Impact of Mobile Banking on Customer Satisfaction with reference to Retail Banking

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By

B.S. JAYACHANDRA
UID No. 14JU11300007

Under the Guidance of

Research Co-Supervisor

Dr. Arcot Purna Prasad
Associate Professor
School of Business Management
Christ University, Bengaluru,
Karnataka

Research Supervisor

Dr. Bhagabat Barik
Professor
Faculty of Management Studies
ICFAI University, Jharkhand,
Ranchi

ICFAI UNIVERSITY, JHARKHAND
RANCHI
JULY 2022

THESIS COMPLETION CERTIFICATE

This is to certify that the thesis entitled **"Impact of Mobile Banking on Customer Satisfaction with reference to Retail Banking",** submitted by Mr. B.S. Jayachandra, in partial fulfillment of the requirements for the award of the Degree of Doctor of Philosophy in Management, is an original work carried out by him under our joint guidance. It is certified that the work has not been submitted anywhere else for the award of any other degree or diploma of this or any other University. We also certify that he complied with the plagiarism guidelines of the University.

Dr. Arcot Purna Prasad
(Research Co-Supervisor)
Associate Professor
School of Business Management
Christ University, Bangalore,
Karnataka

Dr. Bhagabat Barik
(Research Supervisor)
Professor
Faculty of Management Studies
ICFAI University, Jharkhand,
Ranchi

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Submitted by	RUMNA BHATTACHARYYA
Submitter email	rumna.b@iujharkhand.edu.in
Similarity	6%
Analysis address	rumna.b.iujhar@analysis.urkund.com

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(B.S. Jayachandra)

Date: 14.05.2022

Place: Bengaluru

ABSTRACT

Banking has always been a highly information-intensive activity that relies heavily on information technology (IT) to acquire, process, and deliver the appropriate information to all relevant users and differentiate their products and services (Kardaras and Papathanassiou, 2001). The banking industry is one of the leading segments of the financial services sector in adopting and utilizing the technology on consumer markets and consequently, its service delivery has undergone changes unprecedented in its history. The retail banking distribution system witnessed a major shift in the 1970s, due to the emergence of new technologies that simplified remote access to banks. Over the past few years, the world has witnessed significant changes in wireless communication systems. This has provided various opportunities to business, while consumers are enhancing the use of mobile devices for their daily activities (Zhou et al., 2016). One area of interest is the growing adoption and acceptance of mobile payment services around the world. The use of mobile payment technology has tripled in the last few years. Despite its growth potential, researchers have paid little attention to the factors that influence the intention to use mobile payment services in the emerging market.

The purpose of this study is to find the Impact of Mobile Banking on Customer Satisfaction concerning Retail Banking. Following the objective of the study, the target population includes 4 (SBI, Bank of Baroda, ICICI & HDFC) banks from Bengaluru city (Top 2 mobile banking providers from each public and private sector). All respondents are clients who have bank accounts in the selected banks in Bengaluru city. This study uses cluster sampling which is a probability sampling method. A total of 500 (125 from each bank) mobile banking customers are randomly chosen from the targeted banks for this study. Data were collected from the four banks (SBI, Bank of Baroda, ICICI& HDFC) in Bengaluru city;

customers were contacted based on randomly through a self-administered structured questionnaire. Statistical Package for Social Sciences (SPSS, version-24.0) was used for analyzing the preliminary data. Frequency: used to review the study sample answers. Percentages: show the proportion of answers for a particular variant of the total answers. Mean: Display the average answers to a particular variable. Standard Deviation: Shows the degree of dispersion of answers from its mean. Cronbach's alpha: To measure the stability study tool. ANOVA was conducted to measure the difference between the variables. Regression: was used to find the influential relationship between two variables of the study variables.

The findings of the study suggest that Perceived usefulness, perceived ease of use, perceived credibility, and Structural assurance are strong determinants of User satisfaction and Behavioural intention to use the mobile banking service. From this research it was indicated that mobile banking provides a better banking experience for customers, the fact that customers can check their balance, perform transactions without visiting any bank provides an easy and comfortable experience for them, with mobile banking customers can be assured about their online security if the bank has taken the proper precaution and security measurement required when making transactions online.

The study is confined to retail banking customers in Bengaluru. The samples for the present study were collected from customers who avail mobile banking services. Therefore, it is important to include respondents from smaller cities and towns to be able to generalize the findings. The sample is skewed towards users having accounts with other public and private banks and hence, a balanced representation of respondents from public and private sector banks would help in identifying gaps about each sector. Since the subject matter of the study is banking and bank-related information, it was found in many cases that the respondents viewed the process of such a survey with suspicious eyes, as they

feared that the divulging of personal and financial matters would affect their privacy, security and financial freedom. Therefore, the study follows cluster sampling method which is practically possible in these types of survey research. In future research, attempting to compare the results with other developing and developed countries may be beneficial.

TABLE OF CONTENTS

PART-I

Thesis Completion Certificate	**ii**
Plagiarism Report	iii
Declaration of Authorship	**iv**
Acknowledgement	**v**
Abstract	**vi**
Table of Content	**ix**
List of Figures	**xiv**
List of Tables	**xv**
List of Abbreviations	**xviii**

PART-II

Chapter I – Introduction	**1**
1.1 Background of the Study	1
1.2 The Banking Sector in India	3
1.2.1 History of Indian Banking	3
1.2.2 Indian Banking Industry	6
1.2.3 Technological Innovations in Indian Banking Sector	7
1.2.4 Banking service Channels in India	11
1.2.5 Mobile Banking in India	13
1.3 Need for the Study	17
1.4 Statement of the Problem	18
1.5 Objectives of the study	18
1.6 Hypothesis	19
1.7 Scope of the study	19

1.8 Limitations of the study 20
1.9 Scheme of the study 21
1.10 Summary 22

Chapter 2: Review of Literature 23

2.1 Introduction 23
2.2 Literature on E-Banking 23
2.3 The literature on the Importance of E-Banking 24
2.4 The literature on the Growth of E-banking in India 44
2.5 The literature on E-banking in the international Context 47
2.6 The literature on Adoption of E-Banking 60
2.7 The literature on Factors of E-Banking 68
2.8 E-Banking Service Affecting Customer Satisfaction 79
2.9 Research Gap 84
2.10 Summary 86

Chapter 3. Research Methodology **87**

3.1 Introduction 87
3.2 Research Objective 87
3.3 Research Design 88
3.4 Research Model and Operalisation of Variables 90
3.5 Hypothesis 96
3.6 Development of Research Instrument 97
3.6.1 Reasons for Choosing a Questionnaire 97
3.6.2 Questionnaire Format 97
3.6.3 Scaling Technique 98
3.6.4 Questionnaire Pre-test 99
3.7 Sampling Frame & Method 101
3.7.1 Population 101
3.7.2 Sampling Frame 101
3.7.3 Sampling Method 101
3.7.4 Sampling Size 106
3.8 Data Source 106
3.8.1 Primary Data 106
3.8.2 Secondary Data 107
3.9 Data Collection 107
3.10 Reliability and Validity of Research Instrument 107
3.10.1 Reliability 108
3.10.2 Validity 108
3.11 Data Analysis Method 108
3.12 Summary 108

Chapter 4. Data Analysis & Interpretation **110**

4.1 Overview 110
4.2 Demographic Profile and Banking Details of Customers 110
4.2.1 Age of the Consumers 111
4.2.2 Gender 111
4.2.3 Marital Status 112
4.2.4 Educational Status 113
4.2.5 Employment Status 114
4.2.6 Monthly Income of the Consumers 114
4.2.7 Type of Banks 115
4.2.8 Banking Experience 116
4.3 Descriptive statistics of Mobile Banking Constructs 119
4.4 Demographic Differences on preference on Mobile Banking Factors 149
4.4.1 ANOVA & Post hock differences of Age
on Mobile Banking Factors 149
4.4.2 ANOVA & Post hock differences of Education
on Mobile Banking Factors 154
4.4.3 ANOVA & Post hock differences of Occupation
on Mobile Banking Factors 157
4.4.4 ANOVA & Post hock differences of Family Income
on Mobile Banking Factors 166
4.4.5 Independent t-test of Gender on Mobile banking factors 174
4.4.6 Independent t-test of Marital status on mobile banking factors 175
4.4.7 ANOVA & Post hock differences of Mobile usage
for banking transaction on Mobile Banking Factors 179
4.5 Factors Affecting Mobile Banking on Customer Satisfaction 181
4.5.1 The KMO and Bartlett's Test of Sphericity 182
4.6 Regression Analysis 187
4.7 Hypothesis Testing 191

4.8 Demographic Variables as moderator 192
4.9 Chapter Summary 194

Chapter 5. Results, Discussions, and Conclusion 195

5.1 Introduction 195
5.2 Summary of Research Finding 195
5.2.1 General Findings 195
5.2.2 Summary of Key Findings 196
5.2.3 Objective-wise Findings 202
5.3 Recommendations 208
5.3.1 Factors of Mobile Banking Parameters 208
5.3.2 Demographic Parameters 211
5.4 Implications of the findings 211
5.4.1 Theoretical Implication and Comparison of results 211
5.4.2 Policy level Implications 212
5.4.3 Implication for Government 213
5.4.4 Managerial Implications 213
5.5 Limitations of the Study 214
5.6 Scope for Future Research 215
5.7 Conclusion 215

Bibliography 217

Appendices 246
Survey Questionnaire 246
List of Publications & Conferences attended by Scholar in Research Area 256

PART III

LIST OF FIGURES

Fig. No	Title of the Figure	Page. No
1.1.	Structure of Banking Sector in India.	5
1.2.	Contribution of the banking industry to the Indian GDP	6
1.3.	The emergence of information technology and communication system	9
1.4.	Mobile Banking Users in India	16
3.1.	Research Design	89
3.2.	Proposed Research Model	90
4.1.	Scree Plot	184

LIST OF TABLES

Table. No	Title of Table	Page No
1.1.	Technology-Based Banking Initiatives	10
4.1.	Age of the Customers	111
4.2.	Gender of the Customers	112
4.3.	Marital Status of the Customers	113
4.4.	Educational Status of the Customers	113
4.5.	Employment Status of the Customers	114
4.6.	Monthly Income of the Customers	115
4.7.	Type of Bank of the Customers	116
4.8.	Banking Experience of the Customers	116
4.9.	Descriptive statistics of Accessibility Constructs	119
4.10.	Descriptive statistics of Convenience Constructs	123
4.11.	Descriptive statistics of Privacy Constructs	125
4.12.	Descriptive statistics of Security Constructs	128
4.13.	Descriptive statistics of Design Constructs	130
4.14.	Descriptive statistics of Content Constructs	133
4.15.	Descriptive statistics of Speed Constructs	135
4.16.	Descriptive statistics of Fees & Charges Constructs	138
4.17.	Descriptive statistics of Customer Satisfaction Constructs	141
4.18.	Descriptive statistics of risks associated with mobile technology Constructs	143

4.1.	Descriptive statistics of Preference of using mobile technology Constructs	145
4.2.	Descriptive statistics of preference to use cashless transaction Constructs	146
4.3.	Descriptive statistics of ease of use through mobile Constructs	147
4.4.	Differences of Age on Mobile Banking Factors	150
4.5.	Post Hoc Tests - Multiple Comparisons Tests (Games-Howell)	151
4.6.	Education Levels differences on the preference on Mobile Banking	154
4.7.	Post Hoc Tests - Multiple Comparisons Tests (Games-Howell)	157
4.8.	Respondents Occupation differences on the preference on Mobile Banking Factors	160
4.9.	Post Hoc Tests - Multiple Comparisons Tests (Games-Howell)	167
4.10.	Family Income differences on the preference on Mobile Banking Factors	168
4.11.	Post Hoc Tests - Multiple Comparisons Tests (Games-Howell)	168
4.12.	Mobile usage for banking transaction differences on Mobile Banking Factors	180
4.13.	The KMO and Bartlett's Test of Sphericity	182
4.14.	Total Variance Explained	183
4.15.	Reliability and Validity Measures	185
4.16.	Results of Regression analysis for all variables	188

4.1.	Regression Model Summary	189
4.2.	ANOVA	190
4.3.	Coefficients	191
4.4.	Results of Hypothesis Testing	192

LIST OF ABBREVIATIONS

ANOVA - ANALYSIS OF VARIANCE

ATM - AUTOMATED TELLER MACHINE

AVE - AVERAGE VARIANCE EXTRACTED

BI - BEHAVIOURAL INTENTION

ECS - ELECTRONIC CLEARING SYSTEM

EFA - EXPLORATORY FACTOR ANALYSIS

ICICI - INDUSTRIAL CREDIT AND INVESTMENT CORPORATION OF INDIA

ICT - INFORMATION AND COMMUNICATION SYSTEM

IMPS - IMMEDIATE PAYMENT SERVICES

IT - INFORMATION TECHNOLOGY

IVRS - INTERACTIVE VOICE RESPONSE SYSTEM

KMO - KAISER MEYER OLKIN

MSA - MEASURE OF SAMPLING ADEQUACY

NEFT - NATIONAL ELECTRONIC FUNDS TRANSFER

NPCI - NATIONAL PAYMENT CORPORATION OF INDIA

PE - PERFORMANCE EXPECTANCY

PIN - PERSONAL IDENTIFICATION NUMBER

PR - PERCEIVED RISK

PU - PERCEIVED UBIQUITY

RBI - RESERVE BANK OF INDIA

RTGS - REAL TIME GROSS SETTLEMENT

SBI - STATE BANK OF INDIA

SI - SOCIAL INFLUENCE

SLR - STATUTORY LIQUIDITY RATIO

SMS - SHORT MESSAGE SERVICE

SPSS - STATISTICAL PACKAGE FOR SOCIAL SCIENCES

SSL - SECURE SOCKET LAYER

TAM - TECHNOLOGY ACCEPTANCE MODEL

TBP - THEORY OF PLANNED BEHAVIOUR

TPIN - TELEPHONE PERSONAL IDENTIFICATION NUMBER

TRA - THEORY OF REASONED ACTION

TTF - TASK TECHNOLOGY FIT

WAP - WIRELESS APPLICATION PROTOCOL

WWW - WORLD WIDE WEB

CHAPTER-1

INTRODUCTION

CHAPTER – 1
INTRODUCTION

1. BACKGROUND OF THE STUDY

Information and Communication Technology (ICT), including the Internet and wireless technologies, has revolutionized the entire world. The rapid growth of ICT has transformed business. According to a report by Internet World Stats (2018), Internet penetration reached 3.08 billion globally by the end of 2017, with India, ranked third worldwide, reaching 481 million in December 2017, an increase of 11.34% over December 2016. There is enormous growth in the mobile sector in both developed and developing countries. Total mobile subscriptions reached almost seven billion by the end of 2017, reaching global penetration of 97 percent (ITU, 2017). As per the report by the Telecom Regulatory Authority of India (TRAI, 2015), as of February 2017, the number of wireless subscribers in India surpassed 961 million, and the total number of Internet subscribers, excluding wireless Internet access, reached 18 million.

To meet customers' expectations, banks are offering wide-ranging services to their customers through the Internet and mobile technologies, embracing diverse ICT to endure the competitive environment, reduce costs, and increase customer convenience. Customers live in a technological cluster, able to access needed banking services through various alternative channels like ATMs, online banking, and mobile banking. Internet connectivity is shifting from wired connectivity with desktop computers to wireless and mobile devices, and banking services, too, are now available through a mobile phone, connected wirelessly. Mobile banking has broad potential in developing countries, where many customers are connected to the Internet primarily through their mobile phones.

The banking sector in India embraced the information technology (IT) revolution way back in the 1980s, based on the recommendations of the Rangarajan Committee report. The IT revolution in banking started with the computerization of bank branches, the introduction of electronic clearing services (ECS), national electronic fund transfer (NEFT), real-time gross settlement (RTGS), and new delivery channels such as ATMs, online banking, and mobile banking, accelerating the pace of banks' technology adoption and interconnection. India's public-sector banks faced immense competition from the new generation of private-sector banks, which are fully technology-driven and launched in the early 1990s after India's economic reforms. The new private-sector banks and foreign banks pulled ahead of the public-sector banks in terms of technology, which spurred technology initiatives at the public-sector banks. The computerization of the branches of the nationalized banks reached 97.8 percent at the end of March 2010, whereas the State Bank of India (SBI) had already reached full computerization by that time (RBI, 2010). The introduction of new delivery channels (ATMs, online banking, and mobile banking) obviated the need for the customer to visit bank branches. Their introduction commenced in India with the first ATM by HSBC bank in 1985. According to the report of RBI (2012), ATMs outnumbers bank branches in India. In 1996, ICCI Bank was the first in India to introduce online banking. The IDC report estimates that the total number of user registrations for online banking in India is over two million (cited in Dash et al., 2012). The growing popularity of online banking results from the ability to conduct banking operations 24/7 and its convenience. Indian banks offered mobile banking services beginning in the late 2000s, with RBI issuing operating guidelines in 2008. The major advantage of mobile banking is that financial transactions may be conducted through a mobile phone, anytime and anywhere. Moreover, Internet penetration is much less in rural areas compared to mobile penetration. It may be easier to offer banking services through mobile phones in rural areas, where bank branches are scarce, than through any other delivery channel. Hence, it is important to study and understand consumer

adoption of mobile banking.

1.2. BANKING SECTOR IN INDIA

As per the Reserve Bank of India (RBI), India's banking sector is sufficiently capitalized and well-regulated. The financial and economic conditions in the country are far superior to any other country in the world. Credit, market, and liquidity risk studies suggest that Indian banks are generally resilient and have withstood the global downturn well. The Indian banking industry has recently witnessed the roll-out of innovative banking models like payments and small finance banks. RBI's new measures may go a long way in helping the restructuring of the domestic banking industry.

1.2.1. HISTORY OF INDIAN BANKING

The General Bank of India was the first bank in India established in the year 1786. The East India Company established three more banks: Bank of Calcutta (1809), Bank of Bombay (1840), and Bank of Madras (1843). Later in the year 1870, Hindustan Bank was established. The three banks (Bank of Calcutta, Bank of Bombay, and Bank of Madras) were called Presidency Banks and in the year 1921, all Presidency Banks were amalgamated to form the Imperial Bank of India. Subsequently, the Reserve Bank of India Act passed in 1934, and the Reserve Bank of India was established in 1935. The Banking Regulation Act was constituted in the year 1949 to streamline the functions and activities of commercial banks in India. The regulation act brought RBI under the control of the Government of India. Reserve Bank of India was empowered as a central banking authority to supervise and control the operations of banks in India. Under the Banking Regulation Act, no new bank or branch of an existing bank could be opened

without the license of RBI.

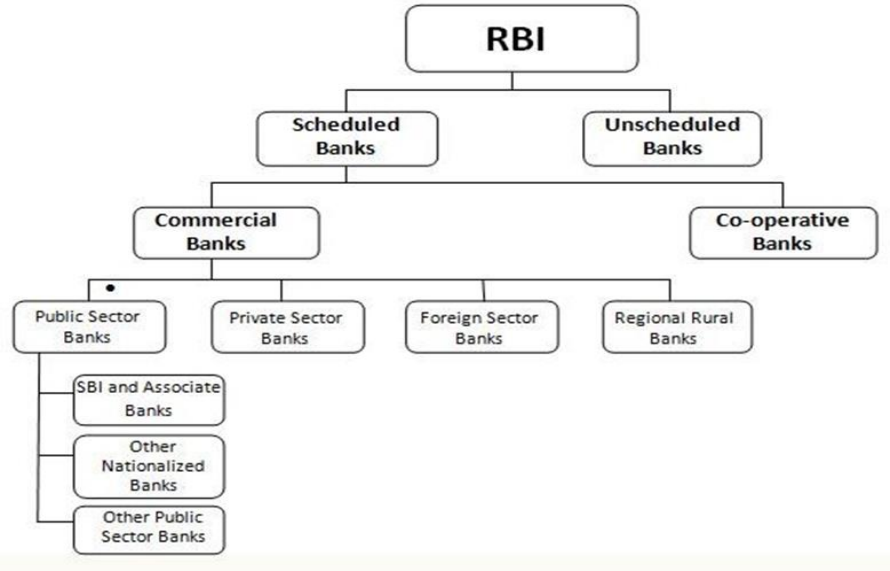
In 1955, the Imperial Bank of India had come under RBI and was renamed as State Bank of India. Seven banks forming the subsidiary of State Bank of India were nationalized in 1960, and 14 major commercial banks were nationalized in 1969. A further six more banks were nationalized in 1980; approximately, 80% of the banking sectorswere under government ownership. The stated reason for nationalization was to provide the government with more control of credit delivery. With the second stage of nationalization, 91% of the banking sectors were in the control of the Government of India with a total number of nationalized banks reached 20. Later in 1993, the government merged the New Bank of India with Punjab National Bank, and that was the only merger between nationalized banks that resulted in the reduction of the number of nationalized banks from 20 to 19.

The Narasimha Committee in the early 1990s proposed the economic reforms in the banking sector and amended the Banking Regulation Act in 1993, which introduced the entry of private sector banks in India. These banks were known as new-generation technology-enabled banks, included ICCI Bank, HDFC Bank, Axis Bank (earlier UTI Bank), and Oriental Bank of Commerce (earlier Global Trust Bank). The economic reforms and the relaxation in the norms for Foreign Direct Investment (FDI) visualized a rapid growth in the banking sector which reshaped the outlook of the traditional banks. The banking revolution in India can be classified into four distinct phases:

- Pre-Nationalization Phase (Before1955)
- Nationalization(1955-1990)
- Introduction of Indian Financial & Banking sector Reforms and partial Liberalization (1990-2004)
- Period of increased Liberalization (2004onwards)

The banking system in India consists of commercial and cooperative banks. The commercial banks comprise nationalized banks, the State bank of India and its associates, private sector banks, and foreign banks. These banks along with the regional rural banks constitute the public sector banks in India. An outline of the Indian banking structure is presented below.

Figure 1.1: Structure of Banking Sector in India.



(**Source:** Manual on Financial and Banking Statistics, RBI, 2017)

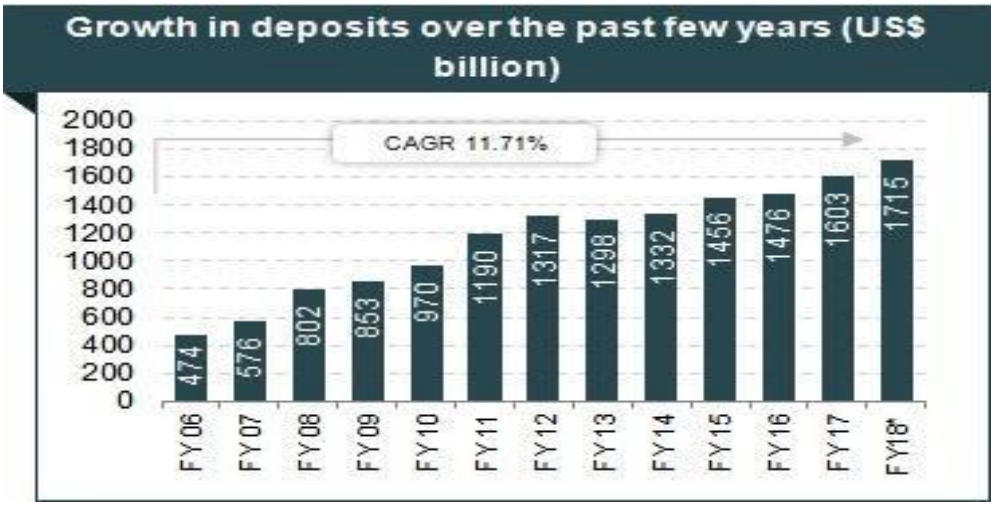
According to the RBI report as of the end-January 2018, 45 foreign banks are operating in India with 286 branches. Another 40 banks had their representative offices in India. Among the foreign banks, Standard Chartered had the maximum branches (100 branches), followed by HSBC (50 branches), City Bank (42 branches), and Royal Bank of Scotland (31 branches).

1.2.2. INDIAN BANKING INDUSTRY

As per the Reserve Bank of India (RBI), India's banking sector is sufficiently capitalized and well-regulated. The financial and economic conditions in the country are far superior to any other country in the world. Credit, market, and liquidity risk studies suggest that Indian banks are generally resilient and have withstood the global downturn well. The Indian banking industry has recently witnessed the roll-out of innovative banking models like payments and small finance banks. RBI's new measures may go a long way in helping the restructuring of the domestic banking industry.

The growth of the Indian banking industry has a significant contribution to the Gross Domestic Product (GDP). The banking industry has been consistently contributing to the growth. Figure 1.1 shows that the banking industry has continuously contributed around the 5.5 percent mark to the nation's GDP. The contribution percentage has remained around the same mark in all fluctuations of GDP, and it shows that the banking industry has a significant role in the growth of Indian GDP.

