satisfaction declines as we go down from youngsters to older groups.

The aggregate figures show that post graduates are more satisfied followed by Pre-Degree, graduates, SSLC and professionals. The level of satisfaction reduces as we go up from the low income group to very high income group.

5.2.24. Customer Satisfaction of Internet Banking

Users of internet banking are satisfied with all the variables. In the case of security of transactions, level of satisfaction is low as compared to other factors. overall it is understandable that users are fairly well satisfied with internet banking.

Kerala based and new generation bank customers are well satisfied with internet banking, but the level is low in the case of nationalized bank customers. Elder group has the highest level of satisfaction with respect to usefulness of internet banking followed by youngsters. Level of satisfaction of middle aged and older groups are more or less equal in this matter. Regarding ease of use, youngsters are more satisfied whereas the satisfaction level of elder group is slightly less. In the case of 24 hour service facility, all age groups are more or less equally satisfied. For security of transactions, satisfaction levels of all age groups are less wherein the level reduces as we go up from youngsters to older groups. In the case of speed of transactions, first three age groups opined that they are satisfied whereas the older group is dissatisfied in this matter.

Professionals have the highest level of satisfaction regarding usefulness followed by graduates, Pre-Degree, SSLC and post graduates. In the case of ease of use also, professionals has got the highest level of satisfaction and post graduates has the least satisfaction. For 24 hour service facility all education groups are fairly satisfied. In the case of security of transactions, satisfaction level of all education groups are less, among

them, Pre-Degree and post graduate groups have the lowest satisfaction. In the case of speed of transactions also, pre-degree and post graduate groups are not much satisfied as compared to their counter parts. The level of satisfaction declines as we move from the highest level of income to the lowest level of income.

5.2.25. Customer Satisfaction of Mobile Banking

Users feel very much satisfied with mobile banking. This is quite clear from the further study that all users irrespective of their bank, age, education and income are well satisfied with mobile banking. This gives evidence that mobile banking has great growth potential in the years to come.

5.4. CONCLUSION

Based on the above findings, it can be concluded that technology has greatly influenced the bank customers encouraging them to conduct banking in an innovative manner. They have good awareness regarding ATMs and credit card whereas it is low in internet and mobile banking. Further, variability of awareness of ATMs is less among the three groups of bank customers and among the different age, education and income groups whereas for all other e-banking delivery channels, variability of awareness is high among different categories.

Adoption of ATMs was highest followed by internet banking, credit card and mobile banking, whereas as droppage rate is high in the case of credit cards followed by mobile banking, internet banking and ATMs. Further it is revealed that variability of adoption of all the selected e-banking products is high among the three groups of bank customers where new generation bank customers are ahead of Kerala based scheduled bank and nationalized bank customers. Variability of adoption of ATMs and internet banking is high among the different age groups; here youngsters are leading; whereas it is low for credit cards and mobile banking. It is further found that adoption of ATMs and internet banking is dependent on education where highly educated have high rate of adoption. Income is closely associated with the adoption of ATMs, internet banking and credit cards where the high income groups are ahead of others but the picture is different in mobile banking proving that it is the cheapest e-banking delivery channel.

The study reveals that users of e-banking delivery channels have strong positive perception towards technology used in banking which is reflected in their adoption and usage of the same whereas non users clearly exhibited their disinterest and ignorance in using various technology driven banking channels. The study also identifies four perceptual factors such as convenience, perceived risk, speed of operations and accessibility which influences the adoption of ATMs wherein convenience, speed of operations and accessibility are positively associated with the adoption of ATMs whereas perceived risk has negative influence. In the case of internet banking also, four perceptual factors were identified wherein the factors 'convenience' and 'cost effectiveness' have strong positive influence and 'perceived risk' and 'personal contact' have negative influence on internet bank adoption.

It is further revealed that users' different experiences with e-banking delivery channels and their satisfaction go hand in hand in the sense that those who have less difficulties exhibited high level of satisfaction and vice versa. In the case of all the selected e-banking delivery channels except credit cards, users do not have much difficulties and they are fairly satisfied with the same. In the case of credit cards, most of the users frequently experience high interest rates, hidden charges and charges on late payments which leads to low level of satisfaction of credit cards.

It is important to note that this study shows that e-banking technologies cannot be aggregated into a single category and thus a "one size fits all" marketing approach will not work across various e-banking products and services. Seeing an advantage in using a new technology would lead to an increase in the likelihood of adopting it. This was the case for all e-banking technologies examined. This study support that customers prefer a mix of banking delivery channels over a single channel.