Figure1.2: Contribution of the banking industry to the Indian GDP



Source: IBEF (2018)

1.2.3. TECHNOLOGICAL INNOVATIONS IN INDIAN BANKING SECTOR

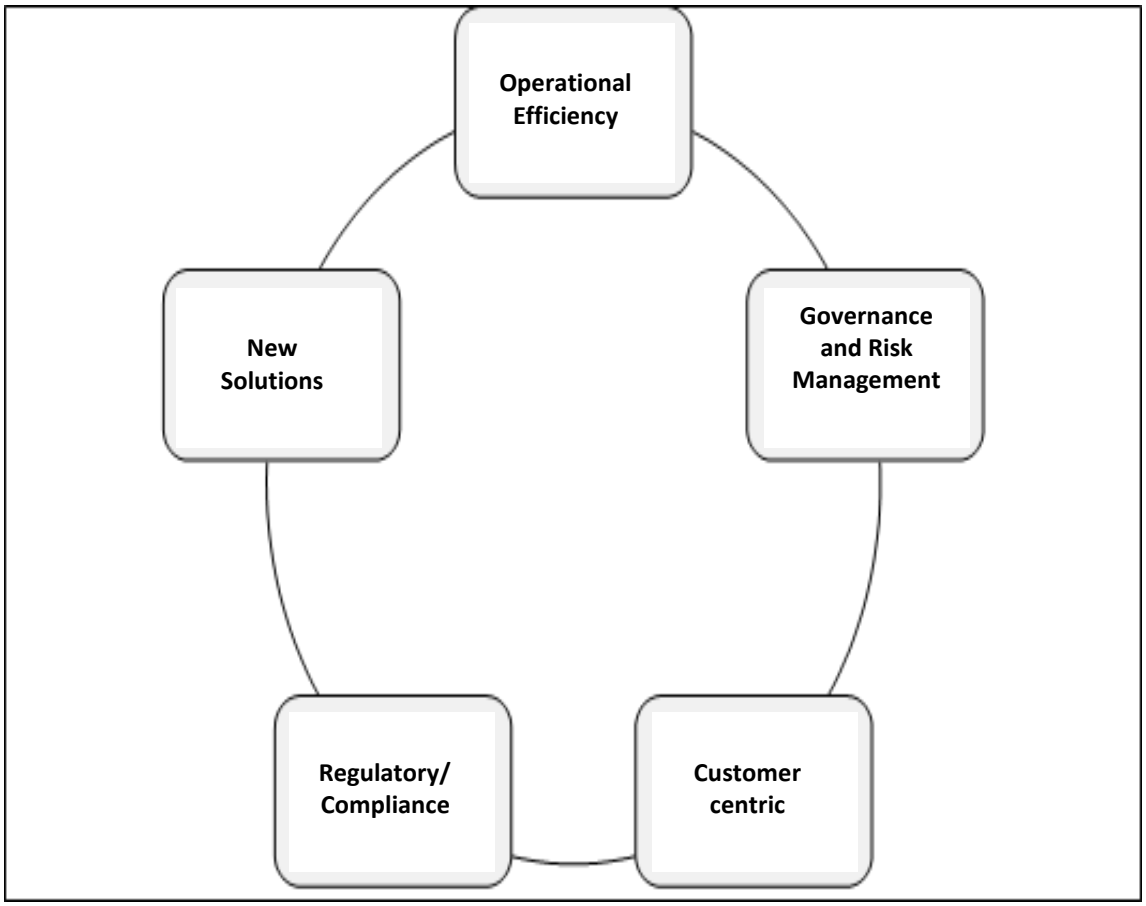
Technology has transformed the functioning of banks and the delivery of financial services. With the tremendous growth of the ICT (Information and Communication Technology), wireless technology, and large diffusion of mobile devices, customers need not visit the bank branches rather perform every banking transaction at anytime and anywhere. The process of computerization in the banking sector in India started with the advanced ledger posting machines in the mid-1980s based on the Rangarajan committee report. The second report of the Rangarajan committee was formed in 1988 to make a comprehensive plan to computerize the banks and the extension of automation to other areas like fund transfer, ATMs, etc.

The Indian banking sector visualized the benefits of IT (Information Technology) initiatives in the late 1990s or early 2000 with the deployment of ATMs, core banking solutions (CBS), automation of branches, and the centralization of operations at the CBS. For enhancing the research and adoption of technology in the banking and financial sector, RBI established IDRBT (Institute for Development and Research in Banking Technology) in 1996. To facilitate secured payment practices in India, technological infrastructures like INFINIT (Indian Financial Network), PKI based electronic data transfer, NFS (National Financial Switch), SWIFT (Society for Worldwide Inter-Bank Financial Telecommunication), and Structured Financial Management systems (SFMS) were created (Rangarajan, 2011). The computerization process of branches of the nationalized banks reached 97.8 percent at the end of March 2010 whereas SBI has already reached fully computerization of all its branches (RBI, 2010). The Indian banking sector has evolved from traditional cash payments to electronic payments in the late 1990s with the growth of the ECS debit and credit transactions, internet banking in the early 2000s, the introduction of RTGS in 2004, the commencement of NEFT in 2005, and the mobile banking in the late

2000s.

Technology has played a critical role in the development of the Indian banking industry. Through technology, banks have found a solution to numerous customer problems and unmet needs. It has put an end to customers toiling it out with lots of stress in the waiting lines, to withdraw and deposit cash. With limited working hours and banking infrastructure, the banking system is required to be decongested. The technological interventions have reduced the banking time apart from offering an independent banking environment that allows them to bank anywhere, anytime. The banks adopted technology-based service processes not only to lower the cost and improve efficiency but also to reach the unreached customers living across the country. The technology-enabled processes have helped the banks to set up electronic-based strategies and services channels that include the customer segments to access the normal banking features and facilities.

Figure1.3: The emergence of information technology and communication system



Source: Prepared by the Researcher

The emergence of information technology and communication system offered opportunities for the banks to improve their process and efficiency. Table- 1.1 highlights some of the technology-based banking initiatives and their deliverables.

Table-1.1: Technology-Based Banking Initiatives

Initiatives	Deliverables
1. Operational efficiency	• Straight-through-processing • Transformation of service channels • Collaborative channel management strategy • Branchless banking for financial inclusion • Business correspondents
2. Governance and Risk Management	• Enterprise risk management • Real-time executive dashboards • Real-time security management • Risk-based Authentication
3. New Solutions	• Mobile phone-based banking application • Social media support
4. Regulatory / Compliance	• International financial reporting standards • Unique identification readiness • Data flow Automation
5. Customer-Centric	• Customer analytics • Efficient customer data management

Source: Compiled by the Researcher

Table-1.1 shows the various functions performed by banks through a technology-based service process. The banks not only improve their operational efficiency through the technology-based process by meeting the diversified customer needs across the country, but it also includes the unbanked and under-banked people living both in urban and rural areas. The technology has played a vital role in regulating the banking process and enables information flow from both customers as well as bankers. The banks see larger opportunities through technology to create newer features, facilities, and support systems that will help the customers to consume the banking services in greater measure and different contexts. Effective database management has been the strength of the technology-based banks as it offers comprehensive information about the customers and their banking pattern which helps in up-selling and cross-selling the banking products.

1.2.4: BANKING SERVICE CHANNELS IN INDIA

In India, the growth and development of the banking industry largely rested on the channel mechanisms. With a huge base of unbanked people, the channel through which banking services can be offered has been very critical. Until the liberalization of the Indian market in the 1990s, the banking industry was relying only on the traditional branch banking model. Both bankers, as well as the customers, faced challenges to operate with the limited operation mode. Opening up of the Indian market for multinational companies sparked the development of the banking industry through technology and innovative processes that brought in new service channels.

These banking channels came into existence over the period in the last decade. The Indian banking industry moved from traditional branch banking channels towards technology-based channels like Automated Teller Machine (ATM), electronic banking, and Mobile banking. The initial addition to the banking

channel was the phone-based banking that functioned through the call center system.

The bank's installed call center infrastructure that operated through the Interactive Voice Response (IVR) system during the initial stages of the banking revolution. But the phone banking system that relied on call center was not successful due to reasons like operational complexity, time consumption, and the lack of awareness towards the operations. The rural and urban customers found it very difficult to rely on such services and they were more comfortable with the traditional branch banking system.

Unlike the phone banking channel, the ATM offered great relief to both the bankers as well as customers. The ATM received greater reception as a banking channel when compared to branch banking or phone banking. It offered a stress-free banking environment to the customers as the ATM banking channel allowed them to withdraw cash anytime, without standing in a queue or waiting for the token number to get cash or knowing the account balances. (Kumar, Malathy & Ganesh, 2011)

ATMs today have evolved as they also render banking services that include fund transfer, cash deposit, phone recharge, personal identification number (PIN) generation, cheque book request, and statement generation. The ATMs are now part of the inclusive banking strategy for the banks as the banks have installed user-friendly ATMs that are easily accessible by the rural customers also. The ATMs play a key role in serving the visually impaired and blind customers by offering Braille and talking mode options.

Following the ATMs, the Indian banking industry adopted internet-based electronic banking options. While the initial electronic banking options were planned to service the urban customers, now it has become a common banking channel for both urban and rural customers. The emergence of computer-based internet banking options provided the comprehensive coverage of banking services that offered an independent banking environment to the customers. The

computer-based internet banking not only helped the customers to save time and effort as they can bank at home any time but also improved the efficiency of the banks by reducing the cost. The dependence on the traditional branch banking system is significantly low, as the customers now need not have to go to banks for operating their bank account as they can consume banking services in their place by using their credit or debit card to transact.

1.2.5. MOBILE BANKING IN INDIA

Mobile technology is transforming both the global banking and financial industry by providing convenience, affordability, and accessibility to bank customers. Indian consumers are increasingly using mobile phones to search, buy and recommend products and services. According to the Internet and Mobile Association of India (IAMAI) & the KPMG Report "India on the Go - Mobile Internet Vision Report 2017," India is projected to have between 236 and 314 million mobile Internet users by 2016-2017 (IAMAI, 2017; Indian Express, 2017). The report points out that India is expected to have over 500 million internet users by 2017. As of June 2017, India has the second-largest internet base in the world with over 350 million internet users, with more than 50% being mobile-only users. Internet penetration is around approximately 19percent- low compared to other developed and developing economies. According to the report, the next wave of growth of internet users will be primarily driven by mobile internet, with non-metros and rural areas contributing to this growth. As of 2014, the Active Internet User (AIU) base in rural India was 6.7% of the 905 million rural populations, accounting for 61 million users. 4.4% of the total rural population used a mobile device to access the Internet; a figure that stood at a meager 0.4% in the year 2012. As per another estimate by IAMAI and Indian Market Research Bureau (IMRB), urban India will continue to account for a large percentage of the mobile Internet users across the country and is expected to reach 143 million by March 2015 and 160 million by June 2015.

India is considered the fastest-growing smartphone market in the Asia Pacific. The advent of low-cost smartphones coupled with low mobile tariffs has enabled more customers to join the mobile internet bandwagon. The flagship smartphone companies (Samsung, Apple, Sony, HTC, etc.) are facing stiff competition from new entrants like Asus and domestic players like Spice, Karbonn, and Micromax. This boom in smartphones has created new avenues both for bankers and consumers. According to Forrester's Indian Mobile Banking Functionality Benchmark 2015 report, the exponential growth of smartphone and wireless internet in India means that the majority of the country's mobile subscribers will own a smartphone within five years. According to a 2015 report from Strategy Analytics, India will unseat the United States as the second-largest smartphone market within the next two years. The growth in smartphone popularity in India reflects the overall digitization of the country. The Government of India, while acknowledging the potential of the internet and mobile telephony has recently launched the "The Digital India" project which aims to transform India into an integrated economy using the internet and mobile phones as the backbone for offering government services.

The major public and private banks in India expect mobile devices to be the dominant channel for customers accessing their accounts. They have developed mobile websites and mobile apps to offer the right blend of convenience, functionality, and user experience to their consumers. Compared to mobile banking, the transaction cost of branch banking is 43 times higher, while using a call center or ATM is 13 times more expensive. Even in internet banking which was considered to be the cheapest form of banking, the transaction cost is twice as much.

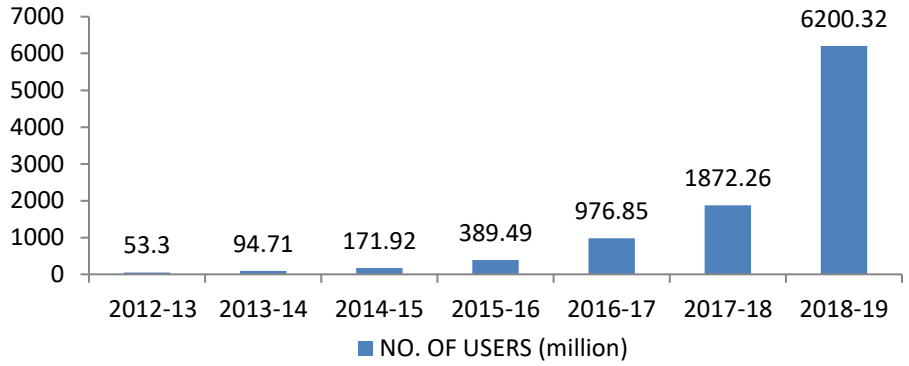
Indian consumers are gradually accepting mobile banking. This is found in a 2015 report by KPMG entitled "Digital Offerings in Mobile Banking - The new normal". Globally, younger populations are more inclined towards mobile

banking services with an average age of around the mid-thirties. India has the youngest population of mobile banking users across the globe (around 30 years). KPMG claims that the adoption of mobile technologies for banking has reached 60-70% of the total banking population in India and China, which is higher than that of the US, Canada, and the UK. The report states that banks that do not have a competitive mobile banking platform stand at risk of losing customers. Mobile banking offerings are already a key factor and differentiator in the selection of a new bank. Juniper Research's "Mobile & Online Banking: Developed & Developing Market Strategies 2014-2019" report states emerging countries such as China, India, and Bangladesh witnessed significant growth in mobile banking in the past 12 months. It is estimated that mobile banking users will exceed 1.75 billion by 2019, representing 32 percent of the global adult population (Bhas,2014).

Developing economies like China and India will be the focal point for mobile banking services. This rapid adoption of apps and mobile banking appears to be a game-changer eclipsing bank branching and internet banking in developed nations, and early indications of similar trends can be seen in India. Against this backdrop, it would be interesting to look at the portfolio of banking services being used in India and the profile of users.

Using the Mobile phone for banking has huge potential in India as there are around 900 million Mobile connection subscriptions, and only 400 million people are holding a bank account. With the Mobile connections predicted to increase to 1,150 million in 2022, Mobile banking will play a vital role as it has every opportunity to become a major channel for banking both in urban as well as rural areas of the country (KPMG, 2018).The cost and ease of using Mobile banking are the reasons why it is predicted to become the major tool for banking. According to KPMG (2018) report, Mobile banking incurs the lowest cost when compared to other channels of banking services.

Figure1.4: Mobile Banking Users in India



Source: Manual on Financial and Banking Statistics, RBI, 2019

From figure-1.4, we can infer that the value of online banking transactions through mobile has shown remarkable growth. The number of mobile banking user transaction growth shows tremendous growth from the FY13 to FY19, as per data collated by the Reserve Bank of India. RBI is also taking steps to provide accessible, convenient as well as cost-effective services to mobile banking customers. The volume of digital transactions using the mobile banking channel has witnessed sharp annual increases (227.7 percent in 2018-19 as against 91.7 percent last year). The acceleration in value terms has also been remarkable at 99.5 percent, which was substantially higher than 12.5 percent witnessed during 2017-18.

Challenges and Issues of Mobile banking

- **Security** - security here refers to the security of confidential information about a customer's bank account. There should be no chance for information leakage. The transaction is done by mistake there should be the option to undo it. The physical security of the device is more important. User id /password authentication of bank customers. Encryption of the data that will be stored in the device for later.
- **Handset operability** - there is a large number of different mobile phones

and it is a big challenge for banks to offer mobile banking solutions.

- **Scalability and reliability** - The customer may be sitting in any part of the world and these banks need to ensure that the system is up and running in a true. Customers will find m-banking more and more useful. Banks unable to meet the performance and reliability expectation may lose customer confidence.

1.3 NEED FOR THE STUDY

More people are using a mobile phone than a bank account in India. And setting up bank branches is not only expensive but time-consuming. According to some studies it could easily take more than two decades for bank branches to reach the entire 1.3 billion population. The way out is mobile banking - using handsets to enable some of the banking functions like payments, money transfer, and so on. The present study is an attempt to answer such questions in the environment of newly introduced technology-enabled banking services. Relatively, little empirical research has been carried out in India about mobile banking, to examine the extent of utilization, reasons for the adoption and non-adoption, level of satisfaction, problems faced by the customers, etc. Though there are few studies conducted in the field of e-banking in India, most of them are sector-specific or region-specific. No significant research studies have been attempted by previous researchers' exclusively on mobile banking factors on satisfaction and there are no such research works documented on the preferences of the bank customers. Therefore, the researcher felt that there is a dare need to have a holistic study from the angle of bank customers using mobile banking services. Therefore, the present study is a pioneering one and is intended to bridge this gap to some extent.

1.4 STATEMENT OF THE PROBLEM

The large population of visually impaired persons in India highlights the market size and potential of this special segment to consume banking services. Despite all technological developments in banking and RBI initiatives to include visually impaired people, mobile banking shares an unfavourable response towards existing inclusive banking initiatives. Therefore, it has become very important for banks to offer independent banking solutions and features that are fully accessible. This study will concentrate on understanding the banking pattern of mobile banking and its influence on customer satisfaction. The competence levels of mobile banking users are improving as they can access computers and Mobile phones (Williamson *et al*. 2001). Therefore, Mobile banking has been considered in this study for assessing its various factors influence on customer satisfaction.

1.5 OBJECTIVES OF THE STUDY

This study is aimed at assessing the impact of Mobile Banking on Customer Satisfaction concerning Retail Banking. The major objectives of the study are as follows:

1. To know the influence of demographic variables on the factors of mobile banking
2. To identify the influence of demographic variables on the customer satisfaction
3. To study the impact of mobile banking factors on customer satisfaction.
4. To provide suitable measures to improve the mobile banking transactions.

1.6 HYPOTHESIS

The lists of hypotheses presented here are surmised from the objectives mentioned in the previous section. These hypotheses look to draw meaning into the relationship and association between variables that impact customer satisfaction.

H1: Accessibility of mobile banking services significantly influences Customers' Satisfaction.

H2: Privacy of using mobile banking services significantly influences Customers' Satisfaction.

H3: Mobile banking Security significantly influences Customers' Satisfaction.

H4: Mobile banking website design often significantly influences Customers' Satisfaction.

H5: Accessibility of mobile banking website Content significantly influences Customers' Satisfaction.

H6: The Speed of operations and responsiveness of mobile banking services significantly influences Customers' Satisfaction.

H7: Convenience of mobile banking operations significantly influences Customers' Satisfaction.

H8: Affordability of mobile banking with respect to fees & charges are significantly influence Customers' Satisfaction.

1.7 SCOPE OF THE STUDY

Indian telecommunication service scenario indicates that cellular or mobile phone service was growing tremendously in the last five years. As per TRAI's report on the telecommunication industry in India, the wire-line phone connections were declining in the last few years and mobile phone connections were increased very

fast. India's total mobile subscriber base including active and inactive users has reached 1,176 million in 2018. The proportion of active subscribers was approximately 87.28 percent of the total wireless subscriber base. Mobile customers in urban areas reached 647.52 million. India has 528.48 million mobile users in rural areas. Mobile phone density in India was 89.78 in 2018. Mobile service tele density was 155.48 in urban areas and 59.15 in rural areas. So, it indicates that there is a great scope for Mobile banking as the numbers of mobile users in India are increasing rapidly. Now a days, retail customers in banks are also more accessible to mobile banking. So, a deeper understanding of mobile banking and various parameters of it with respect to customer satisfaction will broaden the customer friendly business among bankers. The research study will enlarge the scope for finding new market, innovative product and suitable market segmentation among the new players in the area of mobile banking.

1.8 LIMITATIONS OF THE STUDY

The study suffers from the following limitations:

1. The study is confined to retail banking customers in Bengaluru. The samples for the present study were collected from customers who avail mobile banking services.
2. Only the respondents from four banks (SBI, Bank of Baroda, ICICI & HDFC) are considered for the study, and the respondents from foreign banks, which have a different banking approach and culture, have been kept outside the ambits of the study.
3. Majority of the factors have been covered in this study based upon the literature review. However, some more factors may be explored by applying other appropriate statistical tools.

1.9 SCHEME OF THE STUDY

The thesis is presented in the following manner and order.

Chapter 1: Introduction: The first chapter includes a brief introduction, the significance of the study, statement of the problem, objectives of the study, hypotheses, methodology, tools of analysis, a period of study, limitations of the study, etc.

Chapter 2: Review of Literature: It covers the research studies conducted in India and other countries, on technology in banking and allied areas.

Chapter 3: Research Methodology: this chapter elucidates the research design and methodology through which the research deliverables are established. It offers a blueprint consisting of information relating to sampling decisions, data sources, data collection instruments, and data analysis tools used in this study.

Chapter 4: Data Analysis: This chapter is offering a detailed view of the data analysis and findings of this study. Data analysis including hypothesis testing and findings are presented in the order of research objectives.

Chapter 5: Summary of Findings, Suggestions, And Conclusion: Chapter Five presents a discussion on major findings and relates them with the literature, besides offering suggestions relating to the improvement of inclusive banking tools and measures to increase awareness and usage of Mobile phones for accessing bank accounts among the study population. As a conclusion, it compares the objectives with the findings while presenting a

concluding note. The prospects for further research in this area of study are suggested.

SUMMARY

The chapter has covered various fundamental concepts with respect to mobile banking. In addition to this, the chapter has discussed the history of Indian Banking, the overview of Indian Banking, Various technology-based initiatives the banking industry has undertaken and banking service channels in India. The issues and challenges in mobile banking are highlighted in a lucid manner. This chapter has also outlined the entire research methodology that has adopted in future chapters.

CHAPTER-2

REVIEW OF LITERATURE

CHAPTER - 2
REVIEW OF LITERATURE

2.1. INTRODUCTION

This study is an effort to understand inclusive banking opportunities available for the bankers to provide accessibility to retail customers. The previous chapter provided a basic understanding of the introduction of the research area and the research design to be used. This chapter will focus on providing the conceptual background to the study and a comprehensive review that includes research papers, reports, and policy directives relating to inclusive banking and Mobile banking acceptance. This review will play a vital role in determining the key constructs required for designing the research instrument as well as setting up research hypotheses.

2.2. E-BANKING

Historically, the launching of the first Automated Teller Machine (ATM) in Finland marked the start of a new banking channel, which made Finland the leading country in E-Banking, before it became widely used in any other developed and developing countries (H. Sharma, 2011). More recently, E-Banking, or the distribution of financial services via electronic systems, has spread among customers due to rapid improvement in IT and through competition between banks (Mahdi, Rezaul, & Rahman, 2010).

Lustsik (2004) defines E-Banking services as a variety of e-channels for doing banking transactions through the Internet, telephone, TV, mobile, and computer. Banking customers' desires and expectations about service are expanding, as technology advances and improves. These days, the customer wants to operate

and do his or her banking transactions at any location without going to the bank, at any time without being limited to the bank's working hours, and to do all his or her payments (purchasing, bills, stocks) in a fast and cost-effective way. Consequently, financial services quality ought to be characterized by independence, elasticity, freedom, and flexibility, to accommodate these desires (Khalfan & Alshawaf, 2004).

In Lebanon, E-Banking is still mostly limited to the Internet and mobile telephones. This is due in part to the slow development of IT infrastructure in the country. With that in mind, we are defining the concept as the ability to conduct banking and financial transactions electronically via the Internet or mobile telephone applications.

2.2. IMPORTANCE OF E-BANKING

E-banking provides many advantages for banks and customers. e-banking has made life much easier and banking much faster for both customers and banks.
The main advantages are as follows:

- It saves time spent in banks.
- It provides ways for international banking.
- It provides banking throughout the year 24/7 days from any place that has internet access.
- It provides well-organized cash management for internet optimization.
- It provides convenience in terms of capital, labor, time all the resources needed to make a transaction.
- Taking advantage of integrated banking services, banks may compete in new markets can get new customers and grow their market share.
- It provides some security and privacy to customers, by using state-of-the-art encryption and security technologies.

Electronic funds transfer means computer systems are used to perform financial

transactions electronically. The EFT is used for electronic payments and customer-initiated transactions where the cardholder pays using a credit or debit card.

The transaction types are, Withdrawal, deposit, inter-account transfer, inquiry, administrative transactions that cover non-financial transactions including PIN change. Electronic Fund Transfer transactions need authorization and a means to match the card and cardholder. EFT transactions require the cardholder's PIN to send online in encrypted form for validation by the issuer of the card. Other information may include the card holder's address or the CVV2 security value printed on the card.

Electronic funds transfer transactions are activated during e-banking procedures. The different methods of e-banking are.

1. Online banking
2. Short message service banking
3. Telephone banking
4. Mobile banking
5. Interactive -TV banking

1. Online Banking

Online banking also called internet banking, allows the customers to use all the banking services from a computer that has internet access. The customer can perform financial transactions on a secure website operated by the bank. Online banking offers features such as bank statements, loan applications, funds transfer, e-bill payments, and account aggregation allows customers to monitor all their accounts in one place.

2. Telephone Banking

Telephone banking is a service provided by banks that provide customers to

perform transactions on phone. All the telephone banking systems use an automated answering system with keypad response or voice recognition capability. To prove their identity customers must provide a numeric or verbal password or answering the questions asked by the call center representative. In telephone banking, customers can't withdraw and deposits cash but can do all the other transactions. Mostly there will be a customer care representative to which the customers speak, although this feature is not guaranteed. The customer care representatives are trained to do what is available at the branch-like cheque-book orders, address change, and debit card replacements.

3. SMS Banking

SMS banking is a service permitting banks to do select banking services from the user's mobile by SMS messaging. SMS banking services have push and pull messages. Push messages are sent by the banks for alerting customer about new offers, marketing messages, alerts to events happening in customers account such as a large number of withdrawals from ATM or credit card, etc.

Poll messages are those that are sent by the customer to the bank for having some information or to perform a transaction in their account. Examples include account balance inquiry, requesting for current exchange rates, and for new offers that are launched.

The customer has a choice to select the list of services he needs to be informed. This can be done by integrating to internet banking or speaking to the customer care representative of the bank call center.