The results of the study also point to the existence of a large, untapped target market which may be left behind in the state as the e-banking revolution moves ahead. This digital divide among bank customers offers great opportunities to the banks. A tandem approach by the Kerala banking industry and Government may help increase the adoption rate among those of lower socio-economic status.

The research findings clearly suggest that the drive towards ease of banking and convenience is favored by the customer and therefore banks should find alternative

strategic routes designed to improve service delivery either human based or technology based.

Mobile banking has immense possibilities and it is waiting for the right combination of technology and business model to storm the world of banking. It will assist in making financial inclusion possible by opening the doors of banking to the common man through mobile handsets.

It is important to understand that no technology can replace human interface. Computers cannot be made to work smarter than human beings in the foreseeable future. Personal choices, intuitions, likes, dislikes etc. will keep playing a dominant role in the way people interact with their service providers, customers and other counter parts. Technology will facilitate the transactions but it will be the man or woman behind the technology who will matter the most and have the last word.

5.3. SUGGESTIONS

Based on the above findings and conclusion on e-banking awareness, adoption, experience and satisfaction, the following suggestions are made to make further improvements in these aspects of e-banking.

1. The use of e-banking delivery channels is still not up to the mark as expected by the banks. This requires awareness building among the customers about the benefits of these services. Customers should be properly educated about the mechanism of using these services.
2. The banks have to initiate steps to educate the customers about new banking services / new products, ATMs, online banking, mobile banking etc. The banker may have to conduct different programs like customers day, customer meet and customer campaign in which they can directly interact with their customers and educate them about their new products /services.
3. Banks should take prompt and timely action to ensure the smooth functioning of ATMs. Customers should be relieved from their apprehensions and make them feel comfortable while using ATMs.
4. There is the need for banks to continuously persuade their customers to use ATMs for withdrawal of money. Eventhough most of the ATMs provide the service of

accepting deposits, many users do not avail of this service as they have apprehensions on its security aspect. It is very essential that bank officials should make necessary arrangements which will enable the customers to make their deposits through ATMs in a safe and secure manner. This will become a major breakthrough in the growth phase of ATMs as it will relieve the customers from depending their bank branches to make cash deposits.

5. For ensuring security, banks must appoint watch and ward staff who would also be able to guide the customers for availing services at ATMs. Steps should also be initiated to avoid the problem of technical breakdown which is common in some of the ATM centers through regular inspection and preventive measures.
6. For adoption of internet banking, it is necessary that the banks offering this service make the consumers aware about the availability of such a service and explain how it adds value to their banking needs.
7. Both users and non users experience higher risk in using internet banking. Bank managers should impart more information on various security and privacy measures adopted by them to the customers. Proper implementation of information security will be of utmost importance for banks to remain in business. Internet banking option is prone to fraud. Phishing for personal information over the web is common and difficult to uncover. Customer awareness education on how to use internet banking safely and precautions to take while sending sensitive information over the internet would help reduce fraud.
8. Banks should ensure safety and confidentiality while delivering services through internet banking. By customer education, bank managers can remove some disbelieves that non users have with regard to internet banking. So the challenge to all banks will be to expand the internet banking user base and slowly increase the range of services to the customers.
9. Since mobile banking has great growth potential in the future as it provides greater accessibility to the bank customers, banks should initiate urgent steps to encourage the customers to avail of the wide range of services delivered through mobile banking now. Banks should grow from the initial level of SMS banking to

WAP banking as it opens up more opportunities to the customers to conduct any banking transactions through their mobile handsets.

10. Since bank customers exhibited a lukewarm response towards credit cards due to high interest rates, hidden charges and unreasonable charges on late payments banks should make necessary restructuring by way of reducing the interest rates and removing the unnecessary charges.
11. Branchless banking procedures can be challenging for people who are illiterate or unfamiliar with technology. Making customer aware of how best to use banking services is critical. While this is the responsibility of bank, RBI and government can create the appropriate climate through a well-planned media campaign.
12. Customer awareness campaigns are necessary in each location where branchless banking has taken root. The banking correspondents' roles and responsibilities should be explained to existing and potential customers by the principal banks. Practical demonstration on how to use their cards, mobile phones and authentications while transacting should all be part of customer awareness training. When inclusion of a large number of clients is targeted through banking correspondents, financial literacy campaigns are particularly important. The information passed on to customers at awareness events will increase their comfort level and make them knowledgeable of their rights and responsibilities.

5.6. SCOPE FOR FURTHER RESEARCH

This study opens up new areas for further research in many related areas. Some of them are listed below;

- i. Diffusion of internet banking in India
- ii. Effectiveness of ATM usage- A cost benefit analysis
- iii. Problems and Prospects of Credit card usage
- iv. Implementation of Core Banking Solution- Major Challenges
- v. Mobile Banking Adoption- Opportunities and Challenges

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**A STUDY ON THE BANKING HABITS
OF THE PEOPLE OF KERALA**

*THESIS SUBMITTED TO THE
UNIVERSITY OF CALICUT
FOR THE AWARD OF THE DEGREE OF
DOCTOR OF PHILOSOPHY
UNDER THE FACULTY OF COMMERCE*

by

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November 2012**

APPENDIX I: QUESTIONNAIRE

-
1. Do you have access to computers? : Yes ☐ No ☐
2. Do you have access to internet? : Yes ☐ No ☐
3. Do you own a mobile phone? : Yes ☐ No ☐

Banking Information

4. With how many banks do you have accounts? ☐

5. Please name the banks you are regularly dealing with?

(eg. SBI, Canara Bank, Syndicate Bank, ICICI, Federal bank, South Indian Bank etc.)

1..... 2..... 3..... 4..... 5.....

6. What type of accounts do you have?

Type:	How many accounts
1. Savings account ☐	☐
2. Current account ☐	☐
3. Recurring Deposit ☐	☐
4. Fixed Deposit ☐	☐

7. Loans taken? (please tick $\checkmark$)

1. Education loan ☐	2. Personal loan ☐	3. Housing loan ☐
4. Vehicle loan ☐	5. Agriculture loan ☐	6. Any other ☐

8. What are the factors considered by you while selecting a Bank?

(Give mark in the order of importance, eg. distribute 100 as 50+33+17=100 marks)

1. Convenience/100
2. Favorable interest rates on loans/deposits/100
3. Brand image/100
4. It has an ATM near your home/working place/100
5. It provides technology enabled products and services/100
6. Customer friendly environment/100
7. Advertisements/100
8. Influence of friends/relatives/100

9. How long have you been using the service of the present Banker? (please tick $\checkmark$)

(1) Less than 2 years	(2) 2-5 years	(3) 5-10 years	(4) Over 10 years
☐	☐	☐	☐

10. How frequently do you visit your Bank? (please tick $\checkmark$)

1. Daily	2. Once in a week	3. Once in a month	4. Once in 3 months	5. Rarely
☐	☐	☐	☐	☐

11. What are the reasons for your Bank visit?

(please rank them, eg. 1-first preference, 2-second, 3-third, etc)

1. Deposit Cash/cheque ☐ 2. Cash Withdrawal ☐ 3. Money Transfer ☐ 4. For taking DD ☐
 5. Pay bills ☐ 6. Take Loans ☐ 7. Repay interest/loans ☐ 8. Make enquiries/complaints ☐

12. Did you change your bank branch during the last 3 years? Yes ☐ No ☐

If yes, what is the reason for change? (please tick ✓)

- a) I shifted my place from the location of bank. ☐
 b) Poor facilities inside the branch. ☐
 c) Over crowding ☐
 d) Poor quality of service. ☐
 e) Absence of technology oriented banking facilities. ☐
 f) Negative attitude of bank men. ☐
 g) Inconvenienced working hours. ☐

13. Please show your awareness regarding the following.

Fully Aware Aware Partly Aware Unaware Totally unaware

(a). My bank provides

i) ATM facility.....	☐	☐	☐	☐	☐
ii) Internet Banking.....	☐	☐	☐	☐	☐
iii) Mobile/Telephone banking.....	☐	☐	☐	☐	☐
iv) Debit card.....	☐	☐	☐	☐	☐
v) Credit card	☐	☐	☐	☐	☐
b) Transactions through ATMs	☐	☐	☐	☐	☐
c) How to use ATMs.....	☐	☐	☐	☐	☐
d) Internet banking transactions.....	☐	☐	☐	☐	☐
e) How to use internet Banking	☐	☐	☐	☐	☐
d) Mobile/telephone banking transactions.....	☐	☐	☐	☐	☐