4. Interactive -TV Banking

Interactive TV is a service that allows users to interact with TV content as they view it. It is also called iTV or idTV. If the customers subscribe to a cable television service some banking facilities like balance inquiry, funds transfer between accounts, bill payment is made available through TV. Most of the major banks in the UK have experimented with banking services through cable and

satellite TV companies.

Problems encountered by disabled people and the aging population using e-banking.

1. Physically Impaired

The people with physical impairments who are using telephone banking finds it hard to hold and activate the buttons. People with a physical disability cannot have proper control on hands and arms, therefore, it is difficult to use a mouse effectively so using the banking website becomes a problem.

2. Hearing-impaired

People with hearing impairments require the visual representation of the auditory information that is on the banking website. With the increasing use of multimedia e.g., video streaming the banking people should take care that these will be understood by the people having hearing problems.

One of the straightforward ways to make the banking site accessible to hearing-impaired people is to make the language simple particularly for BSL users for whom English is a second language.so it is necessary to use simple language and the inclusion of a glossary of banking terms. People who are hearing impaired, cannot use telephone banking. And the users of hearing aids will experience electromagnetic interference, from mobile phones. The radio signals from mobile telephones can arise humming and buzz inside the hearing aid.

3. Blind and Partially sighted

People having vision problems have a problem inserting the card into the ATM and typing their PIN. And people with vision problems can use online banking based on how the site is designed for people with vision disabilities i.e., blind people use browsers should with speech or Braille output which are text-based systems and should be browsed independently of graphics. The browser should have the option to vary the text size so that they can increase the font. The main

problem for them is the graphics in the websites are not meaningful when they are accessing with a text browser and people with vision problems find it hard to use telephone banking because of the decrease in the size of mobile phones. Due to the compact size of mobiles people with low sight find it hard to use the small keypads and smaller screens. And some people are unable to distinguish colour combinations used in mobile keypads and screens. And mailed notifications regarding e-banking are inaccessible to blind and people with low vision if they are not providing in alternate formats.

4. Cognitively impaired

The Banking websites with too many steps and unhelpful messages are difficult to browse for cognitively impaired people. The websites designed with complex page layouts, tables, and navigation structures confuse these people and are become difficult to browse.

And in telephone banking, mobile phones of the latest technology are coming with so many features and complex operating systems. People with Cognitive disabilities find difficult to operate these kinds of mobile phone. People having dyslexia finds it difficult to remember the PIN in the correct order and may enter incorrectly. So, these people are prone to writing them down which lessens the security and can be misused.

5. Age-related Impairments

People, as they age, will experience so many changes in memory, eyesight, hearing, and dexterity and they might not consider having disabilities. These people will be benefited from the accessibility provisions that make websites accessible. People having age-related eyesight may access the website by changing the text size. These people also find it difficult to use the mouse. Older people find it difficult to use mobiles having complex operating systems and too many options.

Tao Zhou, (2014), initiated a study to find out consumer's mobile banking

acceptance by incorporating model TAM with work on observed advantages as well as its threats. It has been seen that observed usefulness, social insecurity, performance risk, and advantages straightway impact opinion concerning mobile banking, and that opinion is the crucial element of mobile banking acceptance. Additionally, there is no straightforward relationship between recognized usefulness and aspiration to use was realized.

Kumar, Banga, and Sharma (2014) found that nationalized banks were concentrating more on increasing their credit risk and capital requirements as compared to the private and foreign banks as their increase was more of the other two categories of banks. The private banks were concentrating on their Tier-1 capital requirement as compared to the other two categories of private and foreign banks taking care of the internal procedures of banks and by creating more awareness about supervising review. It was suggested that proper action should be taken to make the compliance more transparent and effective.

Technical Committee Report, RBI (2014) described that the Mobile banking transaction is economical compared to the traditional banking channels and hence there is a need for banks to encourage the mobile banking channel in a big way keeping in mind the long-term economic gains. Bank-specific applications and individual platforms have a major role in building brand loyalty, an alternate uniform/common platform, interoperability, and a similar seamless transactional experience to the users/customers of all banks would encourage mobile banking.

In connection with **Li *et al.* (2014),** one can see the connection, with the findings, who considered these facilitating conditions (FCs), the strategies involved with mobile banking were helpful with the motive of taking on of the system of banking in mobile.

In this domain, another similar study was conducted by **Singh and Aggarwal (2013)** in the context of India and they discovered that residents of urban areas

were extra predisposed to accepting new technologies than rural peoples. On the other hand, the reading verified and offered the opinions of rural Indians empirically, which could not be established overwhelmingly, and also it completely overlooked the urban Indians.

Bhat and Khan (2013) detected that there were significant variation between private sector banks (JKB and HDFC bank) and public sector banks (PNB and SBI) regarding each of the overall perceived and expected. It was also observed that their respective customers provided significant scores and hence accepting the research hypothesis. They suggested that the banks should develop more proactive market strategies to reach and retain customers. The management must adapt customers' orientation programs and reinforce their relationship with them.

Chau Shen Chen (2013) initiated a study to analyze the impact of circulation and accepters of mobile banking services (MBSs), observed risk, brand attention, and brand image of MBS supporters, on attitude towards using MBSs, and on the aspiration to use MBSs. In consensus with sample usage frequency in MBSs, this study subcategory the sample population into distinct behavioral sections (frequent/infrequent users) to focus sample features and behavioral models. The methodical outcome of the study shows that mobile banking users with distinct behavioral habits have different perceptions of invention advantages and insecurity.

Niklas Arvidsson (2013) initiated an examination to identify consumer's behavior on acceptance of the mobile settlement method. The outcome of research shows that the most essential element describing if users are preferring to practice mobile payment services is the ease of use or not. Additionally, related benefits, high trust, low insecurity, higher age, and low income were accompanied with a positive view on accepting the service. The outcome of the study shows that the study of the invention in the payment industry cannot depend on technology

adoption models and innovation diffusion theory all alone.

Mishra & Sahoo (2013), stressed the fact that m-commerce's implementation in India with the usage of behavioral theories is very clearly projected in the performances of consumers respectively. The various factors that she discovered were the outlooks, subjective norms (SNs), and observed behavioral controls. These factors that she noticed were the main antecedents of behavioral intentions (BIs) which moved forward with the usage of m-commerce. According to her study, this focused on the point that psychological factors play an important role than technological aspects for the taking on of m-commerce. Mostly it was noticed that the person's attitudes and the approval were related to the end-users of BIs. Focusing on the point, which was highlighted by her, says that if marketers encourage constructive outlooks toward m-commerce, then it will serve a better and enhanced the charges of implementation in the area of mobile banking. Referring to the point, one can say that the study lacked the element based on an absence of investigation using theories similar to the plan of theory behavior (TPB).

Yadav *et al.* (2012), looked into the suitability and iniquitousness that was established in consumers who favored mobile strategies, which are responsible to make a stick from their customary practice to the latest technology in mobile banking. In connection to this, it was noticed that the impact of this had on mobile battery, which becomes comparatively short. It became the reason that was regarded as the main limitation for obligated them not follow the practice of mobile banking for their customer.

Grewal (2012), the empirical study established that the uprisings in (ICT) that is information communications and technology. Its dealings have overwhelmed obstructions instigated by non-educated people, obtainability and charge affected by a large percentage of 70 in India are existing in countryside areas. The reading,

that highlighted that the cost of mobile service charges is less compared with other countries with India. Moreover, the individuals are keen on paying for several limitless data plan services. This made the GoIbe of assistance by pleasing enterprises to progress the development of e-commerce and m-banking. Another important element to be taken care of was the safety majors that were the main complications to the acceptance of these up-to-the-minute technologies, in line with the conclusions of others.

Shumaila Yousafzai, Mirella Yani-de-Soriano (2012), initiated a study to intensify the awareness of customer's genuine e-banking attitude by associating the shape of automation inclination with the TAM Model and demographics like age and gender into one combined structure. The outcome of the study shows the importance of customer-precise elements in predicting genuine attitude. Technology expedition, age, and gender average the beliefs-intention relationship. User's with distinct levels of automation-related ideas and demographics carry dissimilar views about technology. The connection between usefulness and attitude was intense in the case of young males with great levels of positivity and creativeness (explorers and pioneers), while the connection between the ease of use and behavior was intense for old women with a high level of displeasure (paranoids and laggards).

Patsiotis, Hughes & Webber (2012) initiated a study to find out e-banking acceptance and resistance attitude in Greece to maintain the profile of accepters and non-accepters of the aids. The goal is to embellish customer's resistance behavior concerning e-banking. In the research, it was examined that the accepters and non-accepters were noticed to have distinct features.

Sharma, Prerna, Bamoriya & Singh, (2011), defined mobile banking as "the provision of banking services to customers on their mobile devices". Mobile Banking refers to the provision and usage of banking and financial services with

the help of mobile telecommunication devices. Mobile banking is a system that helps customers to conduct several financial transactions with the help of their mobile devices. Mobile commerce is a natural successor to electronic commerce. Where a mobile device is used to initiate, authorize and confirm an exchange of financial value in return for goods and services. Mobile devices may include mobile phones, PDAs, wireless tablets, and any other device that connects to the mobile telecommunication network and make it possible for payments to be made.

Kumbhar (2011) showed in a study that in e-banking, perceived value, customer's brand perception, user easiness, cost-effectiveness, the ability of handling problems, security and assurance, and responsiveness are important factors in customer satisfaction. Some other factors influencing customer satisfaction with mobile banking are identified as usefulness, relative advantages, easiness of use, risk perception and lifestyle, and present need of customers (Kahandawa & Wijayanayake, 2014).

In developing countries like India, there are more mobile phone users than bank account owners. India stands second in terms of financially disqualified households in the world which means that more than fifty percent of the population is financially underserved. Report on financial inclusions by the World Bank state that 35 percent of the Indian population has a bank account and 65 percent of the population is still in the need of various financial services and access to financial institutions facilities (**Global Findex, 2011**).

Garrity, Jim (2010) this study discusses the application and benefit of automated teller machine (ATM) locators in the banking sector. these smartphones applications enable customers to conveniently find the surcharge-free, linked ATM network that the local banks belong to as well as helping banks in terms of comprehensive mobile banking services.

Shih, Kuang Hsunl Hung., Hsu Feng Lin (2010) this study tells us that M-banking is a channel through which banks interact with customers via mobile devices. M-banking is an emerging mobile commerce application. It is a challenging task for banks to encourage customers to continue using m-banking services and attract new customers to the service. This study clarifies the differences in the thinking paths of users of m-banking services and consumers who have not yet used m-banking services, in terms of their involvement. We prove that consumers equipped with more product knowledge tend to pay more attention to the information about product attributes, rather than the peripheral information, which does not consider the advantages and disadvantages of products. These findings can serve as a reference for banks in the formulation of different marketing strategies and promotional campaigns targeted at both existing users and consumers who have not adopted m-banking services.

Weber, Rolf H; Darbellay, (2010) this article focuses on the legal issue of MBS. The growth in mobile financial services not only depends on technological advances but also consumer confidence in the provided services. Mobile financial services can be divided into mobile banking and mobile payment; therefore, legal certainty must be established as to what supervisory regime applies to the various activities involving banks and non-banks.so, the legal aspects also play a role in the evolution of mobile banking as far as the need to enhance customer trust in the offered services is concerned. Major issues arise about data security and consumer protection.

Ghezzi, Renga, Balocco, & Pescetto (2010) conducted a study on the Italian mobile payment services market, and to identify and assess the main diffusion drivers of mobile payment applications. The research design integrates an exhaustive census of all Italian mPayment applications, and an in-depth analysis of the most significant cases performed through the case studies methodology: ten user companies or “merchants” and six service providers were analyzed through

semi-structured interviews given to top managers. Through the census, 21 MPayment applications and related services were identified. In addition to this, the case studies brought a greater understanding of the key diffusion drivers: strong inhibitory factors and adoption barriers are still restricted user adoption despite the many benefits related to these services.

Dube Thulani, Chitura Tofara & Langton (2009), in their study inspected the degree of acceptance and use of e-banking by retail banks of Zimbabwe and found out challenges faced in the acceptance of this technology. An experimental analysis was employed to attain the envisioned goals of the research. Finally, the result shows that although a large number of banks in Zimbabwe have accepted e-banking, the operational level is still low, because not many customers have yet adopted this technology. Uniformity with the current legacy system, cost of execution, and safety issues are the main threats experienced by the banks in the acceptance of the e-banking system.

Riquelme, Mekkaoui & Rios (2009), in their research study on Banks of Kuwait and the proposed study aimed to find following objectives (1) to find out which user's service and virtual features foresee complete happiness (b) to govern whether happy customers are using e-banking facilities as compared to little happy customers and (c) to ascertain features of less satisfied customers. The conclusions recommend that satisfaction can be brought in by developing politeness, thankfulness, punctuality, and product, and services delivered. The bottommost is the essential element in motivating e-banking satisfaction. The outcome of the research found out that most of the consumers in the specimen as happy or very happy about service and online systems features.

Joshua (2009), the study has been conducted to check at the acceptance of technology-empowered banking self-services (TEBSS) in entirety as it has examined the factors relevant to all four TEBSS which are as follows, ATMs,

Internet Banking, Telebanking, and mobile banking which are used by the banks. It has been found that the customers prefer to use several banking services delivery techniques in an appreciating manner and every electronic banking channel has its specific features.

Ming-Chi Lee (2009), conducted a research study and analyzed and combine several benefits of e-banking to design a genuine element called recognized benefit. Additionally, concerning recognized risk theory, five determined risk factors are – financial protection, / privacy, performance, social and time risk – are modeled with observed advantages also amalgamated with model TAM and the theory of planned behavior (TPB) model to introduce a theoretical model to reveal customer's aspiration to use e-banking. The result shows that the idea to make usage e-banking is unfavorably impacted by the safety and insecurity threats as well as financial insecurity, whereas positively impacted by recognized advantages, attitude, and usefulness.

Tommi Laukkanen, Suvi Sinkkonen & Pekka Laukkanen (2009), initiated a study to find out how consumers experience several types of struggle to e-banking recognize the knowledge and counseling provided by the service transmitters. Based on the past research, categorization of customer acceptance to inventions is suggested and four resistance sections, called as Non-Resistors, Functional Resistors, Psychological Resistors, and Dual Resistors were discovered.

Chaipoopirutana, Combs, Chatchawanwan, & Vij (2009), conducted a survey on mobile banking and it is beneficial for banks, and they found that there are many challenges that Indian banks are experiencing through a tremendous increase in the mobile banking user database like mobile set effectiveness, major privacy issues, transaction feasibility and appropriateness, app compatibility, consumer awareness, and knowledge, etc. Indian banks are struggling with issues like technology adoption into their systems which is very complex, and banks should make these technologies easy to use to customers. Data shows that people

are not very well updated with this upcoming mobile banking technology.

Sabah Abdullah Al-Somali, Roya Gholami & Ben Clegg (2009) initiated a study to find out the elements that motivate consumers to support e-banking in Saudi Arabia. The investigation forms were established concerning the technology acceptance model (TAM) and organized some additional necessary control elements. The outcome of the research recommends that the excellence of the virtual junction, the knowledge of e-banking and its advantages, the civic impact, and digital knowledge have a major impact on the observed utility and recognized ease of use of e-banking adoption. Knowledge, faith, and ability to transform also have a considerable effect on behavior concerning the possibility of accepting e-banking.

Hayat (2009) suggested that for a banking regulator it's important to provide adequate protection for consumers, ensure economic stability, provide interoperability of electronic systems and guarantee the security of transactions and Anti-Money Laundering and Know-Your-Customer principles must also be applied to mobile payments. Further, Banzal (2010) found that another major issue is the revenue sharing agreements between mobile service providers, banks, content providers, aggregators, and other service providers like utilities, travel agencies, hotel industry, retailers, etc. Gupta and Mittal stated that the connectivity with innovative modes of transaction in banking like ATMs, Internet Banking, and mobile banking always required a lot of attention from the side of service providers because a small interruption in the system may spread a very bad word of mouth and fear to the customers.

Kaleem & Ahmad (2008), explored electronic banking in Pakistan, research is done to collect perceptions of bank employees related to possible advantages and risk related to e-banking. The finding of the research shows that Pakistan bankers believe e-banking is a tool to lower inconvenience, reduction in operation cost,

and time-saving. They also believe that e-banking enhances the possibility of access to public data by the government, chances of fraud increases and security of information lacks. Minimizing the cost of operations, saving time, and minimizing inconvenience are the benefits considered by both public and private bank employees. Both types of employees are not agreeing with 'reducing the risk of cash-carrying' as an essential benefit. Branch managers who directly deal with transactions observed that electronic banking facilitates quick response.

Contrastively, in the year, 2008 **Irvine** noted the aspect or reason responsible for the win overpower and the tough competitions in businesses. However, the most important factor is the accomplishment of consumer requirements that serve the purpose of crafting successful new business value offers. In the study of Irvine, which represented the relations between suppliers and consumers essentially, but then it did not have the experiential reasoning for the same. The studies, which illustrating customers' purposes to implement mobile banking and also the latest technologies which were not provided and lacked.

Chris et al. (2007), found the variables that help in forecasting customer loyalty in retail banking. When a consumer is willingly endorsing some bank and they want to be with that bank either for the short term or long term then it can be said that the customer is loyal towards that bank. Findings of this research show that a consumer endorses the bank willingly because of his optimistic views and overall satisfaction for that bank. The relation between perceived satisfaction, quality service, and consumers' intentions in recommending a bank study.

Herington & Weaven (2007) found that banks with better online quality facilities can develop better consumer relationships. The survey is conducted on respondents of Australia using internet banking and find out the impact of internet quality facilities on the consumer's satisfaction level and increasing customer's relationship. Results show that online quality service does not have any influence

on customer satisfaction, e-trust, or in increasing strong relation with consumers. It is not related to e-loyalty. The loyalty of customers can be increase by understanding their requirements and provide them well an organized and relevant website. Banks can develop healthy and strong relations with consumers by providing them simple user-friendly and effective websites so the trust of these consumers increases. It can be concluded that alone online quality facility is not enough in creating and retaining strong relationships with customers.

Tommi Laukkanen (2007), examined the various retail channel likings of online consumers of the bank by investigating their preferences in e-payment of bills. Online consumer preferences can be examined by dividing them into 2 groups i.e., firstly those consumers who make payment by using the internet and secondly those consumers who make payment by using the internet as well as on mobile. Findings show that mobile consumers and internet consumers are different in preferences of channel features. Internet consumer has a benefit of large screen size compared to the mobile user. The main feature for mobile consumers is location benefit. This research also shows that some consumers who are using mobile phones but not performing any banking action can be potential mobile banking users by giving them awareness.

Yahya Dauda, Solucis Santhapparaj, Asirvatham & Raman (2007), explored the influence of perceived electronic commerce security on acceptance of online banking, and the importance of natural environmental variables like subjective rules, approach, and perceived behavioral controlling variables for acceptance and make comparison with these variables with Singapore internet banking acceptance. Data is collected from users in Malaysia and Singapore and it reflects that consumer perceived non –repudiation; trust-related benefits in Internet experience and need for banking becomes a very important variable that influences the acceptance in Malaysia. Whereas experience on the internet and the need for banking found considerably influence acceptance of internet banking in

Singapore.

Akesson (2007), who came out with the idea of bringing difference in consumer awareness and service provider views from each other was noted essentially. Taking into consideration the users 'perspective, suitability was the vital universal element, despite the fact service providers frequently persevered with personalization. According to both, the consumers and suppliers who supported such localization which was crucial and could produce a tough worth proposal. In their study, the limitation was their unawareness of assessment schemes taken from a user standpoint.

Mckee, Simmers & Licata (2006), referred to another study in this mobile banking and highlighted the work of those who have observed the consumers' principles about their capability to contribute to the facilities, which are responsible for the service. For the sake of analysis, a theoretical model is structured, which will clarify how self-efficacy has an impact on the consumers' service perception that are important and intentions that are meant for complaint ("voice"). The results pointed to the factors for, in turn, that is responsible for a positive response from the mouth. There are 444 sample members established for the sake of the insurance of the group plan. The result that was referred was noticed that the model equation was structural to confirm the relationships to be hypothesized. According to the finding suggested by the study that highlighted that service executives should take proper measures for the intensification of consumer service use self-efficacy.

Carlos, Miguel, Torres & Eduardo (2006), opined and found which focused customers' opinions of their customary bank influence their choice of adoption with the services given by the same bank on the internet by gathering data from consumers of numerous banks which deliver their facilities by customary channels as well as on the internet. According to the result showed in this paper

that customer faith in a traditional bank, as well as incomes, age, and sex, are reasons that are responsible for encouragement customers' judgment to function with a similar bank via the internet.

Amin, Hamid, Tanakinjal & Suddin Lada (2006), conducted a research study and shown the research to analyze the undergraduate students' outlooks and prospects in the direction of mobile banking by concentrating on Labuan, Islamic banking in FT. Accordingly, findings are illustrated in the study that students tend to acquire and embrace mobile banking in their banking transactions. Additionally, the outcomes of the study similarly determine students' outlooks and anticipations one of the greatest reliable descriptive aspects, focusing and expecting readiness in the field that embracing banking on mobile phones practice that is forthcoming.

Boateng (2006) analyzed reasons that affect the bank decisions related to electronic banking, selection of channel in e-banking, development of e-banking, consumers attraction, channel conflicts. The study results show that operational factors like location of the customer, maintenance of consumer satisfaction, and banks software ability have an impact on decisions related to entering electronic banking facilities. Technology and human resource capability along with electronic operation affect the development of e-banking. This research shows that African banks should take into consideration the consumer's need, additional facilities, enlargement in strategies of banks that benefit both customers as well as banks.

Motwani (2006) conducted an empirical study on mobile banking to predict the intention of senior professionals to do mobile banking. The study was done on primary data collected through a self-structured questionnaire based on a five-point Likert Scale. Nonprobability convenience sampling was used. The discriminate analysis was carried out using statistical software. The study

determines the important factors which predict the senior professional's approach regarding mobile banking. The marketing managers should understand these factors and target the professional in the right way. Appropriate use of these factors can help flourish their businesses. In this study, we found that the factors Immense Efficacy, Professed Security, Effective Distinctiveness, Supportive Access, and Innovative Virtual Environment were significant predictors.

Carlo Gabriel Porto Bellini, Guilherme Lerch Lunardi, & Jorge Luiz Henrique (2005), investigated and offered an outline that was designed to eminence services of banking, and background that is centered around consumer views measured from the professional well-founded with11,936in Brazilian bank customers. Referring to the investigation, which presented the theoretical growths of five concepts that are motivating the feature of banking facilities and consumer gratification and materialized the consumer relationship with financial and business dealings, image, information technology, and branch?

Wan, Luk & Chow (2005), exhibits various reasons responsible for the adoption of Hong Kong bank. There are four basic customer banking ways. These channels in which they function are internet banking, branch banking, telephone banking, and ATM. One of the reasons is the effects of demographic variables and emotional principles that are responsible for the optimistic qualities infatuated by the networks according to the study. ATM is considered to be the supreme commonly followed in a way of adoption in which banking through internet and banking in-branch according to their understanding in the study. Banking over the telephone is considered to be the least frequently adopted channel rendering to the study. The study also highlighted those psychological principles in which degree channel is infatuated positive approach. This characteristic was additionally extrapolative in terms of acceptances of internet banking and ATM compares to the taking on of banking in-branch and banking over the telephone. Except for ATM, the other factor that is strongly associated with adoption is the

Demographic background.

Akinci, Aksoy & Atilgan (2004), have identified that during banking through Internet, in which the user is attached to technology who are individuals in the direction of convenience minded. On the other hand, comparatively the non-adopters are considered to be additional old-fashioned channel oriented, they are doubtful consumers, requiring banking system through the internet, in which the service area comparatively these facilities are provided in the branches. According to the study's findings, one can say that safekeeping, consistency, and confidentiality concerns such as business deal speed; download, and the concern with the user-friendly website, remained amongst the utmost notable reasons of the behavior for the selection of bank selection.

Bodo Lang & Mark Colgate (2003) conducted a research study on mobile banking and paid special attention to how the interaction is used for IT channels too with their financial service provider service with financial support for their customer. The study has also highlighted the interaction among this consumer as well as commercial facility suppliers that has an emotional impact on the relationship quality. It is also significant in the study the consumers who do not reveal the "IT gap" that are more constructive in nature and opinions with rapport with their service provider.

2.3. GROWTH OF E-BANKING IN INDIA

Indian scenario in banking is not up to the mark in comparison to the developed economies. In 1966, ICICI Bank took the initiative towards starting e-banking services in India. The period of 1996 to 1998, can be defined as the early adoption phase for e-banking in India. But public sector banks were the late adopters of the e-banking services. SBI owns the pride of being a pioneer among public sector banks to start providing e-banking services to its customers. Although, it experienced a tremendous increase in usage of e-banking in 1999, due to lower ISP internet fees& charges, increased PC penetration, and a tech-savvy environment.

The process of providing e-banking services in public sector banks being very slow and the banks state that the main reasons for this are the lack of regulatory framework and clarity of the e-banking process. Adding to these reasons, lack of commitment and enthusiasm of banks and restraining forces to the change prevailing in the PSU banks are responsible for the slow adaptation of the e-banking system in PSU Banks in India.

E-banking is viewed as an expansion of conventional banking services. Although, many cases contradicted the legal framework of Indian e-banking, such as the Banking Regulation Act 1949, The Reserve Bank of India Act 1934, and the Foreign Exchange Management Act 1999.

Till the 1990s banks are adopted the traditional method of banking over branch banking. After financial reforms, the banking business also viewed the innovative movement of banking services. The Indian banking sector has accepted computerization since 1993, more out of sheer compulsion and necessity to cope with increasing overload and incompatibility of the manual system to sustain further growth. In 1993, the employees' association of the Indian banks (IBA) contracted an agreement with the bank manager about the introduction of computerized applications in banks. This agreement was the breakthrough in the

introduction of computerized applications and the development of communication networks in banks. The first initiative in the area of bank computerization, however, stemmed out of the landmark reports of the two committees headed by former RBI governor, Dr. C Rangarajan. Both the reports had strongly recommended the computerization of banking operations at various levels and suggested appropriate architecture.

In the year 1994 Reserve bank of India created a committee under the head of W S Saraf, the committee strongly recommended the use of electronic fund transfer (EFT), the introduction of electronic clearing services, and the extension of Magnetic Ink Character Recognition (MICR)beyond metropolitan cities and branches. In 1996 Industrial Credit and Investment Corporation of India was the first to use electronic banking in India by introducing online banking services in branches. Its initiatives were followed by HDFC Bank, IndusInd Bank, and Citibank, which started providing online banking facilities in 1999. Reserve bank of India and the government of India have been taken various initiatives for the expansion and smooth functioning of electronic banking in India. The government of India passed the IT Act, 2000 which delivers a legal acknowledgment toe-transactions and E-commerce.

The significant technical growths viewed in the new age payment structures in India are:

1. In 1980 to 1990’s - Arrival of debit card and credit card
2. From 1984 to 1988 – Banks started using computers, MICR cheques were introduced.
3. In 1987 – HSBC is the first bank to introduce the ATM concept in India.
4. In 1990 - ECS payment was introduced in India by the RBI
5. In 1991 – India joined Society for Worldwide Interbank Financial Telecommunication.
6. In 1997 - Shared payment network system has been setup

7. In 1999 – A pilot project for Smart cards conducted jointly by the Reserve bank of India, IIT (Mumbai), and IDRBT, Hyderabad
8. In 2000 –the Information Technology Act was passed,
9. In 2002 – mobile banking was started in India by way of SMS banking.
10. In 2003 – Introductions of Special Electronic fund transfer
11. In 2004 – Introduction of Real-time gross settlement
12. In 2005 – overall 11 percent of branches of public sector banks have been brought under core banking solutions and the introduction of national electronic funds transfer.
13. In 2007 – the payment and settlement system act, 2007was passed.
14. In 2008 – Introduction of Cheque truncation system and operative guidelines on mobile banking transactions were issued.
15. In 2009 – Free cash withdrawal from ATMs.
16. In 2010 – Introduction of Immediate payment service
17. In 2016- the Bharat bill payment system & Unified Payments Interface is stated in banks across the country started to upload their interface in August 2016.
18. In 2016 - Bharat Interface for Money (BHIM) is a mobile app developed by the National Payments Corporation of India (NPCI), based on the Unified Payment Interface (UPI).

2.4. E-BANKING IN THE INTERNATIONAL CONTEXT

Internet banking has presented regulators and supervisors worldwide with new challenges. The Internet, by its very nature, reaches across borders and is, for this reason, engaging the attention of regulatory and supervisory authorities all over the world. The experience of various countries, as far as Internet banking is concerned, is outlined below.

- In the **USA**, the number of thrift institutions and commercial banks with transactional websites is 1275 or 12% of all banks and thrifts. Approximately 78% of all commercial banks with more than $5 billion in assets, 43% of banks with $500 million to $5 billion in assets, and 10% of banks under $ 500 million in assets have transactional websites. Of the 1275-thrifts/commercial banks offering transactional Internet banking, 7 could be considered ‘virtual banks. 10 traditional banks have established Internet branches or divisions that operate under a unique brand name. Several new business processes and technological advances such as Electronic Bill Presentment and Payment (EBPP), handheld access devices such as Personal Digital Assistants (PDAs), Internet Telephone and Wireless Communication channels, and phones are emerging in the US market. A few banks have become Internet Service Providers (ISPs), and banks may become Internet portal sites and online service providers soon. Reliance on third-party vendors is a common feature of electronic banking ventures of all sizes and degrees of sophistication in the US. Currently, payments made over the Internet are almost exclusively conducted through existing payment instruments and networks. For retail e-commerce in the US, most payments made over the Internet are currently completed with credit cards and are cleared and settled through existing credit card clearing and settlement systems. Efforts are underway to make it easier to use debit cards, cheques, and the Automated Clearing House (ACH) to make payments over the Internet. Versions of e-money,

smart cards, e-cheques, and other innovations are being experimented with to support retail payments over the Internet.

- There is a matrix of legislation and regulations within the US that specifically codifies the use of, and rights associated with the Internet and e-commerce in general, and electronic banking and Internet banking activities in particular. Federal and state laws, regulations, and court decisions, and self-regulation among industry groups provide the legal and operational framework for Internet commerce and banking in the USA. The international model laws promulgated by the United Nations Commission on International Trade Law (UNCITRAL) guide the member nations on the necessity for revising existing legal structures to accommodate electronic transactions. Some important laws of general application to commercial activity over the Internet within the US are the Uniform Commercial Code (UCC), the Uniform Electronic Transaction Act (UETA) (which provides that electronic documents and contracts should not be disqualified as legal documents particularly because of their electronic form), various state laws and regulations on digital signatures and national encryption standards and export regulations. Many states already have digital signatures and other legislation to enable e-commerce. State laws in this area differ but the trend is towards creating legislation, which is technology-neutral. The E-sign Act, a new US law that took effect on October 1, 2000, validates contracts concluded by electronic signatures and equates them to those signed with ink on paper. Under the Act, electronic signatures using touch-tones (on a telephone), retinal scans, and voice recognition are also acceptable ways of entering into agreements. The E-sign Act takes a technologically neutral approach and does not favor the use of any particular technology to validate an electronic document. The Act however does not address issues relating to which US state's laws would govern an online transaction and which state's code would have jurisdiction over a dispute.

- Most banks in the **U.K**. are offering transactional services through a wider range of channels including Wireless Application Protocol (WAP), mobile phones, and T.V. Several non-banks have approached the Financial Services Authority (FSA) about charters for virtual banks or 'clicks and mortar' operations. There is a move towards banks establishing portals.

- The Financial Services Authority (FSA) is neutral on regulations of electronic banks. The current legislation, viz. the Banking Act 1987 and the Building Societies Act, provides it with the necessary powers and the current range of supervisory tools. The new legislation, the Financial Services and Market Bill, offers a significant addition in the form of an objective requiring the FSA to promote public understanding of the financial system. There is, therefore, no special regime for electronic banks. A draft Electronic Banking Guidance for supervisors has, however, been developed. A guide to Bank Policy has also been published by the FSA which is technology-neutral, but specifically covers outsourcing and fraud. The FSA also maintains bilateral discussions with other national supervisors and monitors developments in the European Union (EU) including discussions by the Banking Advisory Committee and Group de Contract. New legislation on money laundering has been proposed and both the British Bankers Association and the FSA have issued guidance papers in this regard.

- **Swedish and Finnish** markets lead the world in terms of Internet penetration and the range and quality of their online services. MeritaNordbanken (MRB) (now Nordic Bank Holding, a merger between Finland's Merita and Nordbanken of Sweden) leads in "log-ins per month" with 1.2 million Internet customers, and its penetration rate in Finland (around 45%) is among the highest in the world for a bank of 'brick and mortar' origin. StandinaviskaEaskildaBanken (SEB) was Sweden's first

Internet bank, having gone online in December 1996. It has 1,000 corporate clients for its Trading Station – an Internet-based trading mechanism for forex dealing stock-index futures and Swedish treasury bills and government bonds. Seedbank is another large-sized Internet bank. Almost all of the approximately 150 banks operating in Norway had established "net banks". In Denmark, the Internet banking service of Den Danske offers funds transfers, bill payments, etc.

- Internet Banking in **Australia** is offered in two forms: web-based and through the provision of proprietary software. Initial web-based products have focused on personal banking whereas the provision of proprietary software has been targeted at the business/corporate sector. Most Australian-owned banks and some foreign subsidiaries of banks have transactional or interactive websites. Online banking services range from FIs' websites providing information on financial products to enabling account management and financial transactions. Customer services offered online include account monitoring (electronic statements, real-time account balances), account management (bill payments, funds transfers, applying for products on-line), and financial transactions (securities trading, foreign currency transactions). Electronic Bill Presentment and Payment (EBPP) is at an early stage. Features offered in proprietary software products (enabling business and corporation customers to connect to the financial institutions (via dial-up/leased line/extranet) include account reporting, improved reconciliation, direct payments, payroll functionality, and funds transfer between accounts held at their own or other banks. Apart from closed payment systems (involving a single payment-provider), Internet banking and e-commerce transactions in Australia are conducted using long-standing payment instruments and are cleared and settled through an existing clearing and settlement system. Banks rely on third-party vendors or are involved with outside providers

for a range of products and services including e-banking. Generally, there are no 'virtual' banks licensed to operate in Australia.

- The Monetary Authority of **Singapore** (MAS) has reviewed its current framework for licensing, and for prudential regulation and supervision of banks, to ensure its relevance in the light of developments in Internet banking, either as an additional channel or in the form of a specialized division, or as stand-alone entities (Internet Only Banks), owned either by existing banks or by new players entering the banking industry. The existing policy of MAS already allows all banks licensed in Singapore to use the Internet to provide banking services. MAS is subjecting Internet banking, including IOBs, to the same prudential standards as traditional banking. It will be granting new licenses to banking groups incorporated in Singapore to set up bank subsidiaries if they wish to pursue new business models and give them the flexibility to decide whether to engage in Internet banking through a subsidiary or within the bank (where no additional license is required). MAS also will be admitting branches of foreign incorporated IOBs within the existing framework of admission of foreign banks.

- There has been a spate of activity in Internet banking in **Hong Kong**. Two virtual banks are being planned. It is estimated that almost 15% of transactions are processed on the Internet. During the first quarter of 2000, seven banks have begun Internet services. Banks are participating in strategic alliances for e-commerce ventures and are forming alliances for Internet banking services delivered through Jetco (a bank consortium operating an ATM network in Hong Kong). A few banks have launched transactional mobile phone banking earlier for retail customers.

- Banks in **Japan** are increasingly focusing on e-banking transactions with customers. Internet banking is an important part of their strategy. While some banks provide services such as inquiry, settlement, purchase of

financial products, and loan applications, others are looking at setting up finance portals with non-finance business corporations. Most banks use outside vendors in addition to in-house services.

World over, electronic banking is making rapid strides due to evolving communication technology. Penetration of Internet banking is increasing in most countries. Wireless Application Protocol (WAP) is an emerging service that banks worldwide are also offering. The stiff competition in this area exposes banks to substantial risks. The need is being felt overseas that transparency and disclosure requirements should be met by the e-banking community. While existing regulations and legislations applicable to traditional banking are being extended to banks' Internet banking and electronic banking services, it is recognized that Internet security, customer authentication, and other issues such as technology outsourcing pose unique risks. Central Banks worldwide are addressing such issues with focused attention. Special legislation and regulations are being framed by the regulators and supervisors for proper management of the different types of risks posed by these services. The reliance on outsourcing is an area where overseas regulators and supervisors are focusing their attention, with banks having to regularly review and test business continuity, recovery, and incidence response plans to maintain their reputation of trust. Consumer protection and data privacy are areas that assume great significance when banking transactions are carried over a medium as insecure as the Internet. Many countries are looking at special consumer protection/data privacy legislation for an e-commerce environment. The presence of 'virtual banks' or 'Internet-only banks' and the licensing requirements required for such entities are also areas that are being looked into by overseas authorities. There has also been co-operation among the regulators and supervisors to meet the challenges of 'virtual' cross-border e-banking, particularly in the light of the possibility of increased money laundering activities through the medium of the Internet. Internet banking is universally seen as a welcome development, and efforts are being made to put in place systems to

manage and control the risks involved without restricting this service.

Gupta & Agarwal (2013), in their research paper "Comparative Study of Customer Satisfaction in Public Sector and Private Sector Banks in India". This paper gives with the introduction of liberalization policy and RBI's easy norms several private and foreign banks have entered in the Indian banking sector which has given birth to cutthroat competition amongst banks for acquiring a large customer base and market share. Banks have to deal with many customers and render various types of services to their customers and if the customers are not satisfied with the services provided by the banks, then they will defect which will impact the economy as a whole since the banking system plays an important role in the economy of a country, also it is very costly and difficult to recover a dissatisfied customer. Since the competition has grown manifold in recent times it has become a herculean task for organizations to build loyalty, the reason being that the customer of today is spoilt for choice. It has become imperative for both public and private sector banks to perform to the best of their abilities to retain their customers by catering to their explicit as well as implicit needs. Many times it happens that the banks fail to satisfy their customer who can cause huge losses for banks and there the need for this study arises. The purpose of this research article is to examine the customer satisfaction among a group of customers towards the public sector& private sector banking industries in India. The study is cross-sectional and descriptive. The researcher tries to make an effort to clarify the Customer Service satisfaction in Indian Banking Sector. Descriptive research design is used for this study, where the data is collected through the questionnaire. The information is gathered from the different customers of the two banks, viz., PNB and HDFC Bank located in the Meerut Region, Uttar Pradesh. Hundred bank respondents from each bank were contacted personally to seek fair and frank responses on the quality of service in banks. The service quality model developed by Zeithamal, Parasuraman, and Berry (1988) has been used in the present study. The analysis clearly shows that there exists a wide perceptual difference among

Indian (public sector) banks regarding overall service quality with their respective customers when compared to Private sector banks. Whereas the said perceptual difference in private banks is narrow.

Ezzi (April 2014), in their research paper titled "A Theoretical Model for Internet Banking: Beyond Perceived Usefulness and Ease of Use" tried to inquire about different types of electronic banking like ATM's, telephone banking, and electronic funds transfer, Internet banking like has evolved from consumers' needs to have superior access to banking services clear of most banks' teller-staffed, normal operating hours. Additionally, Internet banking has grown swiftly from the recent and the span increases in e-commerce. Internet banking (IB) continues to govern the landscape of electronic banking as consumers continue to use IB to complete schedule banking transactions in addition to conducting online sales and purchasing. This study presents a theoretical model considered to help researchers and practitioners better understand the acceptance and adoption of Internet Banking. The proposed model maybe particularly useful in developing nations where consumers are loath to use Internet Banking even when the services are available. However, a review of several studies that have investigated consumers' acceptance of Internet banking services from a multiplicity of perspectives has not reached a clear consensus of the factors that contribute to overall consumer acceptance and adoption. The paper concludes with discussions of the managerial implications and avenues for future research.

Dash, Burning & Acharya (2009), examined the relationship among Canadian and Indian user's national cultural emplacements and banking service excellence lookout. As per the study, consumers who are short on power distance foresees reactive and trustworthy service. High power distance customers affix greater significance to substantial service features. Customers high on individuality anticipate low understanding and guarantee from service transmitters. Additionally, Indian consumers impute high significance to tangible features, in

contrast to Canadian consumers who find service accuracy more significant.

Sharma & Singh (2009), found that the mobile banking users in India were more concerned with security issues like financial frauds, account misuse, and user-friendliness issue, difficulty in remembering the different codes for different types of transactions, application software installation & updating due to lack of standardization.

Raman, Stephenaus, Alam & Kuppusamy (2008), conducted a study on information technology in Malaysia and they have conducted a survey of consumer's opinions regarding perfection of e-services and e-banking acceptance in Malaysia. This study was done by using a model that includes the parameters like, ease of use, appearance, dependability, modification, conversions, communication, and incentives. The outcome of the survey shows that the users of e-Banking and the non-users have contrasting expectancy regarding e-service quality.

Pekka Laukkanen, Sinkkonen & Tommi Laukkanen (2008), conducted a research study between the retail banking consumers in Finland who has not yet accepted e-finance. As per the plan, three groups were made about Internet banking, for example, post-pones, opponents, and rejecters. The confrontation of rejecters was very much extreme as compared to that of opponents, whereas the post-pones showed fewer disapprovals. The outcome of the study shows that the intellectual hindrances are big reasons of objection rather than its use and worth, which are constructs about accessibility and usefulness demonstrates the adoption of the conventional TAM model.

Poon & Tan (2008), investigated the elements which were disturbing the expansion of e-banking in Malaysia from the customer's outlook. The results show that seven factors are encouraging the expansion of e-banking namely (1) Internet approach and ease of use (2) cost of services (3) trust in bank's credibility (4) security matters (5) awareness (6) resistance of customers and (7) government support. The benefits of e-banking are modest when compared to other online channels. It is one of the swiftest emerging services and is a strong tool for the improvement of customer satisfaction.

Chiemeke & Evwiekpaefe (2006), the study, they have scrutinized the usage of Internet banking in Nigeria. As per the identification of the reading, this revealed the Interactivity of the basic level of the banking system in the Internet field and how it functions. In this the bank consuming essentially information sites and on condition that little Internet transactional services. Noted point to be mentioned here is that most of the banks achieve enormously well in as long as up-to-date information is concerned. On the other hand, the factors to be taken care of are the further enhancements on safekeeping and establishment of crucial components of Internet banking which consist of privacy, active communication reliability, and accessibility should be measured to fulfill customer's necessities.

Gan, Clemes, Limsombunchai & Weng (2006), conducted a survey on customers' selections between the banking system of electronic and non-electronic banking in the place of New Zealand by the process of taking a survey mail among the households 1,960 numbers. According to the result, which exhibited the facility feature, the supposed danger of risk aspects, consumer contribution elements, occupation, and educational qualification are the prevailing influential variables customers' prime channels that are associated with electronic and non-electronic banking.

Joseph, Stone & Tinson (2005), had put their effort to find out the fundamental regions of discontent related to the banking service familiarity in the UK. Their study predominantly narrates to the application of a fresh provision in distribution technology in the banking industry. The use of an I-P grid for opening documentation and valuation of purchaser dealings of service excellence was highlighted by the study. The study exhibits the feasibility of the approach which focused on the possible reason for financial institutions to consume comparable measures when assessing the complete fulfillment levels of their customers' banking understanding.

Laforet & Xiaoyan Li (2005), analyzed in their study, which explores the position of the market in China for banking online and on mobile. The safe measures issues were considered to be the greatest and noteworthy influence that encouraged consumers of China to embrace online banking. Obstacles that were considered to be the chief obstructions to online banking were the various factors such as awareness of computer, technological and the risk factors in which expertise and China function with their customary banking principles of cash-carry. The reasons that are important to highpoints were the awareness issue which they lacked and no proper information about the banking facilities of bank respectively, which became the barriers of the bank.

Singh (2004), conducted research and pointed the Internet marketing effectiveness in South Africa and the determining factor responsible for respondents' full picture that banking online is not practiced that progress approaches to make practice online banking. The result exhibits, in which the practice of Internet banking is more common compared to females. It was noticed that the ATM is superior to banking via Internet habit. The practice of different facilities for checking balances/statements and inter-account transfers have a huge usage percentage of Internet bankers. This crucial issue meant for those not banking online is security respectively. The certain security and reliability

measures to hold them to bank online were desirable by potential customers.

Brown et al. (2004), in their research study pointed that was meant for the reason of the persuading issues for the Internet Banking adoption in South Africa. The highlighted point shown by the study was to compare the outcomes with similar reading accompanied in Singapore to distinguish the dissimilarities in adoption procedure in association with the national environment. According to the result, which approves the attitudinal and observed behavioral mechanism dynamics that influence adoption is same as South Africa and Singapore. Other issues show the dissimilarities with the factors that are determining, which is the mark encouragement of determinants certainty. Given the above-mentioned points, one can say that the dissimilarities are elucidated in three elements in which environmental dimensions are concerned. These factors are such ICT policies implemented by the government, socio-economic state of affairs, and the state of Internet dispersal.

Kolodinsky, Hogarth & Hilgert (2004), in their research study noticed that they discovered the reasons that are been responsible for the adoption or purpose to accept three e-banking technologies and vicissitudes in these influences to overtime in the USA. According to the study, which revealed relative advantage, complexity/simplicity, compatibility, observability, risk tolerance, and product participation are connected with acceptance. The various factors such as assets, income, education, gender, and marital status, and age, etc. of consumers likewise affect acceptance. The study exhibits the acceptance altered over time, but the influences of other features on adoption did not change.

Krishnan Guru, Nafis Alam & Perera (2003), the research study pointed that almost all the Islamic countries were found to be at initial steps of evolving in internet banking, whereas taking the other Europe and the U.S countries were already implemented internet banking. The study highlighted only a handful of

Islamic banks have well-built internet banking websites for the suitability of their customers in Middle East countries.

Heikki Karjaluoto & Pento (2003), analyzed the internet banking performance of advanced customers in Finland. Two important influences have a noteworthy outcome of the channel in Internet banking is prominent in these areas of household income and education. Agreeing to the estimated trouble with deficiency of service taking personally through e-banking in using computers are brought into being this chief obstacle of banking through Internet taking on the mature customers. It is believed that Internet banking as a means of payment among mature consumers is the third widely held mode of payment. According to their understanding, it was noticed that it was also set up to be more unsafe among mature consumers than bank consumers in broad-spectrum.

Vijayan & Shanmugam (2003), calculated the quality of Internet banking service in Malaysia. They have identified that the IB channel and the traditional delivery channel cannot be mutually exclusive and therefore bankers should endeavor to assimilate the latest mode of delivery and turn traditional channels into a coherent whole.

Bernstel & Swann (2002), in their research study, pointed that why Canada prospers in Banking Online. Their exposure to certain secondary information has helped to identify certain facts about Internet usage. According to the study, it was noted that on the understanding of the different secondary information, which states around 61% of Internet active users in Canada have accompanied commercial dealings online and around 29% versus of the active Internet consumers in the US. It is worth mentioning that the Canadian banks are actively promoting online banking which they believe it as a secure and viable source. It is also believed that the presence of diverse positive commercial principles in Canada. It is a common practice of corporative tendency in Canada. It is believed

that in American industry, generally, the people don't share their ideas and information, and according to them it is adversative to the representative corporate saying of "constructive competition." It is a not go as planned in case online banking in US people's frame of mind.

Balachandher & Balachandran (2001), concentrated on the reading to comprehend the influences the service of banking in Malaysia. In this reading, they have presented which availability of the Internet, mindfulness, approach in the direction of alteration, Internet and computer entrance charges, faith about the bank, safekeeping anxieties. Providing the comfort of expenditure and suitability are the most important elements that are in acceptance with Malaysian Internet bank services.

2.5. ADOPTION OF E-BANKING

Oertzen and Odekerken-Schröder (2019), despised ample research on the adoption of online banking, the post-adoption phase remains largely neglected. The purpose of this study is to develop a new conceptual model to investigate drivers, attitudes, and behavior in the post-adoption phase of the e-postbox, a co-creative online banking feature. This study from the bank marketing, services marketing, information systems, and relationship management informs the proposed post-adoption model. Empirical tests rely on structural equation modeling and a sample of 750 current customers of the e-postbox of a large German bank. The proposed model provides a multifaceted view of the post-adoption phase, including task-related, organization-related, and interpersonal communication-related drivers. This study reveals the importance of integrating dual interpersonal communication as a post-adoption driver and a post-adoption behavior. It also extends the technology acceptance model by applying it to the post-adoption phase. Significant effects of age further suggest that younger customers express the most favorable attitudes towards and highest intentions to

continue using the e-postbox; interestingly, older customers use it more and share more word-of-mouth.

Abdul Waheed Siyal et al. (2019), conducted a study to examine factors that affect m banking adoption and usage intentions of Chinese bank customers. The proposed model has extended the technology acceptance model (TAM). Data were collected through a field survey questionnaire and analyzed through partial least square structural equation modeling (PLS-SEM). The study results showed that acceptance of and loyalty to m banking among Chinese bank customers was significantly and positively affected by resistance to change, perceived risk and low awareness of services, and perceived benefits. The result of the study recommends retaining existing users and attracting new ones. This study is unlike past studies that merely studied short messaging service (SMS) banking and initial adoption or technological aspects of m banking. This study also provides Chinese banks with applicable strategies to effectively design and implement m banking; thus, it is expected to potentially contribute to prevailing literature, especially in the context of China, where few studies that address m banking acceptance and loyalty exist currently.

Walid Chaouali and Hedhli (2019), conducted a study on mobile banking adoption to address the following question: Can a bank capitalize on its well-established self-service technologies (SSTs) to entice customers to adopt a newly introduced SST, namely, mobile banking? More specifically, it proposes an integrative model that simultaneously investigates the transference effects of attitudes, trust, and the contagious influences of social pressures on mobile banking adoption intentions. Structural equation modeling was applied to data collected from banks' clients who are non-users of mobile banking. The results indicate that attitude toward and trust in mobile banking along with coercive, normative, and mimetic pressures are key antecedents to mobile banking adoption intentions. Also, attitudes toward automated teller machines (ATMs) and online

banking significantly predict attitudes toward mobile banking. The results also support the effects of trust in ATMs as well as trust in online banking on trust in mobile banking. Moreover, predicted differences in the relative effects of attitude and trust are supported. Particularly, attitude toward online banking has a stronger impact on attitude toward mobile banking compared to the impact of an attitude toward ATMs. In the same vein, the effect of trust in online banking on mobile banking is significantly stronger than the effect of trust in ATMs.

Kumar and Lall (2017) conducted a study on Extending the TAM Model: Intention of Management Students to Use Mobile Banking: Evidence from India. This study pointed the underlying factors influencing management students in their intention to use mobile banking. The study utilizes two constructs of the technology adoption model and then extends it further to include two additional constructs. The results of this study suggested that perceived usefulness and perceived ease of use, social influence, and trust propensity are the underlying factors in respect of the behavioral intention to use mobile banking services.