14. Do you have these? (if Yes, please specify how many cards you are holding)

- a) ATM cum Debit card Yes ☐ Number of Cards ☐ No ☐
 b) Credit Card Yes ☐ Number of Cards ☐ No ☐

15. Have you registered for?

- a) Internet Banking Yes ☐ No ☐
 b) Mobile Banking Yes ☐ No ☐
 c) Telephone Banking Yes ☐ No ☐

16. How long have you been using these?

	< 1 year	1-3 years	3-5 years	5-10 years	> 10years	Never	Dropped
a) ATM cum Debit card.....	☐	☐	☐	☐	☐	☐	☐
b) Credit Card.....	☐	☐	☐	☐	☐	☐	☐
c) Internet Banking	☐	☐	☐	☐	☐	☐	☐
d) Mobile/Telephone Banking.....	☐	☐	☐	☐	☐	☐	☐

If you dropped any of the above banking services, please state the reasons?

17. Please show your usage frequency

	Every Day	Once in Week	Once in a Month	Once in 3 Months	Never
a) ATM cum Debit card	☐	☐	☐	☐	☐
b) Credit Card	☐	☐	☐	☐	☐
c) Internet Banking.....	☐	☐	☐	☐	☐
d) Mobile/Telephone Banking.....	☐	☐	☐	☐	☐

18. Please rate your level of satisfaction (please tick $\checkmark$)

	Highly satisfied	Satisfied	No opinion	Dissatisfied	Highly dissatisfied
a) With the PRESENT BANKER					
i) Location of the Bank.....	☐	☐	☐	☐	☐
ii) Quality of services.....	☐	☐	☐	☐	☐
iii) Operating hours of the bank.....	☐	☐	☐	☐	☐
iv) Behavior of the staff	☐	☐	☐	☐	☐
vii) Commission charged on services	☐	☐	☐	☐	☐
viii) Provision of up-to-date information.....	☐	☐	☐	☐	☐
ix) Awareness provided by the bank.....	☐	☐	☐	☐	☐
x) Parking facility.....	☐	☐	☐	☐	☐

	Highly satisfied	Satisfied	No opinion	Dissatisfied	Highly dissatisfied
b) ATMs					
i) Location.....	☐	☐	☐	☐	☐
ii) Operating hours.....	☐	☐	☐	☐	☐
iii) Accuracy of transactions.....	☐	☐	☐	☐	☐
iv) Reliability of transactions.....	☐	☐	☐	☐	☐
v) Safety of ATMs.....	☐	☐	☐	☐	☐
vi) Privacy of transactions.....	☐	☐	☐	☐	☐
vii) Ease of use.....	☐	☐	☐	☐	☐
ix) Parking facility.....	☐	☐	☐	☐	☐

c) CREDIT CARD

i) Usefulness.....	☐	☐	☐	☐	☐
ii) Safety.....	☐	☐	☐	☐	☐
iii) Interest charged on payments.....	☐	☐	☐	☐	☐