Gupta and Arora (2017), researched consumer adoption of m-banking to examine the relative influence of "reasons for" and "reasons against" adoption of mobile banking (m-banking) among Indian consumers. The researcher used the framework of behavioral reasoning theory (BRT), hypothesized relationships between values, reasoning constructs, attitude, and intentions were developed. The hypotheses were tested using a representative sample of data obtained from Indian banking consumers (n = 379). Confirmatory factor analysis and structural equation modeling were used to analyze the data. The findings indicate that both "reasons for" and "reasons against" influence M-banking adoption. Among the "reasons for" m-banking adoption, ubiquitous is the major determinant, and among the "reasons against" m-banking adoption, the tradition barrier is the major determinant. The findings also confirm that value of "openness to change" significantly influences reasons for adoption and has no impact on reasons against

and attitude toward m-banking.

Krishna Kishore and Sequeira (2016), conducted an Empirical Investigation on Mobile Banking Service Adoption in Rural Karnataka. The authors pointed the technology adoption factors, performance expectancy, effort expectancy, social influence, attitude, perceived risk, and behavioral intention (BI), were shortlisted after literature review. These factors were subjected to the reliability, exploratory factor analysis (EFA), multiple regression, and interaction analysis. In their study, rural provinces in Karnataka state were surveyed. The researcher used a mixed sampling technique to reach 959 samples. Multiple regressions – interaction analysis revealed age and gender moderated attitude's path toward BI.

Deb and Lomo-David (2014), conducted a study on the examination of customers' adoption of m-banking in India to identify factors impacting the adoption of m-banking. To attain the above objective a conceptual model was developed based on the Technology Acceptance Model (TAM) and diffusion of innovation (DOI). Primary data were collected using questionnaires from 600 customers and the data were analyzed using SPSS and AMOS. The study found empirical evidence for a positive relationship between perceived usefulness, perceived ease of use, and Social Influence on positive attitude towards m-banking. However, no support was found for FC, benevolence and privacy, and security to attitude towards m-banking. The study found support for the relationship between attitude towards m-banking and intention to adopt m-banking. The study has practical implications for managers. The study suggests that m-banking adoption can be increased by improving the customer's perception of benevolence and privacy and security.

Rahman (2013), found similar barriers to the adoption of m-banking. That study found that a lack of trust played an important role in the adoption of m-banking. The study was undertaken in the context of Bangladesh, but its findings were very

similar to earlier studies of India too. A literature review suggests that there have been calls for additional research to generalize findings of the acceptance of m-banking to other groups and countries, especially in the context of emerging nations like India, as the GoI aims to make the country a global leader in IT. The competitive positioning of the nation thus was proposed to make a positive impact on the banking sector by encouraging financial inclusion. The success of such initiatives by the GoI is dependent on the intentions of non-users of technology services to adopt those services. For the present study, the focus has been on analyzing m-banking services, particularly among technologically advanced services. The paragraph below justifies this.

Maditinos, Chatzoudes & Sarigiannidis (2013), initiated to study to enlighten a widespread technology acceptance model (TAM) as an instrument for inspecting elements that have a considerable effect on consumer e-banking adoption. The outcome shows the essential effect of observed utility, security risks, and achievement risk on the goal of the use of e-banking. On the other hand, the effect of perceived accessibility and quality of the virtual junction appeared to have only a divergent impact on e-banking acceptance.

Yaobin, Shimin, & Jinlong (2010), this study applies the technology acceptance model (TAM) and other three constructs to examine the factors that influence the adoption of mobile banking in China. The proposed model was empirically evaluated by using survey data collected from 209 users concerning their perceptions of mobile banking. In this article, findings indicate that TAM can predict consumer intention to use mobile banking. Specifically, the trust-based construct, perceived credibility, has a significant effect on user's attitudes toward mobile banking.

Li and Bai (2010), determined the role of usability in the adoption of m-banking services. According to them, consumers' perceptions of risk were the key

elements that impeded their adoption of m-banking. They pointed out that the system usability of m-banking services was perceived to be risky by consumers. Particularly, perceptions of system usability were described as being based on the effectiveness, efficiency, and satisfactoriness of the targeted system, which was increased by the cognitive thinking and behaviors of consumers. The study proposed an introductory model for determining the willingness to adopt m-banking services based on their usability, but it lacked any empirical evaluation.

Alhudaithy & Kitchen (2009), conducted an exhaustive study on mobile banking and pointed that reconsidering models of Technology Adoption for e-banking system, introduce a theoretical paper 'website features' as reasonable convincing in technology acceptance, and precisely e-Banking. It is stated that the effective features and their effects are different across the levels of the customer purchase system. This may support web designers in improving website efficiency for the betterment of business-customer relationships.

Spiros, Koritos & Christos (2008), in their research study selected two models for evidence i.e., TAM (Technology Acceptance Model) and DoI (Diffusion of Innovations) model, compare and utilized perceived features of the Innovation to evaluate which one is superior in forecasting acceptance by the consumer in online banking. Other important features for acceptance of innovations can be using individual features. A web survey is conducted, and data is collected from both non-users and users of online banking. The research found that PCI performance is superior to TAM and DoI in forecasting consumer acceptance of IB. In their research, while adding customer demographics and psychographics further enhanced the prediction ability of the overall model technology acceptance model. The non-usability enhancement feature isa significant forecaster of consumer technology acceptance. This study also uses other non-usability features like social and psychological in TAM and DoI.

Michael Reid & Yair Levy (2008), empirically assessed the customer acceptance of mobile banking and initiated comprehensive research of technology adoption by trying to confirm the unification of faith and computer self-efficacy (CSE) establishes in the traditional TAM model. The result of the study is based on data from the consumers from three banks in Jamaica, which found that as compared to elongated TAM with trust and CSE, the classical TAM gives a finer fit. Research outcome shows faith is considerable form affecting both anticipated utility and anticipated approachability. In addition to this, sole trust was found to be remarkably distinct amongst both the genders of banks.

Gounaris & Koritos (2008), the study popularly accepted models (the Technology Acceptance Model (TAM) and the Diffusion of Innovations (DoI) model to an underused one (Perceived Characteristics of the Innovation) were tried to differentiate over here to investigate which one is finer in for-telling consumers adoption of internet banking (IB) at the same time searching innovations determinants concerning other essential examiners of acceptance of inventions like customer personal attributes. The accepted Characteristics of the Innovation (PCI) enacted notably well as compared to TAM and DoI in forecasting customer acceptance of Internet Banking as found in the study. While the inclusion of customer statistics and psychographics has upgraded furthermore the predicting capability of the complete logit model.

Laukkanen & Pasanen (2008), this study shows that how mobile banking inventors and pristine adopters are different from other users of online banking services. Internet research was initiated between the customers of a Scandinavian bank in Finland. Logistic regression was adopted to find out the attributes distinguishing between users of mobile banking and other online banking services. The outcome of the examination shows that just age and gender contrast these groups of customers, whereas educational level, income level, profession, and size of the household were recognized to be irrelevant in differentiating the

groups.

Amin (2007), examined the adoption of online banking technology by undergraduate students of Malaysia. Technology Acceptance Model (TAM) is used in this study. This model includes computer self-efficacy (CSE), perceived credibility (PC) and perceived usage (PU), and perceived ease of use (PEOU). The results of the research show that PEOU and PU have a direct relationship with CSE and PU, PC and PEOU have a direct relationship with behavioral purpose. But PC and CSE are not companions to each other.

Hernandez, Jos As Mauro C.; Mazzon & Jos As Afonso (2007), explored a new process to examine the acceptance of new and updated technologies by considering the factors of online banking acceptance in Brazil. 8 factors are finding out in this research that is 1. Lifestyle Compatible, 2.Image, 3.Individual factors, 4.Self-efficacy, 5.Willing to try, 6.The confident result, 7.Security and privacy, 8.Controllability. Results shows that the factors that affect the intention of customer to use internet banking are different from actually acceptance influence. Consumer's intention to choose online banking depends on his perception while its acceptance depends on individual features.

Ki Soon Lee: Hyung Seok Lee & Sang Yong Kim (2007), conducted a research study and explore variables that affect the acceptance of services of telephone or mobile banking in South Korea. This research uses a modified Technology Acceptance Model (TAM) for mobile banking and focuses on perceived risk, perceived usage, and faith in its acceptance. Customer's faith and usage perception for mobile banking has a direct impact on its acceptance while perceived risk has an indirect impact. It can be concluded that consumer's faith in the bank, telecom provider, and wireless internet has an important impact on the usage of mobile banking. Faith factor has a strong influence on the acceptance attitude than perception in the usage of old-style TAM factors.

Yi-Shun Wang, Yu-Min Wang, Hsin-Hui Lin & Tzung-I Tang (2003), identified “perceived credibility" as introducing, a new factor associated with banking through the Internet. The (TAM) Technology Acceptance Model is meant with taking and using a number of IT in which it is observed with ease and perceived practicality that constructs and supposed to be essential. Noted point to be mentioned here is user's performance toward recently evolving IT, such as Internet banking has not fully justified according to their study. However, (TAM) is considered as a theoretical structure in the study. According to "perceived credibility", which reveals operator’s safety in association with confidentiality that are taken from Internet banking as a new factor.

2.6. FACTORS OF E-BANKING

Abdel Latef M. Anouze and Ahmed S. Alamro (2020), investigated the factors affecting intention to use e-banking in Jordan. The purpose of this study was to focus on e-banking in a country with low intention to use e-banking–Jordan–and to explain the slow uptake. A quantitative method employing a cross-sectional survey was used as an appropriate way of meeting the research objectives. The survey was distributed to bank customers in Amman, Jordan, collecting a total of 328 completed questionnaires. SPSS and AMOS software was used, and multiple regression and artificial neural networks were applied to determine the relative impact and importance of e-banking predictors. The statistical techniques revealed that several major factors, including perceived ease of use, perceived usefulness, security, and reasonable price, stand out as the barriers to intention to use e-banking services in Jordan. This study also contributes to eliciting the theory of customer value among banks by focusing on how they should properly enhance their use of shared value. Moreover, it will present to managers how e-banking predictors can send meaningful and timely information to customers.

Hanna Komulainen and Saila Saraniemi (2019), investigated customer-centricity in mobile banking to increase understanding about how to improve customer value and to make mobile banking services a profitable business for banks and other financial actors. The study explores the user experiences and related value of new mobile banking services. This study was implemented as a case study that is phenomenological and linked to an interpretive consumer study. Empirical data were collected through 14 semi-structured theme interviews and a diary method. The data were analyzed by using a content analysis method. The findings illustrate the importance of customer-centricity in the mobile banking context by identifying customer experience and related value in new mobile banking services. The study extends the current understanding of customer experience as a complex and multifaceted phenomenon by including value related to process, the use situation, and the outcome, and it identifies temporality as influencing and connecting all these aspects. The study identifies several aspects that help us to understand what creates value for the customer while using mobile banking services.

Deepak Chawla and Himanshu Joshi (2018), empirically investigated moderating effect of demographic variables on mobile banking adoption to analyze if demographic characteristics influence user attitude towards mobile banking. Their study sample comprises current users of online banking. Although earlier studies on technology adoption models have received considerable empirical validation, most of the studies did not consider moderating variables. Among those, which consider moderating variables, primarily explored are gender, age, and income. By including other moderator variables in the model, we hope to lessen the inconsistencies found in past research studies. To test the moderating effect, two methods, viz. multiple linear regression and Fisher Z transformation are used. Results show that gender, age, qualification, experience, occupation, income, and marital status were significant moderating variables. However, the educational background did not show any moderating effect. Our

results suggest that by extending the Technology Acceptance Model (TAM) and Diffusion of Innovations (DoI) theory, the research provide insights into the factors influencing consumers' attitude to adopt mobile banking applications. Besides, the results of moderating effect improve our understanding of the demographic differences, which influence the degree of mobile banking adoption.

Jason Lim Chiu, Nelson C. Bool, and Candy Lim Chiu (2017)conducted an empirical study on challenges and factors influencing initial trust and behavioral intentions to assess the direct effects of antecedents of initial trust, the mediating effect of trust, and the moderating effect of demographic variables on non-adopters' behavioral intention to use mobile banking. The study tested the models of the theory of reasoned action and theory of planned behavior to evaluate potential antecedents of trust (diffusion of trust, infrastructure quality, perceived costs, privacy, and security) moderators (demographic variables), and mediators (initial trust) that will influence behavioral intention to use mobile banking. The tool provides insights on the direct and indirect effect of the independent variable on the dependent variable through the existence of moderating variables and mediation variables. The results show that the non-adopters of mobile banking asserted that the antecedents of initial trust played a significant influence on behavioral intention to use online banking services.

Madhurima Deb and Aarti Agrawal, (2017) investigated factors impacting the adoption of m-banking to understand brand India's potential for financial inclusion in the future. As digital channels like mobile banking (m-banking) are likely to provide better coverage and more cost-effective services to the unbanked population of India. Conventional banking might not be cost-effective for low-ticket-size transactions, hence financial inclusion, which is on the "Digital India" agenda of the Government of India (GoI), might not be feasible. However, to understand brand India's potential for financial inclusion in the future, it would be essential to understand Indian customers' attitudes toward m-banking, especially

those who have not yet adopted it. This would bring out the potential of m-banking as a channel to drive financial inclusion based on customers' intentions to adopt it. Until every Indian has access to a wider range of financial services, there cannot be financial inclusion. Similarly, until every Indian adopts digital channels to access a wider range of financial and non-financial services, the GoI's initiatives for "Digital India" cannot be realized. Furthermore, a review of the literature suggests that there are very few studies concerning m-banking worldwide and still fewer in the context of India. The study used IBM SPSS and Amos software to test the conceptual model developed using secondary data. The findings of the study suggest that subjective norm, output quality, and personal innovativeness have impacts on the perceived usefulness of, and attitudes toward, the ultimate adoption of m-banking.

Fernanda F. O. Malaquias and Yujong Hwang (2016), empirically pointed trust in mobile banking to analyze the relationship between disclosure of MB security on bank websites and trust in MB, under conditions of information asymmetry. Also, the authors examined how other factors such as perceived risk, personal innovativeness, social influence, age, and gender affect trust in MB. The sample of the study comprised 307 Brazilian undergraduate students. Confirmatory Factor Analysis and Structural Equation Modeling were used to analyze the research model. The main results show that disclosure of MB security on bank websites has a positive relationship with trust in MB, but this relationship is significant only for the respondents that have already visited the website of their banks to get information about MB security. We also observed that the relationship between trust and perceived risk is less significant for students who have already consulted the website of their banks, in comparison with students who have not consulted the website.

Emmeline Taylor (2016) conducted a review on mobile payment technologies in retail to harness the learning from the implementation of self-checkout and

combines it with available information relating to mobile scanning and mobile point-of-sale (MPOS). The study provides an overview of different modes of mobile payment systems and a consideration of some of the benefits that they offer to retailers and their customers. The main focus, drawing upon telephone interviews with retail security professionals in Australia and New Zealand, is on anticipating and militating against the potential risks, vulnerabilities, and impact on shrinkage. The author found that the market is flooded with software and products, retailers are exposed to a compelling case for mobile payment, but it was found that they are not as cognizant of the potential risks.

Murugiah & Akgam (2014), studied customer satisfaction for the Libyan banking sector based on consumer perception of service quality. They evaluated that, service quality and customer loyalties have a definite correlation with customer satisfaction and a significant negative relationship between security and customer satisfaction.

José Liébana-Cabanillas, F., Sánchez-Fernández, J. and Muñoz-Leiva, F. (2014) study was initiated to check an integrative theoretical model that permits to decide the associated impact of considerable elements (extrinsic influences, utility, opinion, efficacy, faith, and insecurity) for the adoption of mobile settlement method and to evaluate the concluding mitigating impact of the gender of the customer in the use of these instruments. The experimental examination shows that the sexual category of the user displays considerable dissimilarity in the expected relationship between utility and efficacy of the new system, between efficacy behavior and objective to use, also between users' faith and approving behavior concerning its use.

Rohaya Shaari & Hafizi Muhamad Ali (2009), examined the demographic attributes of e-banking in Malaysia. The outcomes of the examination recommend that banks must carry on offering customized services to customers. Additionally,

Internet banking needs to be used as an informational and transactional tool to supplement and boost banking operations.

Çelik & Hakan (2008), conducted a research study on mobile and electronic banking and pointed the perception of factors adoption of IB customers. TAM (Technology acceptance model) is extended by adding appropriate variables of IB case. In this research, the model showing the effects of PR (perceived risk), PPL (Perceived playfulness), and PBC (Perceived behavioral control) on the TAM concept are suggested. The finding shows that PU (Perceived usage) and PEOU (Perceived easiness of use) are direct factors of consumer's perception of using IB. PPL influence positively only PEOU, PBC has an optimistic direct influence on PEOU.

Guo, Xin; Duff, Angus; Hair & Mario (2008), researched corporate banking and created an evaluation method to find quality service in the corporate banking market of China. Chinese Banking Service Quality (CBSQ) is studied from the literature of general service quality and business values of China. Research shows the Chinese quality service in corporate banking is calculated with a nested model containing 2 high-level concepts i.e., technical and functional quality, and 4 lower-level features i.e., Human asset, technology, reliability, and communication.

Ozdemir S., Trott P. & Hoecht A. (2008), initiated a survey to find out the conceptual know-how about socio-demographic, socio-economic, and circumstantial attributes of the e-banking accepters and non-accepters in the Turkish Retail Banking sector. The outcome shows that there was considerable dissimilarity between the users and non-users of the service in connection with their conceptual, exploration, and customer features. E-banking users recognize e-banking use as secured, user-friendly, and enough handy as compared to non-users of e-banking. Users with high income and long working hours were found to

have enough experience of mobile banking and the accepters of e-banking.

Lawrence F Cunningham, James Gerlach& Michael D Harper (2005), according to their study readings, one can say, they have observed the dynamic forces of estimated risk during the numerous phases of the customer purchasing procedure of e-banking facilities. According to the analysis of the study, which designates the important factor such as financial risk which is responsible for the risk premium whereas emotional, mental, and risk of the time play subsidiary values as the drivers of risk for assured steps of the customer obtaining procedure. According to the risk perceived for e-banking services, one can say that further fundamental vicissitudes in levels of the risk compared to the service of the bank taken as traditionally. An important finding of the risk that was highlighted in the study about the e-banking that infuses entirely every step of the customer purchasing procedure.

Walfried M. Lassar, Chris Manolis & Sharon S. Lassar (2005), conducted a study and emphasized the factors on which self-efficacy and customer innovativeness on the internet, their outlooks towards internet and banking online practice, whereas regulating characteristics personal conduct respectively. According to the result, which exhibited an optimistic rapport that is associated with innovativeness and banking online. It shows consistently and the general innovativeness surprisingly is undesirably associated with banking online.

Kyung Kyu Kim &Bipin Prabhakar (2004), the study showed the established-on theory that is related to social network and belief theory, contributing factor of belief in the electronic channel such as propensity-to-trust, word-of-mouth (WOM) referrals, structural assurances. The study investigates self-determining variables designated that propensity-to-trust, essential declarations, and interpersonal content of WOM were substantial judges of initial trust in the electronic channel. The finding of the study, which point out that a substantial

association that occurs concerning the initial belief that function through the channel of electronic and Internet banking adaptability.

Mari Suoranta, Minna Mattila (2004), research study concentrated on the factors responsible for diffusion and adopters of mobile banking services in Finland. In connection with earlier research that has acknowledged the distinctive features of a prospective electronic services period, in which the potential adopter is associated. In understanding this study, one can highpoint some contradictory empirical findings, in which the reading specifies that better-off respondents were a smaller amount keen to accept the new mobile banking services. In the findings, it was noticed that the additional skillful customers and infrequent operators were further well-versed through the communication that is personally occurred, taking others such as non-users or the less experienced were additional educated by mass media.

Minna Mattila (2003), research study outlined the aspects which are persuading mobile banking approval and it also purposes at establishing perfect labeling consumer behavior arrangements. It is noted that the most noteworthy predictors of taking on to be comparative benefit achieved, compatibility of services with adopters' present principles, and supposed intricacy in the study.

Ong Hway-Boon & Cheng Ming Yu (2003), highlighted the determined dynamics responsible for the effective application of domestic commercial by e-channels in the banks of Malaysia. This study's outcome of the assessment recommended that banks' procedure managing is the central feature touching such accomplishment in-branch banking, ATMs, and PC. Another noted point about the product improvement and understanding progress aspects are set up that have the most substantial consequence in which achievement of the bank via phone and banking kiosks correspondingly.

Philip Gerrard, J. Barton Cunningham & James F. Devlin (2003), noted that eight features have inclined the frequency of implementation of services Internet banking among their Singapore consumers respectively. The study, which shows that Internet banking according to people perceives service to be further appropriate, less intricate, well-suited to them, and fit to those who are good at PC management. Here, the people who adhere to banking through the internet which considered as an additional economically advanced. According to the perceptions about the adopters and non-adopters had were considered to be commonly appealing, confidentiality, approachable and also had economic welfares were not diverse.

Barnes, S.J., and Corbitt, B. **(2003)** this study emphasis on the internet and the mobile phone – two technological advancements that have profoundly affected human One area of activity is mobile (m-) banking (one of the first areas of a commercial transaction on the wireless internet). Banking is an area that has extended in many different ways in recent years, including telephone and online banking. M-banking provides some possibility for becoming a primary channel. This paper examines the strategic implications of m-banking and the strategic positioning of m-banking services in different markets. The paper concludes with a discussion of the future form-banking services.

Tandon et al., (2003) described e-commerce as a mobile business. Network technologies and service technologies were found to be the main protocols of the new technology. Their study found big gaps between consumer expectations and technologies' capabilities. They found that an absence of proper management can lead to the failure of mobile commerce business activities. Operators and manufacturers agreed that data transmission speeds, user interfaces, and the high cost of data services were important for consumers, but the security issue was the biggest obstacle to the adoption of m-commerce. The same was found to be one of the hurdles hindering the adoption of m-banking too. However, the authors

looked at technology adoption only from businesses' perspectives, neglecting the consumers' perspectives.

Barnes (2002) indicated that WAP banking is another form of Electronic banking that enables the user to communicate interactively with the bank. For this communication, the client uses only GSM mobile phone with WAP service. With its options and the method of controlling WAP, banking reminds an easy form of Internet banking. WAP is a universal standard for bringing Internet-based content and advanced value-added services to wireless devices such as phones and personal digital assistants (PDAs).

Tarasewich *et al.* (2002), According to the analysis highlighted by the author emphasized the fact that the majority of the activities are related to a prospective commercial operation that has transformed into a wireless scheme. M-banking has become an essential part of e-commerce, contributing to a large extent, and is also presented as an innovative method in which without any anxiety one can perform the business hassle-free. This makes the business run smoothly and successfully by saving a lot of time and effort. One of the benefits that the mobile phone provides is the m-banking facilities, which are meant for various purposes like money transferring, checking the account, receiving important messages such as promotions from banks easily on the mobile phone via message. To meet the daily requirement of the people, the mobile operators are putting their best efforts to uphold a prominent outcome in the competitive environment in the market as amalgamation in which the internet progresses.

Eun-Ju Lee, Jinkook Lee & David W. Schumann (2002), examined outcomes based on communication as well as a modality in which customers' taking on modernism and technology. Precisely, in this study, typology sources of communication and modality are obtainable. This corresponding consistent of inspirations of foundation and manner in which customers' taking on of automated

banking are look at. The analysis indicated that interaction aspects be able to work as substantial predictors of the consumer taking on technological innovations. In this, the customer's first choice for communication basis and modality fluctuates for diverse sections of adopters.

Heikki Karjaluoto, Minna Mattila & Tapio Pento (2002), focused on discovering the outcome of not the same aspects affecting attitude establishment headed for Internet banking in Finland. Another area they have determined those relevant elements that stimulus the materialization that is concerning with banking via the Internet. Online banking behavior is one such practice that demographic factors affect deeply upon rendering to the study. Particularly, another point to be noted is the employment and household returns were noteworthy variables. The four different factors that are responsible are specifically prior computer involvement, previous technology practice, banking for personal purpose familiarity, that is an orientation that influences the group to have a great impact on usages and online banking facility. It was noticed that typical online banking consumers are comparatively young age, well-read with an extraordinary side by side of earnings, a man, who is from a good family and job. In comparison to them on the other side is of advanced years customers, particularly, tend to have an undesirable approach concerning online services.

Khalifa and Cheng (2002) opinionated their disagreement with Mishra, as they are distinguished the difference between the two elements concerning attitudes and intentions. From their perspectives, BIs cannot be at all times affected by attitudes. Their analysis about the people’s attitudes towards services was attained by the intensities of acquaintance with technology where they are essentially strong-minded by experimental, observation, and communication ways correspondingly. Behaviour is something that is replicated with internal constraints (self-efficacy) and external controls. The idea of tech-savvy was the main focus which eventually, they wanted to determine among the e-commerce

vendors. The m-commerce dealers should raise their spirits with the forthcoming technologies if not always at least at once, and move positively for such help should be provided by their respective staffs to invite further relationship in the field of marketing.

Minna Mattila, Heikki Karjaluoto & Tapio Pento (2001), worked on the features that have well-defined customers' implementation of Internet banking in Finland. According to the study which they noticed that previously the personal banking experience, technology experience reference group influence, and security apprehensions are set up to be the core reasons. Another point to be referred to the demography factors that are characterized by general views about IB were bring into being to have a noteworthy outcome on the taking on.

2.6.1. E-BANKING SERVICE AFFECTING ON CUSTOMER SATISFACTION

With several studies converging to show a relationship between E-Banking service and customer satisfaction, the question becomes the following: What aspects or dimensions of E-Banking service affect customer satisfaction and in what ways? Our review of the literature reveals that these aspects could be grouped under efficiency, reliability, privacy and security, and responsiveness and communication.

According to **Madu and Madu (2002)**, responsiveness is the readiness to support the bank's customers and deliver them a rapid service. This kind of service can be shaped into four forms. First, the E-Banking system can control and operate the service properly. Second, the E-Banking channels can guide customers toward proceeding properly in case of any failing operations. Third, it can also cover a rapid solution for any possible error in E-Banking transactions. Finally, it can support the customer's questions with an on-the-spot response.

Hani A. Al Haliq & Ahmad A. Al Muhirat (2016), This research aims to examine the extent of consumer loyalty with electronic saving money (e-keeping money) benefits in the Saudi keeping money area and to address issues with nature of administrations by concentrating on the accompanying: (i) simplicity of utilize; (ii) data security and unwavering quality and it's part in affecting client reception of electronic administrations; (iii) the instruments of checking and control over these administrations. The examination utilized a scientific and enlightening approach, gathering essential information through an overview. It inspected different parts of electronic administrations gave by banks in Saudi Arabia to reveal more insight into these administrations and client desires, while additionally considering present-day thinks about in this field as optional information. The outcomes demonstrate that Saudi banks have prevailed with regards to accomplishing noteworthy consumer loyalty by enhancing their electronic administrations, encouraging electronic exchanges, enhancing handling execution, and improving the particulars of electronic administrations. Also, they have accomplished successful correspondence with their clients and also the speed of applications. Notwithstanding, there is a nonattendance of mindfulness and direction for clients about the e-managing an account framework. The consequences of this examination prompt a few proposals for enhancing the electronic administrations gave by banks in Saudi Arabia to upgrade consumer loyalty.

Areeba Toor, Mudassir Hunain, Talha Hussain, Shoaib Ali & Adnan Shahid (2016), Customer satisfaction is basic for the ceaseless survival of any association around the globe. This examination work means to explore the effect of E-keeping money factors on consumer loyalty in Pakistan. Five administration quality measurements; dependability, responsiveness, affirmation, physical assets, and sympathy, got from the SERVQUAL demonstrate with support of writing survey have been chosen as forecasters of consumer loyalty in E-keeping money. Examine outline of the review is quantitative. The information has been

accumulated through an effectively tried survey from 264 E-saving money clients as respondents, from various urban communities of Pakistan. Consequences of the review have uncovered that there is a pivotal relationship between administration quality measurements and consumer loyalty in E-saving money in Pakistan, with more weightage of unwavering quality, responsiveness, and affirmation among the five measurements. Through this review, we can presume that administration quality in engaging an account results in fulfilled clients and consequently banks can increase aggressive advantage by offering better-quality administrations to their clients in today's emulous world.

Machogu, A. M., & Okiko, L. (2015) research brought to light that with e-banking complexities on customer satisfaction. Results show that there are factors that lead to customer satisfaction particularly in e-banking, which is one of the very important and fast-growing ways of doing banking. Factors are accessibility, convenience, security, privacy, content, design, speed, fees, and charges influence customer satisfaction where the other factors notified have no significant influence.

Chochol'áková, A., Gabcová, L., Belás, J., & Sipko, J. (2015) research stated that in comparison with dissatisfied customers, satisfied customers were significantly more like by to recommend their bank to their friends and to consider using their current bank in the future, and they are more resistant to offers from other banks. Loyal customers are more interested in the services of their banks when considering investments in all the aspects such as in the financial market, deposit their savings to their bank, take out a mortgage from their bank and use other banking products and services from their current bank. According to research by **Ernst & Young (2012)**, the financial literacy of ordinary bank customers is still relatively low, but personalized recommendations still work well here. According to the results of our research, the loyalty of customers with different intensities transforms into a potential purchase of

additional banking products. The biggest potential interest of the bank customers was in depositing savings in the bank and mortgage loans. The intensity of interest in the purchase of investments and other products was relatively low. Findings of **Deloitte research (2012a)**, only 17% of respondents in the Czech Republic have changed their bank in the past or have accounts in two different banks, in comparison with Slovakia where 52% of respondents changed their account to another bank (12% in Poland, 28% in Hungary and 42% in Romania)

Kaur, N., & Kiran, R. (2015) founded in their research which was on public, private and foreign shows that customer is more satisfied with the quality of the service of the foreign banks than the private and public banks.

Kundu, S., & Datta, S. K. (2015) research found regarding e-service quality, customer satisfaction, and trust they found that there is a significant relationship between e-service quality, trust, and customer satisfaction. Internet banking service quality has a huge impact on trust. They also researched that in the case of internet banking privacy and fulfillment are the main factors of service quality that influence trust. Also, banks should be more concerned about the privacy of individual transactions of the customers. According to Ernest and young 2012 survey showed that the price factor was the main concern for 50 percent of customers.

Zeinalizadeh, N., Shojaie, A. A., & Shariatmadari, M. (2015) opined that out of the nine customer satisfaction factors fees and loan, prompt service and appearance are the major factors which have a more significant impact on customer satisfaction followed by interest rate and accessibility of bank and availability of service which have less impact on the satisfaction on the banking customers.

Rahi, S. (2015) research findings show customers are more loyal towards those banks who are facilitating internet banking services. Also, a good brand image builds the relationship between banks and customers and enhance customer loyalty toward the bank. He also concluded that those banks that are giving

internet banking services to their customers, the loyalty of those customers is more towards the banks. He also suggested that if the brand image also plays a significant role in the loyalty of the customers and internet banking. The role of brand image is positive in making a positive relationship between customers and internet banking**.**

Pareek, V. (2014) research opined with a remark that out of several factors few causal fundamental factors like product attributes, employee characteristics, customer convenience,
bank tangibles, cost of transactions, and customer communication contribute to customer satisfaction in Indian banks. Interestingly convenience one of the 4 P.s i.e., marketing mix was found to be unimportant in deciding customer satisfaction in Indian banks (studied banks).

Vyas, V., & Raitani, S. (2014) opined that there are many drivers of switching behavior in the banks. Particularly they found nine critical factors that contribute to switching banks. One very interesting driver is customer satisfaction in all the drivers which contributes to the switching behavior of customers. So again, we can't ignore that customer satisfaction of the major factor.
among. Banks should come out with strategies that increase the customer's satisfaction.

Suriyamurthi, S., Mahalakshmi, V., & Arivazhagan, M. (2013) stated that in the cutthroat competition where every bank is focusing on retaining and attracting new customer, relationship marketing is the key element which should be adopted by the banks. They also found that the banking sector is one of the major service sectors and the business of banks is more or less dependent on customer services and satisfaction. Banks should increase their services and make a good relationship with the customer.

2.7. RESEARCH GAP

Technology is rapidly changing the way personal financial services are being designed and delivered and thus the entire environment of banking services is being changed with the introduction of multi-channel service systems. Recent developments in electronic distribution service channels have become increasingly sophisticated. Adoption of IT-enabled services has reduced the costs and widen their market for the service providers. With this development, the users enjoy a broader variety of services and their operations are now more convenient and not bound by office hours. The technology used by the banks to provide the latest services is already very advanced.

However, electronic banking, or virtual banking in general, cannot entirely replace the existing traditional channels. Despite the convenience and other benefits that the service can offer, not everyone uses e-banking or online banking specifically. A significant portion of the highly educated consumer segment is still opting for branch banking.

Owing to the entry of *de nova* domestic private and foreign banks, the Indian banking sector underwent drastic changes in terms of competitive landscape and banking practices. To grow by widening the market, the banks must always be equipped with the changing technological environment addressing consumer concerns. Due to the increasing importance of modern information and communication technologies for the delivery of retail banking services, the analysis of the determinants of technological banking adoption has become an area of growing interest to researchers and bankers.

The most recent technological advancement is the evolution of e-banking. Various alternative modes of providing banking products are evolved and gained

popularity in the recent past, such as telebanking, Automated Teller Machines, e-banking, credit & debit cards. The most recent one is e-banking which has a major impact on the financial market. Banks got the sense that internet facility will open up new horizons for banks and will help them to adapt to globalization effectively. According to Thulani et al., (2009) and Henry (2000), "Internet banking refers to systems that enable bank customers to get access to their accounts and general information on bank products and services through the use of bank's website, without the intervention or inconvenience of sending letters, faxes, original signatures, and telephone confirmations".

Extensive research related to technology-based banking services has been carried out internationally from various perspectives. Some studies have analyzed the adoption and growth of online banking, while others describe the benefits to be gained as far as the organization is concerned, main obstacles of growth in the number of online banking users, etc. Studies from various locations of India have also been conducted on customers' perspective regarding the factors which influence and discourage the use of technology-based bank delivery channels etc. However, at the national level, there is a considerable lack of study concerning this area. Another area where there is limited literature review is the customer satisfaction due to the implementation of mobile banking in retail banking areas. Therefore, the present study is an attempt to know the factors influence of mobile banking on customer satisfaction in retail banking.

2.8 SUMMARY

The literature reviewed in the chapter show various technology acceptance models used in the past and the relevance of Mobile banking acceptance. It identified various key determinants used by researchers for assessing Mobile banking factors on customer satisfaction. It highlighted the significance of E-banking in Indian and Global scenarios. Though e-banking has gained a lot of importance in studying Mobile phone acceptance for accessing banking services, it has not been used for assessing Mobile banking services and their factors affecting customer satisfaction in Bangalore City. A review of previous studies indicates that an assessment of internet banking as an inclusive banking tool has not been undertaken using a structured model consisting of validated constructs. Though the current literature offers insight into a wide range of constructs and variables that can be used for assessing Mobile banking adoption, it does not offer factors affecting customer satisfaction in Bangalore City.

CHAPTER-3

RESEARCH METHODOLOGY

CHAPTER 3
RESEARCH METHODOLOGY

3.1. INTRODUCTION

This chapter explains the research design and research methodology through which the research deliverables are established. It offers a blueprint consisting of information relating to sampling, data collection methods and instruments, and data analysis tools used in this study. Research hypotheses are presented for basic understanding and highlighting their importance to the research objectives. It also throws light on the motive behind the inclusion of each of the constructs drawn for the study and its relevance to the objectives. It outlines the procedure involved in the identification of respondents and the criteria for including them in the survey. Designing of the research instrument for data collection and the nature of contents are also discussed. Also, the tools and techniques used for analysis have been explained in the following sections.

3.2. RESEARCH OBJECTIVES

This study is aimed at assessing the impact of Mobile Banking on Customer Satisfaction concerning Retail Banking.
The major objectives of the study are as follows:

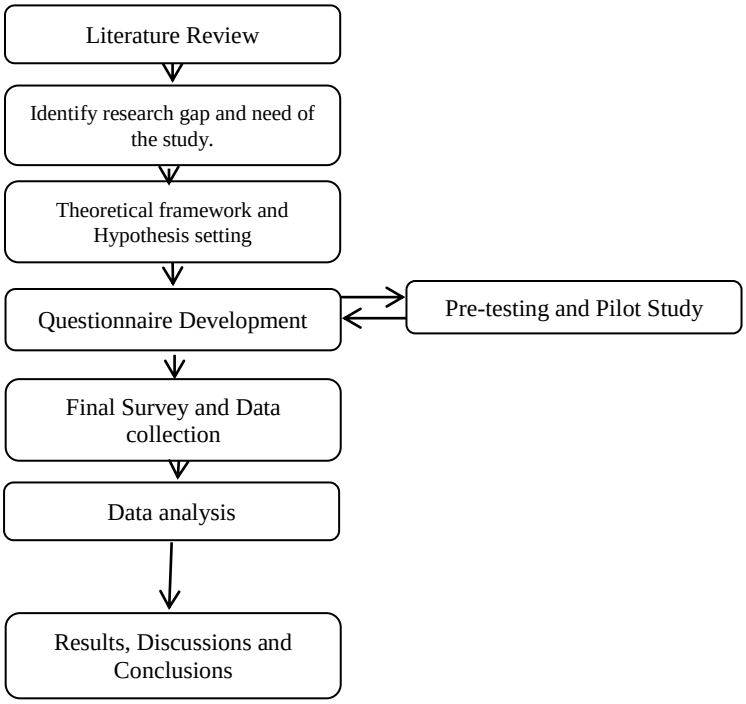
1. To know the influence of demographic variables on the factors of mobile banking
2. To identify the influence of demographic variables on the customer satisfaction
3. To study the impact of mobile banking factors on Customer Satisfaction.
4. To provide suitable measures to improve the mobile banking transactions.

3.3 RESEARCH DESIGN

The research design is described as “the framework or plan for a study, used as a guide to collect and analyze data”. The research design helps a researcher to draw boundaries for the research, which consists of defining study settings, the type of investigations that needs to be carried out, the unit of analysis, and other issues related to the research (Saunders *et al*, 2009). There are three types of research designs identified from the literature review include exploratory research design, descriptive research design, and causal or explanatory research design.

The exploratory research was employed in this study in the first stage to obtain the background information about the research problem and to generate hypotheses by a thorough investigation of the literature. In the second stage, the descriptive research design was used to describe the characteristics of the respondents and to determine the descriptive statistics like frequencies, percentage, the mean, and standard deviation of the constructs used. However, descriptive research could not explain the relationship among the variables (Zikmund, 2000); therefore, explanatory research was used to know the impact between variables of the model.

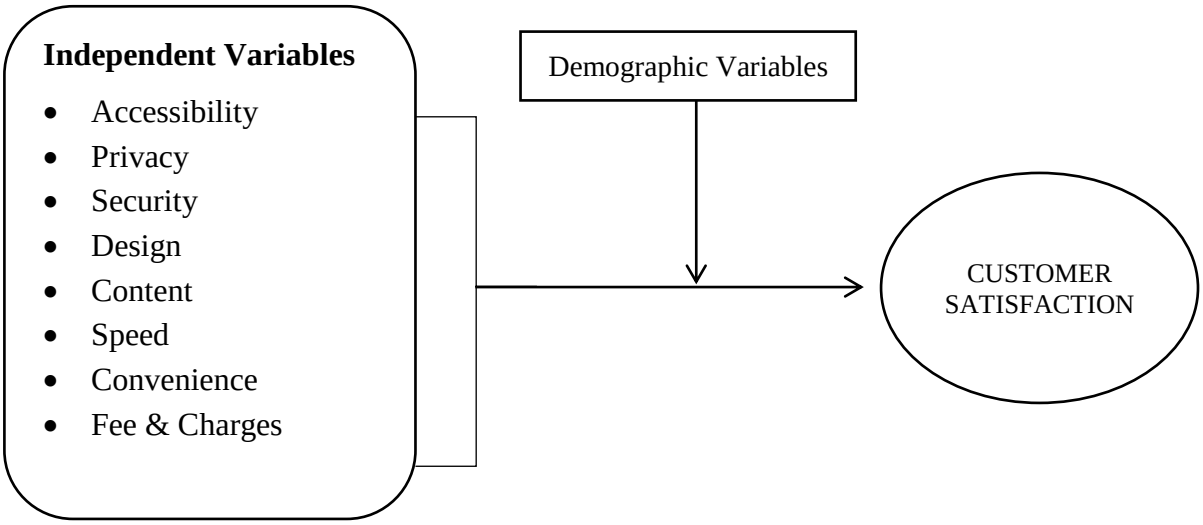
Figure 3.1 Research design.



3.4 RESEARCH MODEL & OPERATIONALISATION OF VARIABLES

The systematic study of the research problem in addition to their theoretical framework and its implications requires designing a study model **(Fig: 3.2)** for the dependent, independent variables where the Mobile banking services and demographic variables are Independent, and customers' Satisfaction is dependent.

Fig: 3.2. Proposed Research Model



Source: Prepared by Researcher

- **Accessibility**

Accessibility is defined as the capability of users to acquire information and services of the website which is depended on many factors such as size and format of materials, users' hardware/software, internet connection, spatial conditions, and users' strengths/weaknesses (Hackett & Parmanto, 2009). The international trend was toward decreasing the number of branches as a result of investing in alternative delivery service channels as automatic teller machines (ATM), which reduced operating cost. Service accessibility as reflected in the

number of banking offices per unit of the market represents an important component of the overall level of service provided to financial consumers, the technology internet has produced internet banking that serves Bank's customers to do banking transaction anywhere as long as they can access to the internet (Gunther,1997). Consumers may access the websites or applications based on how easy they are to use and how effective they are in helping them accomplish their tasks (Zeithaml et al., 2002).

- **Security**

Often, websites gather a diverse set of users'/customers' information. For the same reason, security is considered an important concern (Liao & Cheung, 2002). Despite technological advancements in internet security such as authentication, biometrics, call back modems, encryption, digital certificates, firewalls, filtering routers, password protection, PC hardware security, and smart cards would increase customer confidence in using online banking services (Ranganathan & Ganapathy, 2002). There are various studies on security as one of the most important indicators of internet banking and all have emphasized that the security of internet banking impacts positively on the satisfaction of customers (Jun & Cai, 2001; Liao & Cheung, 2008). Therefore, this study proposes that security is a significant impact on customers' satisfaction.

- **Mobile Banking App Design**

In terms of human – Mobile App interactions, the type of App designing is highly important and impacts intensively on users' performance (palmer, 2002). In the meantime, Ranganathan & Ganapathy (2002) believe that App designing plays a vital role in attracting, retaining, and improving customers' interests in websites. More studies on internet service have especially focus on app designing and all authors agree that app should be designed in a manner to enhance customers' conception of the website and its services. Furthermore, desired app designing would increase accessibility and plays a critical role in its attractiveness. One of

the best ways to improve app designing is that customers should be asked to evaluate it. Considering the overall recommendation of Liu et al., (2008) & Zviran et al, (2006), this study proposes that the website app has a significant impact on customers' satisfaction.

- **App Content**

In mobile banking, app content is one of the most important factors impact m-banking (Ahmad et al., 2011). It points out the desirability of app information in customers' viewpoints. Hence, many studies consider information content as a benchmark of app quality (Yoon, 2010). App content should provide profitable information on the type of provided services for facilitating users' better conception (La & Kandampully, 2002). Furthermore, users need to have supplementary information on banks, recommendations by experts, financial reports, relevant links, and contact information such as address and telephone number(s). This study, therefore, proposes that the accessibility of website content has a positive impact on customer satisfaction.

- **Speed**

The speed of operations and rapid responsiveness have always attracted attention and it is the main concern of information systems and e-commerce (DeLone & McLean, 1992). Likewise, there is a significant relationship between the speed of downloading and users' satisfaction. Download speed depends on the content of materials, computing hardware, and connection method (Ma, Zhengwei, 2010). A speed that refers to the duration of response is highly considered in information systems and e-commerce due to an increase in focusing on the efficiency of operational resources. Therefore, speed and time saving are two vital considerations (Yoon, 2010). Speed is a factor to prevent time-wasting and as a radical consideration to attract the satisfaction of customers from internet banking services. Hence, Aldawani & Palvia, (2002) are considered as important factors in users' satisfaction and one of the main measures to evaluate websites.

- **Fee & Charges**

Affordability of internet connection is a significant factor in influencing internet usage (Venkatesh and Brown, 2001). Perceived costs refer to the people who believe that using online banking will cost money. One-time investment for a mobile device is a necessity in the present world. Based on the study of Petrazzini and Mugo (1999), the cost and pricing of internet service are broken down into setup costs and operating expenses which is much higher in developing countries than in developed countries. There are also specific regulations or government mandates which influence access and cost of the internet. The costs vary depending on the number of Internet Service Providers in the country. Another major consideration is the monthly internet access expenditure which has a bigger slice of a person's monthly expenses. Based on the study of Martin (2003) on digitally divided society, lower socioeconomic groups would be less likely to use the internet and pay a monthly internet service subscription fee.

The cost associated with internet access fees and subscription charges is a significant barrier to mobile banking. Fee and charges discourage non-users from using internet banking services because they feel that it would entail more costs than the relative advantage (Kuisma et al., 2007). It is; therefore, this study proposes that the financial considerations, including the cost of a web-enabled mobile phone and subscription fees, will influence customer intentions to use mobile banking.

- **Privacy**

Privacy in banking transaction is linked with financial risks (Cheng et al., 2006). Both factors are major concerns of trust and are considered obstacles to the adoption of mobile commerce (Gao and Bai, 2014). In the banking context, privacy refers to the ability of the bank to authenticate and protect consumers' personal information from unauthorized access which is free from invasion, interception, and theft (Lee, 2009). It follows legal and ethical practices such as Federal legislation that prevents corporation and government manipulation of personal information. This study, therefore, proposes that the ability of the bank to provide protection to consumers' personal information has a positive impact on customer satisfaction.

- **Convenience**

Berry et al., (2002), in their study have described Convenience as the customers time and effort perceptions related to buying or using a service. Convenience can be thought of as a means of adding value to customers by decreasing the amount of time and effort a customer must expend on the service (Colwell et al., 2008). The construct 'Convenience' has been generally treated as a concept of anything that can be done with ease and minimal effort. Service convenience has an impact on customer satisfaction and repeats purchases from a service organization (Seiders et al., 2007). Aagja et al., (2011) conducted a study in the Indian context and found that access, benefit, and decision convenience dimensions have more importance, whereas dimensions like transaction and post-benefit convenience are less relevant in the retail context. They found that the higher the perceived service convenience level, the greater was the impact on customer satisfaction. This study, therefore, proposes that the various aspects of convenience with respect to service (Such as decision convenience, access convenience, transaction convenience, benefit convenience, and post-benefit convenience) have a positive impact on customer satisfaction.

- **Demographic Profile as Moderating Variables**

Previous studies on online banking have proved that demographic variables influences toward the adoption of new technology-based services. Out of all demographic variables, gender and age are the most studied demographic characteristics in the online banking context. For example, when compared to women, men are task-oriented and more receptive to technological innovations such as mobile banking services (Cruz et al., 2010 & Laukkanen, 2016). As an individual's age increases, the adoption probability decreases. Older customers have a lower propensity, negative attitude and are more resistant to change toward using mobile banking services (Laukkanen, 2016). Based on the study of Joshua and Koshy (2011), younger generations are the typical users of online banking.

Marital status, level of education, and household income have been pointed to have a positive impact on the adoption of online banking services. Some authors argue that marital status was significantly associated with the adoption of mobile communications and mobile banking (Iddris, 2013). Individuals with a higher level of educations have access to technology and the internet is more comfortable in using self-service technologies given that they have greater internet literacy and self-efficacy (Meuter et al., 2005). Income and wealth influence the use of the internet (Porter and Donthu, 2006) and the online banking system (Mann and Sahni, 2012). This study, therefore, proposes that demographic dimensions (Sex, age, educational qualification & income levels) have a positive impact on customer satisfaction.

- **Customer Satisfaction**

Customer's satisfaction is a mood or reaction by consumer/customer to buy and consume a product. In marketing terms, customer's satisfaction is woven with the experience of buying the goods or services. When the outcomes are evaluated by customers, they are in turn comparing the results of their own experiences with expected results (Chiu et al., 2017). In other words, customer satisfaction is a degree of a positive feeling of the customer to the service provider. According to Oliver, customer's satisfaction is a response to consumer's prosperity and answering this radical question that whether the product/service has provided an enjoyable level of consumption-related prosperity or not (Vinita Kaura, 2013). Lingfield believes that customer satisfaction is a feeling in psychological terms that is the result of comparing the products with customers' needs and demands as well as social expectations from the products. In the case of mobile banking service dimensions have been found to affect customer satisfaction. Hence this study was adopted customer satisfaction as the dependent variable to measure the impact of retail banking services:

3.5. Hypothesis

H1: Accessibility of mobile banking influences Customers' Satisfaction.

H2: Privacy of using mobile banking services influences Customers' Satisfaction.

H3: Mobile banking Security influences Customers' Satisfaction.

H4: Mobile banking website Design influences Customers' Satisfaction.

H5: Accessibility of mobile banking website Content influences Customers' Satisfaction.

H6: The Speed of operations and responsiveness of mobile banking services influences Customers' Satisfaction.

H7: Convenience of mobile banking operations influences Customers' Satisfaction.

H8: Affordability of mobile banking with respect to fees & charges influences Customers' Satisfaction.

3.6. DEVELOPMENT OF RESEARCH INSTRUMENT

3.6.1. Reasons for Choosing a Questionnaire.

The self-administered questionnaire is chosen as a tool for data collection in this study because of the following reasons.

Questionnaire surveys are cheap, without significant capital investment and quick research tool. However, there is a commonly held view that, because of these elements (cheep, quick response, easy construct, and less capital investment), questionnaires can be easily constructed and used without training.

Another important reason questionnaire studies can be used in the systematic collection of information and may help to define the incidence of objective, identify an etiological factor and investigate the quality of life, as well as predict some aspects of behavior. Another reason for choosing a questionnaire is because it is the best method to collect original data describing a large population (Eaden, *et al.,* 1999), hence a large number of responses from the target population could be collected and a large number of questions can be asked (Eaden, *et al.,* 1999). Furthermore, the questionnaire is chosen because the data entry and analysis can be easily done using computer software packages such as SPSS.

3.6.2. Questionnaire Format

Having a brief idea and developed theme based on the research objective, questionnaires was developed. The format of the research questionnaire was developed by the factors identified in the focus group, depth interview, and literature. The questionnaire started with a brief introduction, which explained the purpose of conducting the research and the importance of the research. The respondents were informed that data collected is only for academic purposes and the participation is purely voluntary and that they should be mobile banking customers. The respondents were informed that they have the right to withdraw at

any time during the survey if they want and were ensured the confidentiality of the data collected. Also, the respondents were provided with the contact information of the researcher (i.e., Mobile number and an e-mail address) and were encouraged to raise relevant inquiries about the study, if they wished.

The research questionnaire used in the study consisted of 3 - parts,

- **Part-A** & **Part-B** consists of Close-ended questions on *factors that influence mobile banking*. These sections of the questionnaire were very critical as the key constructs (that is, factors influencing mobile banking) were offered for a rating on a five-point Likert scale. These key constructs were selected during focus group interviews from among the list identified through a review of the literature.

- **Part-C** was seeking demographic details such as age, occupation, education, and income level from the respondents. The demographic information will be used for various tests to understand their impact on Mobile banking.