iv) Ease of use.....☐.....☐.....☐.....☐.....☐

d) INTERNET BANKING

i) Usefulness☐.....☐.....☐.....☐.....☐

ii) Ease of use.....☐.....☐.....☐.....☐.....☐

iii) 24 hour service facility.....☐.....☐.....☐.....☐.....☐

iv) Security of transactions.....☐.....☐.....☐.....☐.....☐

v) Speed of transactions.....☐.....☐.....☐.....☐.....☐

e) MOBILE/TELEPHONE BANKING

i) Usefulness.....☐.....☐.....☐.....☐.....☐

ii) Ease of use.....☐.....☐.....☐.....☐.....☐

iii) 24 hour service facility.....☐.....☐.....☐.....☐.....☐

19. Please tick your frequently used transactions

a) Through ATMs

i) Cash withdrawal ☐

ii) Balance enquiry ☐

iii) Cash/cheque deposit ☐

iv) Mini statements ☐

v) Bill payments ☐

b) Through INTERNET BANKING

i) Balance enquiry ☐

ii) Air/rail ticket booking ☐

iii) Fund transfer ☐

iv) Online shopping ☐

v) Bill payment ☐

vi) Online share trading ☐

vii) Pay direct/indirect tax online ☐

c) Through MOBILE/TELEPHONE BANKING

i) Balance enquiry ☐

ii) For information on last three transactions ☐

iii) View Cheque status ☐

iv) View the status of the presented bills ☐

v) Credit card details ☐

20. Please rate your experience with regard to the following services:

a) ATMs

i) Having to wait in long queues at ATMs.....☐.....☐.....☐.....☐.....☐

ii) ATM running out of order☐.....☐.....☐.....☐.....☐

iii) Inserting card incorrectly.....	☐	☐	☐	☐	☐
iv) ATM working too slowly.....	☐	☐	☐	☐	☐
v) ATM doing wrong transactions.....	☐	☐	☐	☐	☐
vi) Forgetting PIN	☐	☐	☐	☐	☐
vii) Unclear instructions on ATM.....	☐	☐	☐	☐	☐
viii) ATM not able to print slips.....	☐	☐	☐	☐	☐
xi) Not being able to see the screen well.....	☐	☐	☐	☐	☐
x) ATM running out of money	☐	☐	☐	☐	☐
xi) ATM not releasing card	☐	☐	☐	☐	☐
xii) Theft of ATM card	☐	☐	☐	☐	☐

b) INTERNET BANKING

	Always	Frequently	Occasionally	Rarely	Never
ii) Working too slowly.....	☐	☐	☐	☐	☐
iii) Doing wrong transactions.....	☐	☐	☐	☐	☐
iv) Not getting up-to-date information.....	☐	☐	☐	☐	☐
charges on IB transactions not known.....	☐	☐	☐	☐	☐
vii) Fear of lack of security and confidentiality in transactions.....	☐	☐	☐	☐	☐

c) MOBILE /TELEPHONE BANKING

	Always	Frequently	Occasionally	Rarely	Never
i) Fear of security.....	☐	☐	☐	☐	☐
ii) Unclear instructions.....	☐	☐	☐	☐	☐
iii) Not getting needed information	☐	☐	☐	☐	☐
iv) Complicated procedures	☐	☐	☐	☐	☐

d) CREDIT CARDS

	Always	Frequently	Occasionally	Rarely	Never
i) Interest charged is very high	☐	☐	☐	☐	☐
ii) Danger of losing credit card.....	☐	☐	☐	☐	☐
iii) It involves hidden costs.....	☐	☐	☐	☐	☐
iv) Unreasonable charges on late payments/outstanding balance.....	☐	☐	☐	☐	☐

21) Please state your degree of agreement or disagreement regarding the following

a) ATTITUDE TOWARDS TECHNOLOGY

	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
i) Since innovations and technology..... exists, we better use them	☐	☐	☐	☐	☐
iii) Technology eases one's life.....	☐	☐	☐	☐	☐
iv) I like to use new methods to conduct banking transactions like ATM, internet/mobile banking etc.....	☐	☐	☐	☐	☐
v) I prefer technological convenience.....	☐	☐	☐	☐	☐
viii) I find technology enabled services.....	☐	☐	☐	☐	☐

are complicated to use

- ix) I believe mobile phone is an unpractical device for banking ☐ ☐ ☐ ☐ ☐
- Strongly agree Agree No opinion Disagree Strongly disagree

b) CONVENIENCE

- i) ATMs are conveniently located..... ☐ ☐ ☐ ☐ ☐
- ii) I find 24 hour ATM service is convenient for me..... ☐ ☐ ☐ ☐ ☐
- iii) I am comfortable with ATMs ☐ ☐ ☐ ☐ ☐
- iv) Credit card is very useful for me..... ☐ ☐ ☐ ☐ ☐
- vi) I am comfortable with internet banking..... ☐ ☐ ☐ ☐ ☐
- vii) Mobile banking is very convenient for me..... ☐ ☐ ☐ ☐ ☐
- viii) A feel branch banking is more convenient than internet banking..... ☐ ☐ ☐ ☐ ☐
- Strongly agree Agree No opinion Disagree Strongly disagree

c) ACCESSEBILITY

- i) ATM operations are very easy for me ☐ ☐ ☐ ☐ ☐
- ii) I can easily find an ATM when I need one..... ☐ ☐ ☐ ☐ ☐
- iii) The queues of the ATM are quite large..... ☐ ☐ ☐ ☐ ☐
- iv) It is easy to learn internet banking..... ☐ ☐ ☐ ☐ ☐
- v) I do not have the facility (computer/internet connections) to use internet banking ☐ ☐ ☐ ☐ ☐
- vii) I do not understand mobile banking sufficiently well to use it..... ☐ ☐ ☐ ☐ ☐
- Strongly agree Agree No opinion Disagree Strongly disagree

d) RELATIVE ADVANTAGES

- i) Technology makes banking services..... ☐ ☐ ☐ ☐ ☐
- easy for me.
- ii) Technology enabled services are quick to use than visiting the bank branch personally..... ☐ ☐ ☐ ☐ ☐
- iii) ATM saves much time ☐ ☐ ☐ ☐ ☐
- iv) ATMs are more accurate than human tellers..... ☐ ☐ ☐ ☐ ☐
- v) Branch banking is very time consuming..... ☐ ☐ ☐ ☐ ☐
- Strongly agree Agree No opinion Disagree Strongly disagree

e) RISK

- ii) I am concerned about the security of technology enabled banking services ☐ ☐ ☐ ☐ ☐
- iii) In using these, I am concerned about the consequences of making a mistake ☐ ☐ ☐ ☐ ☐
- iv) I believe it is risky to deposit cash through ATMs ☐ ☐ ☐ ☐ ☐

- vi) I think branch banking is much safer than internet banking ☐ ☐ ☐ ☐ ☐
- vii) I do not use internet banking due to the fear of losing my money..... ☐ ☐ ☐ ☐ ☐
- Strongly agree Agree No opinion Disagree Strongly disagree

f) NEED

- i) I am not a very active user of banking services..... ☐ ☐ ☐ ☐ ☐
- ii) I am satisfied with branch banking ☐ ☐ ☐ ☐ ☐
- iii) I do not feel the need to use ATMs..... ☐ ☐ ☐ ☐ ☐
- iv) I do not feel the need to use internet banking... ☐ ☐ ☐ ☐ ☐
- v) I prefer cash than credit/debit card for my shopping ☐ ☐ ☐ ☐ ☐
- Strongly agree Agree No opinion Disagree Strongly disagree

g) PERSONAL CONTACT

- i) I prefer going to bank branch rather than doing my banking at home ☐ ☐ ☐ ☐ ☐
- ii) I prefer to deal face to face with banking personnel in doing my transactions ☐ ☐ ☐ ☐ ☐
- iv) The bank employees I contact with ☐ ☐ ☐ ☐ ☐
- are always willing to help
- vii) I prefer machines rather than people in doing my banking ☐ ☐ ☐ ☐ ☐

Strongly agree Agree No opinion Disagree Strongly disagree

h) ECONOMIC FACTORS

- i) Transactions done at bank branches are costly..... ☐ ☐ ☐ ☐ ☐
- ii) Internet banking transactions are cheap. ☐ ☐ ☐ ☐ ☐
- iii) Charges on various internet banking transactions are unknown..... ☐ ☐ ☐ ☐ ☐

i) INFORMATIVENESS

Strongly agree Agree No opinion Disagree Strongly disagree

- i) I always prefer to have someone to explain me how to use ATMs and internet banking ☐ ☐ ☐ ☐ ☐
- ii) The employees who I have contact with have the knowledge to answer my questions ☐ ☐ ☐ ☐ ☐
- iii) I am knowledgeable of all the benefits of internet banking..... ☐ ☐ ☐ ☐ ☐
- iv) I do not know what needed to be done to become an internet banking user..... ☐ ☐ ☐ ☐ ☐
- v) Banks should provide proper awareness ☐ ☐ ☐ ☐ ☐

regarding new technology enabled services.....

22. **Personal Information**

a. Name (Optional):

b. Age :below ☐ 30-45 ☐ 45-60 ☐ above 60 ☐

c. Sex :Male ☐ Female ☐

d. Education : SSLC ☐ Predegree/plus2 ☐ Degree ☐ PG ☐
Professional qualification ☐ Any other

e. Occupation : Student ☐ Salaried ☐
Professional ☐ Retired ☐ Business ☐
Agriculturalist ☐ Self employed ☐ Housewife ☐
Unemployed ☐ any other

f. Marital status : Married ☐ Unmarried ☐

g. Place of residence :

h. Number of members in your family:

i. Annual family income : Below Rs50,000 ☐ 50,000-100,000 ☐
100,000-300,000 ☐ 300000-500000 ☐ above500000 ☐

23)Please state your valuable comments and suggestions for better Banking service

APPENDIX II

Table A1. ATMs Issued by Scheduled Commercial Banks (SCB) (in Millions) as at end-March 2011.