3.6.3. Scaling Technique

Scaling is considered an extension of measurement which involves creating a continuum upon which characteristics of measured objects are located (Malhotra and Dash, 2011). The scale provides a representation of the groups along which participants arrange themselves, thus allowing a description of the distribution of respondents along the scale.

The questionnaire was kept short and precise to improve the response rate. The questionnaire comprised of dichotomous questions, multiple-choice single response questions, multiple-choice, multiple response questions, besides rating questions. Hence, nominal, ordinal, and Likert scales were employed in the questionnaire development, which is explained below.

In this study, various factors of mobile banking services and customer satisfaction are measured with a five-point Likert scale with all the anchors at the same distance. The anchors used in the scale range from 1-Strongly Disagree, 2-Disagree, 3-Neither agree nor Disagree, 4-Agree, 5-Strongly Agree. This study restricts to a five-point Likert rating scale because it will be easy for respondents to understand the five-point Likert scale and use it (Malhotra and Dash, 2011).

For measuring the demographic characteristics such as sex, marital status, and area of residence of respondents, a nominal scale was used. A nominal scale is a figurative labeling scheme in which numbers assigned only represent labels or tags for identifying and classifying respondents (Malhotra and Dash 2011) without any order or structure. Only a limited number of statistics are permissible which are based on frequency counts. These include percentages, mode, chi-square, and binomial tests. Also, for measuring other demographic characteristics like age, education levels, occupation, and mobile usage, an ordinal scale is used in this study. An ordinal scale is a ranking scale that allows the researcher to assign numbers to respondents to indicate the relative extent to which the respondents possess some characteristic. Thus, an ordinal scale indicates the relative position between the respondents.

3.6.4. Questionnaire Pre-test

Pre-testing refers to the testing of the questionnaire on a small sample of the target population to improve the questionnaire by identifying and eliminating potential problems related to all aspects of the questionnaire including question content, wording, sequence, form, and instructions (Malhotra and Dash, 2010). Pre-testing is to ensure that the items elicit appropriate responses, uncover ambiguous wording or errors before the survey is launched at large. As stated by Malhotra and Dash, (2010), a personal interview is the best method to conduct an initial pre-test and once the change is made to the questionnaire, this could be followed

by another pre-test conducted by mail, telephonic or electronic means depending on which of those methods are to be used in the actual survey. In this research pre-testing of the research question was done in two parts,

Focus group discussion with Respondents

Prior studies have extensively used Focus Groups as an interview technique for validating their research instrument. In this study also focus group technique was used to check the face and content validity of the item. Problems that arise from focus groups include the difficulty of identifying differences of opinion between several groups. Focus groups tend to discuss a topic an hour with 10 people (four bank managers, three university professors, and three data analysts). Each person has an equal interview period in ensuring balanced discussion and focus on the research questions being discussed. From this group discussion, some of the structure, content, or vocabulary of the questions related to issues is identified. To expedite the evaluation process and to reach sound conclusions, it is important to carefully document the final research instrument with interactions among the group members, and after that instrument was pre-tested with a small group of respondents to reach the final instrument.

Pilot-Study

Pilot Study as per **Connely** (2008), the ideal sample size to be considered for pilot study should be 10 % of the population size that is 50 respondents on a safer side 54 responses were chosen for the pilot study within the time frame of 2 weeks. Questionnaires' internal consistency and reliability were assessed by conducting Cronbach's Alpha Test., Connelly (2008). The exploratory survey was conducted on 50 customers. The personal contact approach was used to collect data from customers. The customers were also asked to look for any difficulties with wording, problems with leading questions to again recheck on the content and face validity. The pre-test data yielded and an inter-item analysis was then conducted to know poorly or highly associated with research objectives.

3.7. SAMPLING FRAME AND METHODS

3.7.1: Study Population

According to Saunders (2007) Population refers to a full set of groups from which a sample is taken. The objective of this study is to measure the factors influencing mobile banking services on customer satisfaction in Indian retail banking. Hence, following the objective of the study, the target population includes 4 (SBI, Bank of Baroda, ICICI & HDFC) banks from the Bengaluru city (Top 2 mobile banking providers from each public and private sector; **Source:** IBEF Banking Industry Report, Jan-2020). All respondents are clients who have bank accounts in the selected banks in Bengaluru city. The reason for choosing this population was that these individuals are who engage in retail banking and could very well be among the potential customers of mobile banking services now or soon.

3.7.2 Sampling Frame

A sampling frame refers to a complete list of population elements from which a sample may be drawn. In this study, each mobile banking customer from the selected bank was finally included to become a member of the population.

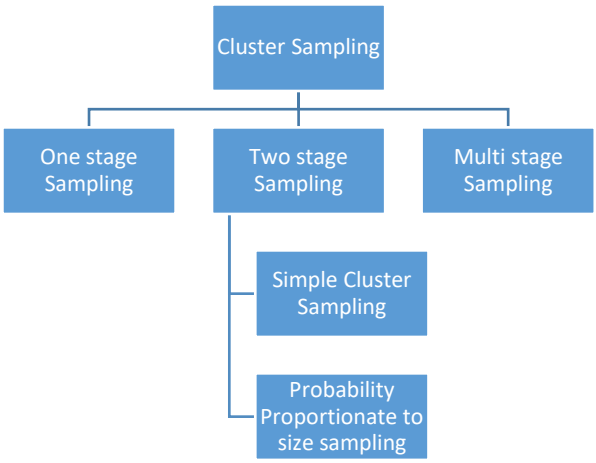
3.7.3. Sampling Method

According to Saunders et al. (2009) Sampling cannot be avoided in research because it is impracticable to survey the entire targeted population due to budget and time constraints. This study used a non-probability convenient sampling method for pilot study, but for the main data collection, Cluster sampling is used.

Hair et al (2003) Suggested that convenience sampling can help the researcher to

complete large tasks in a short amount of time and cost-effectively but suffer from bias due to the differences that exist in the target population. In order to encounter the above biases, this type of sampling is used for the pilot study only.

The sampling technique used in this study was Cluster sampling. Under Cluster Sampling, area sampling was adopted.



Based upon the geography, the entire Bangalore city is divided into five cluster and the no of branches of the four banks in each cluster is given below.

Location	SBI	ICICI	HDFC	Bank of Baroda
Bangalore North				
Banaswadi	3	1	1	1
HBR layout	2	1	1	1
Hebbal	8	0	0	1
Hennur	4	1	1	0
Jakkur	1	0	0	0
Jalahalli East	2	1	1	0
Jalahalli West	1	0	0	0
Peenya Industrial Area	3	1	0	1
Sanjeevini Nagar	3	0	0	0
Yeshwantpur	2	1	0	1

Bangalore South				
Jayanagar	12	5	3	1
Basavanagudi	9	0	1	1
JP Nagar	2	3	2	1
Padmanabhanagar	1	0	0	1
Banashankari	14	1	3	2
Uttarahalli	2	1	1	1
Kumaraswamy	1	0	0	1
Girinagar	3	0	0	0
Bangalore East				
Bellandur	2	1	1	1
CV Raman Nagar	3	0	1	1
Hoodi	1	0	0	1
Krishnarajapuram	12	3	2	1
Mahadevapura	4	0	1	0
Marathahalli	1	1	0	1
Varthur	4	1	0	0
Whitefield	4	4	1	1
Bangalore West				
Basaveshwaranagar	2	1	0	0
Kamakshipalya	2	0	0	0
Kengeri	2	2	1	1
Mahalakshmi Layout	1	0	0	0
Nagarbhavi	1	1	1	1
Nandini Layout	1	0	0	0
Nayandahalli	1	0	1	1
Rajarajeshwari Nagar	4	1	1	1
Vijayanagar	10	1	1	1
Bangalore Central				

Cantonment area	2	0	0	1
Domlur	1	1	1	0
Indiranagar	5	1	1	1
Rajajinagar	5	1	1	1
Malleswaram	3	1	1	1
Pete area	1	0	0	0
Sadashivanagar	1	0	0	1
Seshadripuram	1	0	0	1
Shivajinagar	3	1	0	1
Ulsoor	1	0	1	1
Vasanth Nagar	1	1	0	1

In the first stage, it is followed the method of SRS where three clusters such as Bangalore South, Bangalore East and Banglaore Central out of above 5 clusters is chosen. While selecting, proper care has been considered so that each cluster should carry the branches of four banks. In the second stage, four sub cluster have been chosen based upon the SRS method. So, from Bangalore East, Krishnarajpuram; from Bangalore South Jayanagar and from Bangalore central both Rajaji Nagar and Malleswaram is taken for further study. In the third stage, from each location at least one branch for each bank is chosen by SRS method. In the fourth stage, i.e., in branch level, SRS method is used for data collection. Simple cluster sampling method is used so that from each sub cluster equal samples are collected. Also, it has kept in mind that equal sample should be collected from each bank. Considering these two points in mind approx. 30-35 no. of samples are collected from each branch in the respective location. The details of which are given below.

Name of the Bank	**Branches/Clusters**				
	Bangalore South(C1)	Bangalore East(C2)	Bangalore Central(C3)		Total
SBI	(Sub Cluster I) Jayanagar	(Sub Cluster II) Koramangala	(Sub Cluster III) Malleshwaram	(Sub Cluster IV) Rajajinagar	
No. of Samples	32	33	30	30	125
ICICI	Jayanagar	Koramangala	Malleshwaram	Rajajinagar	
No. of Samples	32	30	33	30	125
BoB	Jayanagar	Koramangala	Malleshwaram	Rajajinagar	
No. of Samples	30	30	30	35	125
HDFC	Jayanagar	Koramangala	Malleshwaram	Rajajinagar	
No. of Samples	31	32	32	30	125
Total	125	125	125	125	500

The data collection was happened during the period of Covid-19 where social distancing was the major criteria in the banks. Some of the branches were reluctant to allow into their branch premises too. So, the google form was sent to the customers who were agree to give their responses and final data was collected.

3.7.4. Sample Size

Sample size is one of the important aspects in data collection. The adequate sample size is a pre-requisite condition for statistical analysis. The required sample size depends on factors such as the proposed data analysis techniques, financial constraints, and access to the sampling frame (Malhotra, 2003).

The final sample size for mobile banking customers was determined by using Cocharan's formula which comes to $((1.96)^2 (0.5) (0.5)) / (0.05)^2 = 385$. So, a minimum of 385 no. of respondents are required. However, considering 4 different banks with both response and non-response error, we have considered approx. an extra of 7.5% for each case. So, a total of 385+115 which comes to 500 for the final sample size.

The same has been checked by Hair's criterion (Hair et al., 2013) which estimated minimum sample size (100) was at least five times the estimated parameter. A total of 500 (125 from each bank, the mobile banking customers are identified with the help of the database available at branch manager) mobile banking customers are chosen from the targeted banks for this study.

3.8. SOURCES OF DATA

The study was based on both primary and secondary data.

3.8.1. Primary Data: The primary data was collected through a personnel contact approach (schedule) using a structured questionnaire along with a google form from selected banks (SBI, Bank of Baroda, ICICI & HDFC) in Bengaluru. A total of 125 samples were collected from each Bank present in the Bangalore Urban. Based upon the available data base, advice by the banking officials and randomness, four major bank branches were chosen for data collection. From

each branch, the researcher has tried to collect 30-35 samples. In case of Public sector banks, no much variations were observed, but in case of private banks, there is a little variation considering the number of samples collected from each branch. This is because of availability and randomness of the people. To avoid biases, equal proportion of sample was chosen from each bank so that 125 nos. were finally taken for the study purpose.

3.8.2. Secondary Data: The study also relied on a secondary source of data. Secondary data sources primarily includes literature published in journals, magazines, newspapers, textbooks, articles, government reports, etc. Also, relevant research articles on mobile banking services and customer satisfaction towards mobile banking services have been identified, reviewed and analyzed.

3.9. DATA COLLECTION

Data were collected from the State Bank of India, Bank of Baroda, ICICI Bank & HDFC Bank in Bengaluru city. Customers were contacted based on randomly through a self-administered structured questionnaire. This method allows the researcher to compute the exact percentage and generally produces data that are easily quantified. Data was collected from selected four banks (SBI, Bank of Baroda, ICICI & HDFC) in two phases. In 1st phase of data collection, contacted mobile banking customers proportionately in two Banks (SBI & ICICI). A total of 250 respondents were chosen in first phase, with 125 respondents from each bank. In second phase of data collection, there are 250 customers (125 respondents from each bank) chosen from another two Banks (Bank of Baroda & HDFC).

3.10. RELIABILITY AND VALIDITY OF RESEARCH INSTRUMENT

The majority of social science research is the enumerating of human behavior, i.e., using any kind of measurement instrument to observe human behavior.

According to Smallbone & Quinton (2004), the measuring instrument of human behavior belongs to the widely accepted, to describe reality, easy approach of empirical-analytical or positivistic view. Needless to say, each type of measure has specific types of issues that need to be addressed to make the measurement meaningful, accurate, and efficient. Because of these reasons, more behavioral research takes place within this paradigm, measurement instrument must be valid and reliable.

3.10.1. Reliability

Reliability is concerned with the consistency, stability, and reproducibility of measurement results (Hair *et al.*,1995). Reliability is the most important determinant of measurement instrument's quality, such that, it helps to identify the inconsistencies and their effect on the measurement results. In this study, the reliability of measurement items Cronbach's alpha (α) reliability coefficients was used to measure the internal consistency of each measure. Reliability coefficients more than 0.7 were considered acceptable in the present research to determine the impact of mobile banking on customer satisfaction with reference to retail banking.

3.10.2. Validity

Validity is related to the accuracy of measures. Malhotra and Dash (2010) defined validity as "the extent to which differences in observed scale scores reflect true differences among objects on the characteristic being measured, rather than systematic or random error". In other words, validity refers to the degree to which a scale measures its significances to measure (Hair *et al.,* 1995). In this study, Content Validity for the questionnaire was obtained from four faculty members of the School of Management, Bangalore University, as per the suggestions of experts some of the questions was modified or deleted.

3.11. DATA ANALYSIS

According to Hair *et al.*, (1995), the main aim of the "statistical techniques" is to assist in establishing the plausibility of the theoretical model and to estimate the extent to which the various explanatory factors seem to be influencing the dependent variable. The primary purpose of this research study was to measure factors that influence mobile banking in Indian retail banking. Statistical Package for Social Sciences (SPSS, version-24.0) was used for Analyzing the preliminary data. In this research, frequency, percentage, mean, standard deviation and regression analysis was done for data analysis. **Frequency**: used to review the study sample answers. **Percentages**: show the proportion of answers for a particular variant of the total answers. **Mean**: Display the average answers to a particular variable. **Standard Deviation**: Shows the degree of dispersion of answers from its mean. **Regression:** was used to find the influential relationship between dependent and independent variables.

SUMMARY

This chapter described in details the methodology that is used for research. It has also considered the hypothesis formulations, identification of variables and approach to the data analysis which is mentioned in the next chapter. The sample, size of the sample, sampling method is adequately applied to the research with respect to objectives and nature of respondents. The data collection method and sources of data are briefly explained. So, this chapter has tried to cover all the important aspects of research methodology that has applied to the entire research. The next chapter follows the data analysis and interpretation.

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

CHAPTER - 4
DATA ANALYSIS

4.1 OVERVIEW

This chapter consists of data presentation, analysis, interpretation, and discussion of the findings. Data is analyzed using SPSS 24.0. Results of this research study are presented in this chapter, which is divided into seventh sections. The first section provides the response rate achieved and demographic characteristics of respondents. The second section reports descriptive statistics of items of measured constructs. The third section reports the result of demographic differences on the preference on mobile banking factors. The fourth section presents factors affecting mobile banking on customer satisfaction. The fifth section reports Regression Analysis. The sixth section reveals the hypothesis testing, and the final section reports the summary of the chapter.

4.2 DEMOGRAPHIC PROFILE AND BANKING DETAILS OF CUSTOMERS

It is clearly understood from the literature review that the demographic profile of customers is playing a vital role in deciding their awareness level and satisfaction level in M-banking services. So, the demographic profile of customers and their awareness of MOBILE BANKING, as well as their awareness level on ATM, IB, and MB services, are felt essential to study their level of satisfaction on said M-banking services.

In this junction, the researcher selected and used the various ever-changing demographic factors viz. Age, gender, marital status, educational status,

employment status, occupational experience, monthly income, type of bank, and banking experience in the present study. In this chapter, the researcher presents the analysis of the demographic profile of 500 Customers and their awareness level on Mobile Banking.

4.2.1 Age

The age of customers is an important factor to decide their level of awareness on MOBILE BANKING and various M-banking services. This study of age composition is also helpful in deciding their level of satisfaction in various M-banking services. The researcher considered the age composition of four age groups namely up to 20, 21-40, 41-60, and above 60 in the present study. The application of the Percentage Analysis on the age composition of the sample brought the following results.

Table-4.1. Age of the Customers

Age	Frequency	Percent
18-25	126	25.2
26-35	179	35.9
36-45	163	32.6
Above 46	32	6.3
Total	500	100.0

Source: Primary Data

From the above Table 4.1, it is found that the maximum of 35.9% of customers is in the age group 26 – 35 followed by 32.6% in the age group 36-45. It is also found that 25.2% are in the age group up to 25 and a minimum of 6.3% in the age group above 50.

4.2.2 Gender

The gender of customers is also a prime factor to decide their level of satisfaction

towards Mobile Banking services. The male and female differences among the customers classify them to know their potentiality, knowledge, and accomplishment. So, the researcher took two groups namely male and female groups in the present study. The following presents the percentage of male and female customers based on the application of Percentage Analysis on the responses obtained from customers.

Table-4.2. Gender of the Customers

Gender	Frequency	Percent
Male	322	64.5
Female	178	35.5
Total	500	100.0

Source: Primary Data

From the above Table 4.2, it is revealed that 64.5% of the customers are male whereas 35.5% are female.

4.2.3 Marital Status

The marital status of the customers is leading to unprecedented diversity in the financial needs. Customer decision patterns will become more complex. So, the marital status of the customers is influencing their level of satisfaction with M-banking services. Therefore, the marital status consisting of two groups namely married and unmarried has been taken for the present study. The application of the Percentage Analysis on marital status composition brought the results shown below.

Table-4.3. Marital Status of the Customers

Marital Status	Frequency	Percent
Married	316	63.1
Unmarried	184	36.9
Total	500	100.0

Source: Primary data

Table 4.3 shows that the composition consists of 63.1% of married customers and 36.9% of unmarried customers.

4.2.4 Educational Status

The educational status of the customers is also a significant factor to decide their level of awareness and level of satisfaction with M-banking services. It influences the customers to learn and perform their transactions through M-banking successfully. Therefore, the educational status is considered as a necessary one to decide the level of satisfaction of customers towards M-banking services. For the study, the researcher classified the educational status into four groups namely school level, graduate, post-graduate and above post-graduate. The application of the Percentage Analysis on the responses collected from the customers brought the following results.

Table-4.4 Educational Status of the Customers

Educational Status	Frequency	Percent
Up to Higher Secondary	106	21.2
Graduate	199	39.8
Post-graduate	168	33.7
Above Post-graduate	27	5.3
Total	500	100.0

Source: Primary data

From the above Table 4.4, it is found that the maximum 39.8% of the customers are graduates followed by 33.7%, 21.2%, and 5.3% are with the educational status of post-graduate, up to higher secondary and above post-graduate respectively.

4.2.5 Employment Status

Employment status among the customers is different. The nature of employment has its impact in influencing the customers to become aware and to a certain extent to avail M-banking services. Therefore, given this impact, the employment status has been taken by the researcher in the present study for deciding their level of satisfaction with various M-banking services. The Percentage Analysis of the responses of customers revealed the following results.

Table 4.5 Employment Status of the Customers

Employment status	Frequency	Percent
Student	81	16.2
Government service	99	19.8
Private service	178	35.6
Self Employed	104	20.8
Others	38	7.6
Total	500	100.0

Source: Primary data

The above Table 4.5 indicates that the majority, 35.6% of the customers are from private service followed by 20.8% and 19.8% of the customers are from Self-employed and Government services respectively. Others constitute a minimum of 7.6% of the customers.

4.2.6 Monthly Income

Among the various factor which is influencing customer awareness and the level of satisfaction with M-banking services, the level of income is the most

significant one. The income level varies with age, family members, educational status, occupation, etc. Therefore, it is considered this impact plays a major role in the present study. Hence, the researcher decided to use this factor as a tool in the present study. The application of the Percentage Analysis on the income group provided the results as shown below.

Table 4.6 Monthly Income of the Customers

Monthly Income	Frequency	Percent
Up to Rs. 20,000	166	33.3
Rs. 20,001 - Rs. 40,000	181	36.2
Rs. 40,001 - Rs. 60,000	115	23.0
Above Rs. 60,000	38	7.5
Total	500	100.0

Source: Primary data

From the above Table 4.6, it is understood that 36.2% of the customers whose monthly income is Rs. 20,001 - Rs. 40,000 followed by 33.3%, 23.0% and 7.5% are whose monthly income Up to Rs. 20,000, Rs. 40,001 - Rs. 60,000 and above Rs. 60,000 respectively.

4.2.7 Type of Bank

The bank that provides various innovative products and/ or services, various facilities, various benefits to the customers decides a person to become a customer of that bank. Thus, the requirements, expectations, etc. of the customers are to be fulfilled by a bank not only for retaining the customers but also for gaining new customers. Generally, the customer attitude to become a customer in a bank is depending upon the 'customer-centric approach' of banks. Therefore, the bank in which the customer is a customer is also a key factor for the present study to decide the level of satisfaction and level of awareness of customers who are availing M-banking services. The application of the Percentage Analysis on this

factor revealed the following results.

Table 4.7 Type of Bank of the Customers

Bank	Frequency	Percent
Public sector bank	250	50
Private sector bank	250	50
Total	500	100.0

Source: Primary data

The above Table 4.7 reveals that 50% of customers are the customers of public sector banks followed by 50% are of private sector banks.

4.2.8 Banking Experience

The numerous experiences are gained by the customers during their banking practices. Based on their experiences regarding the benefits, difficulties, satisfaction, advantages, usefulness, etc. the customers derive their level of awareness and level of satisfaction on M-banking services. So, the banking experiences of the customers in no doubt shall be helpful to get a true level of satisfaction on M-banking services. Therefore, the researcher decided to use the banking experience as one of the factors in this study. The application of the Percentage Analysis clearly showed the following results.

Table 4.8 Banking Experience of the Customers

Banking Experience	Frequency	Percent
Up to 5 years	175	34.3
Between 6 - 10 years	130	26.3
Between 11 - 20 years	100	20.0
Above 20 years	95	19.4
Total	500	100.0

Source: Primary Data

The above Table 4.8 depicts that 34.3% of customers are with banking experience of above 5 years. The customers whose banking experience is between 6 – 10 years, between 11 – 20 years, and above 20 years constitute 26.3%, 20%, and 19.4% of sample customers respectively.

Amount of Mobile Transaction per minute

During the mobile transaction, the amount varies from each customer to others. An average transaction amount per minute was calculated and it was found that 26.6 percent of the respondents transact about 100 to 1000 rupees per minute during their operation. 24 percent of the respondents transact above rupees of 5000 per minute.

Amount of Transaction per minute in Rs	**Frequency**	**Percent**
Less than 100	123	24.6
100-1000	133	26.6
1000-5000	124	24.8
Above 5000	120	24.0
Total	500	100.0

Source of information

The respondents are asked about various sources by which they are getting information about mobile banking and their application. Majority of the respondent's i.e. 33.6 percent got their information from their friends.

Sources of information		**Frequency**	**Percent**
	Self	167	33.4
	Family	165	33.0
	Friends	168	33.6
	Total	500	100.0

Family Type

It is observed from the analysis that nuclear family is more predominant where about 54.8 percent of the respondents are from nuclear family. It is quite evident when the no of persons is studied. The result found that 37.8 percent have only two family members where 28.8 percent have more than three no of family persons.

Family Type		Frequency	Percent
	Joint	226	45.2
	Nuclear	274	54.8
	Total	500	100.0

No. of Persons		Frequency	Percent
	Two	189	37.8
	Three	167	33.4
	More than Three	144	28.8
	Total	500	100.0

Mobile Banking Usage	Frequency	Percent
Heavy Users (Up to 6 hours a day)	120	24.0
Medium users (Up to 4 hours a day)	145	29.0
Light Users (Up to 2 hours a day)	132	26.4
Users (Up to average of 1 hour a day)	103	20.6
Total	500	100.0

In case of mobile usage, 29 percent of the respondents come under medium users where they use the mobile banking up to 4 hours per a day. 51.4 percent of the customers have saving account in different banks.

Type of Account		Frequency	Percent
	Saving	257	51.4
	Current	243	48.6
	Total	500	100.0

4.3 DESCRIPTIVE STATISTICS OF MOBILE BANKING CONSTRUCTS

To know the exact measurement variable statements, Mean, median, Std. Error and Std. Deviation statistics are conducted for all the mobile banking constructs i.e., Accessibility, Convenience, Privacy, Security, Design, Content, Speed, Fees & Charges, Customer satisfaction, and risks/challenges associated with mobile technology.