Sl.No	Bank Group	On-site ATMs	OFF- ATMs	Total number of ATMs	Off-site ATMs as per cent of Total ATMs
1		2	3	4	5
I.	Public Sector banks	29,795	19,692	49,487	39.8
	1.1.Nationalized banks including IDBI Bank Ltd.	15,691	9,145	24,836	36.8
	1.2.SBI Group	14,104	10,547	24,651	42.8
II	Private sector banks	10,648	13,003	23,651	55
	1.3.Old private sector banks	2,641	1,485	4,126	36
	1.4.New private sector banks	8,007	11,518	19,525	59
III	Foreign banks	286	1,081	1,367	79.1
All CBs (I+II+III)		40,729	33,776	74,505	45.3

Source: Report on Trends and Progress of Banking in India 2011, Reserve Bank of India.

Table A2. Branches and ATMs of the Selected Commercial Banks in India (As at end March 2011).

No.	Name of the Bank	Branches					ATMs			% of Off-site to total ATMs	% of ATMs to Branches
		Rural	Semi-Urban	Urban	Metro	Total	On-site	Off-site	Total		
1.	State Bank of India	4,972	3,865	2,382	2,065	13,284	10,826	9,258	20,084	46.1	151.2
2.	Canara Bank	803	912	765	772	3,252	1,415	758	2,173	34.9	66.8
3.	Syndicate Bank	768	605	591	527	2,491	1,018	202	1,220	16.6	49.0
4.	State Bank of Travancore	55	488	176	78	797	589	244	833	29.3	104.5
5.	Federal Bank Ltd.	49	402	178	112	741	462	342	804	42.5	108.5
6.	South Indian Bank Ltd.	65	304	160	103	632	398	91	489	18.6	77.4
7.	Catholic Syrian Bank Ltd.	18	194	99	49	360	105	54	159	34.0	44.2
8.	Dhanalakshmi Bank Ltd.	24	107	83	59	273	167	292	459	63.6	168.1
9.	Axis Bank Ltd.	94	449	452	382	1,377	1,743	4,527	6,270	72.2	455.3
10.	HDFC Bank Ltd.	123	619	548	673	1,963	2,749	2,722	5,471	49.8	278.7
11.	ICICI Bank Ltd.	260	803	693	767	2,523	2,727	3,377	6,104	55.3	241.9

Source: Report on Trends and Progress of Banking in India 2011, Reserve Bank of India.

Table A3. Credit Card Issued by Scheduled Commercial Banks (in Millions) as at end-March 2011.

Sl.No	Bank Group	Outstanding number of Credit Cards				
		2006-07	2007-08	2008-09	2009-10	2010-11
1		2	3	4	5	6
I.	Public Sector banks	4.14	3.39	3.44	3.26	3.08
	1.1.Nationalized banks including IDBI Bank Ltd.	0.75	0.72	0.72	0.73	0.78
	1.2. 1.3.SBI Group	3.39	3.21	2.72	2.53	2.30
II.	Private sector banks	10.86	13.29	12.18	9.5	9.32
	1.4.Old private sector banks	0.03	0.04	0.06	0.06	0.04
	1.5.New private sector banks	10.65	13.25	12.12	9.44	9.28
III	Foreign banks	8.31	10.33	9.08	5.57	5.64
All SCBs (I+II+III)		23.12	27.55	24.70	18.33	18.04

Source: Report on Trends and Progress of Banking in India 2011, Reserve Bank of India.

Table A4. Debit Card Issued by Scheduled Commercial Banks (in Millions) as at end-March 2011, RBI

Sl.No	Bank Group	Outstanding number of Debit Cards				
		2006-07	2007-08	2008-09	2009-10	2010-11
1		2	3	4	5	6
I.	Public Sector banks	44.09	64.33	91.7	129.69	170.34
	1.1.Nationalized banks including IDBI Bank Ltd.	19.24	28.29	40.71	58.82	80.27
	1.2.SBI Group	24.85	36.04	50.99	70.87	90.07
II.	Private sector banks	27.19	34.1	41.34	47.85	53.58
	1.3.Old private sector banks	3.94	5.34	7.09	9.81	12.44
	1.4.New private sector banks	23.25	28.76	34.25	38.05	41.14
III	Foreign banks	3.70	4.02	4.39	4.43	3.92
All SCBs (I+II+III)		74.98	102.44	137.43	181.97	227.84

Source: Report on Trends and Progress of Banking in India 2011, Reserve Bank of India.

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