Table: 4.9. Descriptive statistics of Accessibility Constructs

	ACCESSIBILITY	Statistic (N)	Mean	Std. Error	Std. Deviation
1.	Retail-banking services provided by the banks allow easy access to transaction data both recent and historical.	500	4.15	0.049	0.770
2.	Customers can access the details on the bank charges, the details on fund transfer between accounts, information on competitors interest rates, foreign exchange rates commission charged for foreign exchange, contact details for complaints etc.	500	4.01	0.060	0.955

3.	Retail banking service practices involve consistency of performance and dependability.	500	4.16	0.048	0.763
4.	Employees of Retail-banking service providers possess the required skills and knowledge to perform the service.	500	4.09	0.054	0.852
5.	Politeness, respect, consideration, and friendliness of contact personnel.	500	4.00	0.056	0.892
6.	Retail-banking service providers making the effort to understand the customer's needs.	500	4.03	0.057	0.898
7.	Quick response and the ability to get help if there is a problem or question.	500	3.85	0.060	0.952
8.	Provision of caring and individualized attention to customers provided by call centers or web administrators.	500	3.86	0.060	0.956
9.	Retail-banks provide sufficient notice to the users and suggest alternatives for them to complete their transactions within the closure hours in case of urgent needs.	500	3.91	0.059	0.929
10	Retail-banks provide power backup and data recovery systems to avoid interrupting transactions in case of power failure.	500	3.96	0.059	0.937

11	Banks provide 24 hours e-based monitoring and assistance for e-banking services that need immediate assistance	500	3.85	0.063	0.997
12	Retail-banks have more interpersonal interaction with customers throughout the service delivery process which may avoid miscommunications between the users and the service providers.	500	3.79	0.065	1.032
13	Retail-banks provide help-desk services and online help facilities, and the customer service officers are friendly when addressing complaints.	500	3.96	0.060	0.941
14	e-banks provide customer feedback services	500	4.06	0.054	0.848
15	**Overall Construct Mean**		**3.98**		**0.908**

The users of retail banking are influenced to avail mobile banking services due to the significance and/or features of the variables associated with mobile banking services. The banking practices through mobile banking channels bring various ranges of experiences among the customers. Such experiences help the customers to derive their level of satisfaction with mobile banking services and/or products. At this juncture, it is necessary to collect the responses from the customers and to determine their access to mobile banking services. Likert's 5-point scale with scores of 5 for *strongly agree*, 4 for *agree*, 3 for *neutral*, 2 for *disagree*, and 1 for *strongly disagree* are used to evaluate the opinion of the respondents. The scores are totaled and averaged using mean % scores to understand the prime reasons for the accessibility of mobile banking Services. Table-4.9 gives a brief idea about

the accessibility of mobile banking Services. Hence, descriptive analysis has been applied to the responses obtained from customers regarding their level of satisfaction on the chosen 14 items in this variable of the mobile banking services that are influencing them to avail mobile banking services and/or products. The results arrived there are shown in Table 4.9 given above. Out of 14 items in this variable, the highest mean % score *(Retail banking service practices involve consistency of performance and dependability)* (Mean = 4.16; Std. Error = 0.048; Std. Deviation = 0.763) indicates that the prime reason for the accessibility of mobile banking services. This may be due to the reason that the customers feel any discomfort in the traditional way of banking. The second main reason, *Retail-banking services provided by the banks allow easy access to transaction data both recent and historical*, (Mean = 4.15; Std. Error = 0.049; Std. Deviation = 0.770) indicates that there are easy access and awareness among the users regarding various mobile banking facilities, options, and benefits of retail banking services. These two aspects can be improved the banks take the initiative to impart knowledge regarding the benefits of mobile banking.

The third positions show the concerns of *Employees of Retail-banking service providers who possess the required skills and knowledge to perform the service* (Mean = 4.09; Std. Error = 0.054; Std. Deviation = 0.852).To improve the confidence in the security aspects, the bank should educate the customers through visual media by providing information on additional precautions to prevent e-frauds. Moreover, banks can also set up a permanent mechanism to give clarifications on the queries and also to educate the customers are regarding the *dos* and *don'ts* in mobile banking. ***The overall mean of the construct is 3.98, which is near to the 'agree' value of the scale and depicts a strong conviction of the respondents about the accessibility construct.***

For further analysis, there are 11 probable reasons for customers' accessibility to mobile banking services. Cronbach's alpha, which is the most common measure of internal consistency (reliability) in a survey/questionnaire that forms a scale, is

used to check whether the scale is reliable. In this study, the reliability of measurement items was evaluated by examines the consistency of the respondent's answers to all the question items in the measure, as recommended (Hair *et al.*, 2013). Cronbach's alpha reliability coefficients were used to measure the internal consistency of each measure. Reliability coefficients less than 0.6 were considered poor, 0.7 were acceptable, and those greater than 0.8 were considered good, as suggested (Hair *et al.*, 2013). The Cronbach's Alpha (α) value is more than 0.80, and hence, the data used for the study is considered as consistent and reliable.

Table - 4.10. Descriptive statistics of Convenience Construct

	CONVENIENCE	Statistic (N)	Mean	Std. Error	Std. Deviation
1.	Customers can access Retail-banking services at anytime and anywhere	500	4.02	0.059	0.927
2.	There is no queue while using e-banking services.	500	3.84	0.065	1.028
3.	Retail -banking services save time as compared to conventional banking	500	4.14	0.055	0.865
4.	Retail -banks transaction is easy to use.	500	4.03	0.064	1.009
5.	Retail -banking services are user-friendly.	500	4.04	0.057	0.906
6.	Retail -banking services facilities ensure access of account when abroad	500	3.85	0.061	0.960
7.	Retail -banks spend a great deal of time and money for developing e-	500	3.86	0.062	0.980

	banking functionality to allow customers an easy and convenient way to manage their money				
8.	**Overall Construct Mean**		**3.97**		**0.953**

Convenience is defined as the customer's time and effort perceptions related to buying or using a service. Convenience can be thought of as a means of adding value to customers by decreasing the amount of time and effort a customer must expend on the service. The convenience construct has been generally treated as a concept of anything that can be done with ease and minimal effort.

At this juncture, it is necessary to collect the responses from the customers and to determine their convenience of mobile banking services. Likert's 5-point scale with scores of 5 for *strongly agree*, 4 for *agree*, 3 for *neutral*, 2 for *disagree*, and 1 for *strongly disagree* are used to evaluate the opinion of the respondents. The scores are totaled and averaged using mean % scores to understand the prime reasons for the accessibility of mobile banking Services. Table-4.10 gives a brief idea about the convenience of mobile banking Services. Hence, descriptive analysis (Mean & Standard deviation) has been applied on the responses obtained from customers regarding their level of satisfaction on the chosen 7 items in this variable of the mobile banking services that are influencing them to avail mobile banking services and/or products. The results arrived there are shown in Table 4.10 given above. Out of 7 items in this variable, the highest mean % score *(Retail -banking services save time as compared to conventional banking)* (Mean = 4.14; Std. Error = 0.055; Std. Deviation = 0.865) indicates that the prime reason for the convenience of mobile banking services. This may be due to the reason that the customers feel more comfortable in mobile banking. The second main reason, *Retail -banking services are user friendly*, (Mean = 4.04; Std. Error = 0.057; Std. Deviation = 0.906) indicates that there is more convenience among the users regarding various mobile banking facilities, options, and benefits of retail banking

services. ***The overall mean of the construct is 3.97, which is near to the 'agree' value of the scale and depicts a strong conviction of the respondents about the convenience construct.***

For further analysis, there are 5 probable reasons for customers' convenience of mobile banking services. Cronbach's alpha, which is the most common measure of internal consistency (reliability) in a survey/questionnaire that forms a scale, is used to check whether the scale is reliable. In this study, the reliability of measurement items was evaluated by examines the consistency of the respondent's answers to all the question items in the measure, as recommended (Hair *et al.*, 2013). Cronbach's alpha reliability coefficients were used to measure the internal consistency of each measure. Reliability coefficients less than 0.6 were considered poor, 0.7 were acceptable, and those greater than 0.8 were considered good, as suggested (Hair *et al.*, 2013). The Cronbach's Alpha (α) value is more than 0.80 (α=0.914) and hence, the data used for the study is considered consistent and reliable.

Table - 4.11. Descriptive Statistics of Privacy Construct

	PRIVACY	Statistic (N)	Mean	Std. Error	Std. Deviation
1.	Confidential information is delivered safely from Retail banks to customers.	500	3.98	0.061	0.969
2.	Customers' financial information may not be passed on to other organizations without the consent of the customers.	500	4.03	0.053	0.845
3.	Third parties are not able to assess customers' financial details	500	4.12	0.059	0.932

4.	Retail -banks keep customers information private and confidential	500	4.04	0.054	0.854
5.	Retail -banks ensure the protection of personal information, risk of fraud, and financial loss.	500	3.82	0.069	1.087
6.	Privacy is not a significant obstacle to the adoption of Retail banking in India.	500	3.99	0.065	1.022
7.	Customers trust that their banks are more concerned about privacy issues and will protect them	500	4.00	0.056	0.892
8.	**Overall Construct Mean**		**4.00**		0.943

Privacy and security are associated with financial risks. Both factors are major concerns of trust and are considered obstacles to the adoption of mobile banking. In the banking context, privacy refers to the ability of the bank to authenticate and protect consumers' personal information from unauthorized access which is free from invasion, interception, and theft. At this point, it is necessary to collect the responses from the customers and to determine their privacy of mobile banking services. Likert's 5-point scale with scores of 5 for *strongly agree*, 4 for *agree*, 3 for *neutral*, 2 for *disagree*, and 1 for *strongly disagree* are used to evaluate the opinion of the respondents. The scores are totaled and averaged using mean % scores to understand the prime reasons for the accessibility of mobile banking Services. Table-4.11 gives a brief idea about the convenience of mobile banking Services. Hence, descriptive analysis (Mean & Standard deviation) has been applied on the responses obtained from customers regarding their level of satisfaction on the chosen 7 items in this variable of the mobile banking services

that are influencing them to avail mobile banking services and/or products. The results arrived there are shown in the Table-4.11 given above. Out of 7 items in this variable, the highest mean % score *(Third parties are not able to assess customers' financial details)* (Mean = 4.12; Std. Error = 0.059; Std. Deviation = 0.932) indicates that the prime reason for the convenience of mobile banking services. This may be due to the reason that the customers feel more privacy in the mobile banking using. The second main reason, *Retail -banks keep customers information private and confidential,* (Mean = 4.04; Std. Error = 0.054; Std. Deviation = 0.854) indicates that there is more privacy among the users regarding various mobile banking facilities, options, and benefits of retail banking services. ***The overall mean of the construct is 4.00, which is equal to the 'agree' value of the scale and depicts a strong conviction of the respondents about the privacy construct.***

For further analysis, there are 5 probable reasons for customers' convenience of mobile banking services. Cronbach's alpha, which is the most common measure of internal consistency (reliability) in a survey/questionnaire that forms a scale, is used to check whether the scale is reliable. In this study, the reliability of measurement items was evaluated by examines the consistency of the respondent's answers to all the question items in the measure, as recommended (Hair *et al.*, 2013). Cronbach's alpha reliability coefficients were used to measure the internal consistency of each measure. Reliability coefficients less than 0.6 were considered poor, 0.7 were acceptable, and those greater than 0.8 were considered good, as suggested (Hair *et al.*, 2013). The Cronbach's Alpha (α) value is more than 0.80 (α=0.882) and hence, the data used for the study is considered consistent and reliable.

Table - 4.12. Descriptive Statistics of Security Construct

	SECURITY	Statistic (N)	Mean	Std. Error	Std. Deviation
1.	Customers are satisfied with the security system of the Retail banking service providers.	500	4.10	0.050	0.791
2.	Retail -banking service providers consider security as the most important issue of e-banking practices.	500	4.12	0.042	0.670
3.	Retail -banking service users have freedom from danger, risk, and doubt about security.	500	3.91	0.054	0.850
4.	Retail -banking service users believe that the banking infrastructure is reliable in correcting erroneous transactions.	500	4.04	0.050	0.793
5.	Retail -banks will compensate for any losses due to security reasons or infringements.	500	3.88	0.065	1.030
6.	Retail -banking service users perceive that their bank information is secure and that nobody can access their accounts.	500	4.00	0.055	0.867
7.	The security factor is a prime factor for the adoption of Retail-banking services.	500	4.16	0.048	0.759
8.	**Overall Mean**		**4.03**		0.822

Often, websites gather a diverse set of users'/customers' information. For the same reason, security is considered an important concern. Despite technological advancements in internet security such as authentication, biometrics, call back modems, encryption, digital certificates, firewalls, filtering routers, password protection, PC hardware security, and smart cards would increase customer confidence in using online banking services. There are various studies on security as one of the most important indicators of mobile banking and all have emphasized that the security of mobile banking impacts positively on customer satisfaction.

For this reason, it is necessary to collect the responses from the customers and to determine their security of mobile banking services. Likert's 5-point scale with scores of 5 for *strongly agree*, 4 for *agree*, 3 for *neutral*, 2 for *disagree*, and 1 for *strongly disagree* are used to evaluate the opinion of the respondents. The scores are totaled and averaged using mean % scores to understand the prime reasons for the accessibility of mobile banking Services. Table-4.12 gives a brief idea about the convenience of mobile banking Services. Hence, descriptive analysis (Mean & Standard deviation) has been applied on the responses obtained from customers regarding their level of satisfaction on the chosen 7 items in this variable of the mobile banking services that are influencing them to avail mobile banking services and/or products. The results arrived there are shown in Table-12 given above. Out of 7 items in this variable, the highest mean % score *(Retail -banking service providers consider security as the most important issue of mobile banking practices)* (Mean = 4.1160; Std. Error = 0.04235; Std. Deviation = 0.66958) indicates that the prime reason for the convenience of mobile banking services. This may be due to the reason that the customers feel more privacy in the mobile banking using. The second main reason, *Customers are satisfied with the security system of the Retail banking service providers.*, (Mean = 4.04; Std. Error = 0.054; Std. Deviation = 0.854) indicates that there is more privacy among the users regarding various mobile banking facilities, options, and benefits of retail banking

services.

For further analysis, there are 5 probable reasons for customers' convenience of mobile banking services. Cronbach's alpha, which is the most common measure of internal consistency (reliability) in a survey/questionnaire that forms a scale, is used to check whether the scale is reliable. In this study, the reliability of measurement items was evaluated by examines the consistency of the respondent's answers to all the question items in the measure, as recommended (Hair *et al.*, 2013). Cronbach's alpha reliability coefficients were used to measure the internal consistency of each measure. Reliability coefficients less than 0.6 were considered poor, 0.7 were acceptable, and those greater than 0.8 were considered good, as suggested (Hair *et al.*, 2013). The Cronbach's Alpha (α) value is more than 0.80, (α=0.831) and hence, the data used for the study is considered consistent and reliable.

Table - 4.13. Descriptive Statistics of Design Construct

	DESIGN	Statistic (N)	Mean	Std. Error	Std. Deviation
1.	Retail -banking service medium has attractive screen layout and design.	500	3.64	0.074	1.175
2.	Retail -banking service medium has flashy graphics and color configuration.	500	3.52	0.060	0.945
3.	The design with appropriate use of graphical user interface is also considered as an important determinant for using retail-banking services.	500	3.66	0.058	0.919
4.	The design is keeping customers informed in a language they can understand and listening to them.	500	3.54	0.076	1.196

5.	It involves the correct technical functioning and the accuracy of service promises (delivering when promised) and product information	500	3.78	0.060	0.956
6.	Ergonomic visual structure and design are particularly important for using Retail -banking services.	500	3.42	0.075	1.184
7.	**Overall Construct Mean**		**3.59**		**1.062**

In terms of human – Mobile App interactions, the type of App designing is highly important and impacts intensively on users' performance (palmer, 2002). In the meantime, Ranganathan & Ganapathy (2002) believe that App designing plays a vital role in attracting, retaining, and improving customers' interests in websites. More studies on internet service have especially focus on app designing and all authors agree that app should be designed in a manner to enhance customers' conception of the website and its services.

For this reason, it is necessary to collect the responses from the customers and to determine their security of mobile banking services. Likert's 5-point scale with scores of 5 for *strongly agree*, 4 for *agree,* 3 for *neutral*, 2 for *disagree,* and 1 for *strongly disagree* are used to evaluate the opinion of the respondents. The scores are totaled and averaged using mean % scores to understand the prime reasons for the accessibility of mobile banking Services. Table-4.13 gives a brief idea about the convenience of mobile banking Services. Hence, descriptive analysis (Mean & Standard deviation) has been applied on the responses obtained from customers regarding their level of satisfaction on the chosen 7 items in this variable of the mobile banking services that are influencing them to avail mobile banking services and/or products. The results arrived there are shown in the Table-4.13 given above. Out of 7 items in this variable, the highest mean % score *(It involves the correct technical functioning, and the accuracy of service promises*

(delivering when promised) and product information) (Mean = 3.78; Std. Error = 0.060; Std. Deviation = 0.956) indicates that the prime reason for the app design of mobile banking services. This may be due to the reason that the customers feel more comfortable in mobile banking using. The second main reason, *the design with appropriate use of graphical user interface is also considered as an important determinant for using retail-banking services*, (Mean = 3.66; Std. Error = 0.058; Std. Deviation = 0.919) indicates that there is more comfortable among the users regarding various mobile banking facilities, options, and benefits of retail banking services. ***The overall mean of the construct is 4.03, which is very close to the 'agree' value of the scale and depicts a strong conviction of the respondents about the design construct.***

For further analysis, there are 5 probable reasons for customers' convenience of mobile banking services. Cronbach's alpha, which is the most common measure of internal consistency (reliability) in a survey/questionnaire that forms a scale, is used to check whether the scale is reliable. In this study, the reliability of measurement items was evaluated by examines the consistency of the respondent's answers to all the question items in the measure, as recommended (Hair *et al.*, 2013). Cronbach's alpha reliability coefficients were used to measure the internal consistency of each measure. Reliability coefficients less than 0.6 were considered poor, 0.7 were acceptable, and those greater than 0.8 were considered good, as suggested (Hair *et al.*, 2013). The Cronbach's Alpha (α) value is more than 0.60, (α=0.608) and hence, the data used for the study is considered consistent and reliable.

Table - 4.14 Descriptive Statistics of Content Construct

	CONTENT	Statistic (N)	Mean	Std. Error	Std. Deviation
1.	Retail -banks provide clear, simple, and understandable guidance screen ease the customers to perform	500	3.76	0.058	0.923
2.	Retail -banks provide the suitability of the information for the user's purposes.	500	3.60	0.065	1.027
3.	Information credibility affects the acceptance of e-banking	500	3.63	0.065	1.026
4.	Up-to-date contents of information greatly positively influence the adoption of Retail -banking.	500	3.72	0.063	1.003
5.	Retail -banking services have been upgraded compared to when they first started using the services.	500	4.04	0.050	0.788
6.	Appealing aesthetic content would have a positive impact on drawing potential customers' attention.	500	3.92	0.054	0.861
7.	Retail -banks provide graphics and text on the e-banking medium to perform e-banking transactions easily.	500	3.80	0.065	1.023
8.	**Overall Mean of the Construct**		**3.78**		0.950

In mobile banking, app content is one of the most important factors impacts m-banking. It points out the desirability of app information in customers' viewpoints. Hence, many studies consider information content as a benchmark of app quality. App content should provide profitable information on the type of provided services for facilitating users' better conception. Furthermore, users need to have supplementary information on banks, recommendations by experts, financial reports, relevant links, and contact information such as address and telephone number(s).

For this reason, it is necessary to collect the responses from the customers and to determine their security of mobile banking services. Likert's 5-point scale with scores of 5 for *strongly agree*, 4 for *agree*, 3 for *neutral*, 2 for *disagree*, and 1 for *strongly disagree* are used to evaluate the opinion of the respondents. The scores are totaled and averaged using mean % scores to understand the prime reasons for the accessibility of mobile banking Services. Table-4.14 gives a brief idea about the convenience of mobile banking Services. Hence, descriptive analysis (Mean & Standard deviation) has been applied on the responses obtained from customers regarding their level of satisfaction on the chosen 7 items in this variable of the mobile banking services that are influencing them to avail mobile banking services and/or products. The results arrived there are shown in the Table-14 given above. Out of 7 items in this variable, the highest mean % score *(Appealing aesthetic content would have a positive impact on drawing potential customers' attention)* (Mean = 3.92; Std. Error = 0.054; Std. Deviation = 0.861) indicates that the prime reason for the app content of mobile banking services. This may be due to the reason that the customers feel more comfortable in mobile banking using. The second main reason, *Retail -banks provide graphics and text on the e-banking medium to perform e-banking transactions easily*, (Mean = 3.80; Std. Error = 0.065; Std. Deviation = 0.919) indicates that there is more comfortable among the users regarding various mobile banking facilities, options, and benefits of retail banking services. ***The overall mean of the construct is 3.78, which moving***

towards the 'agree' value of the scale and depicts a somewhat strong conviction of the respondents about the content construct.

For further analysis, there are 5 probable reasons for customers' convenience of mobile banking services. Cronbach's alpha, which is the most common measure of internal consistency (reliability) in a survey/questionnaire that forms a scale, is used to check whether the scale is reliable. In this study, the reliability of measurement items was evaluated by examines the consistency of the respondent's answers to all the question items in the measure, as recommended (Hair *et al.*, 2013). Cronbach's alpha reliability coefficients were used to measure the internal consistency of each measure. Reliability coefficients less than 0.6 were considered poor, 0.7 were acceptable, and those greater than 0.8 were considered good, as suggested (Hair *et al.,* 2013). The Cronbach's Alpha (α) value is more than 0.60, (α=0.617) and hence, the data used for the study is considered consistent and reliable.

Table - 4.15. Descriptive Statistics of Speed Construct

SPEED		**Statistic (N)**	**Mean**	**Std. Error**	**Std. Deviation**
1.	Speed of e-transactions flow is critical to user satisfaction of using Retail - banking services	500	3.85	0.066	1.042
2.	Retail -banking service medium is not a frequent connection breakdown.	500	3.88	0.058	0.915
3.	Easy to navigate the medium due to smooth speed.	500	3.86	0.061	0.960
4.	Transition is efficient/no waiting time.	500	3.66	0.064	1.014
5.	Response speed to the complaint is satisfactory.	500	3.69	0.063	0.993

6.	Speed of e Retail -transactions flow is faster than traditional banking channels.	500	3.78	0.065	1.031
7.	The customers are highly satisfied with the promptness of the delivery of Retail -banking services	500	3.73	0.069	1.096
8.	**Overall Mean of the Construct**		**3.78**		1.007

The speed of operations and rapid responsiveness have always attracted attention and it is the main concern of information systems and e-commerce. Likewise, there is a significant relationship between the speed of downloading and users' satisfaction. Download speed depends on the content of materials, computing hardware, and connection method. A speed that refers to the duration of response is highly considered in information systems and e-commerce due to an increase in focusing on the efficiency of operational resources.

For this reason, it is necessary to collect the responses from the customers and to determine their security of mobile banking services. Likert's 5-point scale with scores of 5 for *strongly agree*, 4 for *agree*, 3 for *neutral*, 2 for *disagree*, and 1 for *strongly disagree* are used to evaluate the opinion of the respondents. The scores are totaled and averaged using mean % scores to understand the prime reasons for the accessibility of mobile banking Services. Table-4.15 gives a brief idea about the convenience of mobile banking Services. Hence, descriptive analysis (Mean & Standard deviation) has been applied on the responses obtained from customers regarding their level of satisfaction on the chosen 7 items in this variable of the mobile banking services that are influencing them to avail mobile banking services and/or products. The results arrived there are shown in the Table-4.15 given above. Out of 7 items in this variable, the highest mean % score *(Retail - banking service medium is not frequent connection breakdown)* (Mean = 3.88;

Std. Error = 0.058; Std. Deviation = 0.915) indicates that the prime reason for the app speed of mobile banking services. This may be due to the reason that the customers feel more comfortable in mobile banking using. The second main reason, *Easy to navigate the medium due to smooth speed,* (Mean = 3.86; Std. Error = 0.067; Std. Deviation = 0.960) indicates that there is more comfortable among the users regarding various mobile banking facilities, options, and benefits of retail banking services. ***The overall mean of the construct is 3.78, which moving towards the 'agree' value of the scale and depicts a somewhat strong conviction of the respondents about the speed construct.***

For further analysis, there are 5 probable reasons for customers' convenience of mobile banking services. Cronbach's alpha, which is the most common measure of internal consistency (reliability) in a survey/questionnaire that forms a scale, is used to check whether the scale is reliable. In this study, the reliability of measurement items was evaluated by examines the consistency of the respondent's answers to all the question items in the measure, as recommended (Hair *et al.*, 2013). Cronbach's alpha reliability coefficients were used to measure the internal consistency of each measure. Reliability coefficients less than 0.6 were considered poor, 0.7 were acceptable, and those greater than 0.8 were considered good, as suggested (Hair *et al.*, 2013). The Cronbach's Alpha (α) value is more than 0.70, (α=0.717) and hence, the data used for the study is considered consistent and reliable.

Table - 4.16. Descriptive Statistics of Fees & Charges Construct

	FEES AND CHARGES	Statistic (N)	Mean	Std. Error	Std. Deviation
1.	One of the main attributes that determine customers' decision on using Retail- the banking system is charges	500	3.63	0.062	0.978
2.	Retail-banks provides customers convenience and flexibility and can be provided at a lower cost than traditional branch banking	500	3.66	0.061	0.961
3.	The price of service fees is acceptable.	500	3.54	0.070	1.105
4.	Retail-banks charge with the negligible annual fee	500	3.80	0.066	1.049
5.	Customers won't terminate services even if the bank charges a high annual fee.	500	3.68	0.067	1.057
6.	If customers are to use new technologies, the technologies are reasonably priced relative to alternatives.	500	3.63	0.062	0.976
7.	Efficient and speedy e-banking transaction with lower transaction cost.	500	3.72	0.056	0.884
8.	Compared to other banks, your bank offers attractive service costs.	500	3.50	0.065	1.035

9.	Compared to other banks, your bank charges fairly for similar services.	500	3.44	0.067	1.056
10	**Overall Mean of the Construct**		**3.62**		1.011

Affordability of internet connection is a significant factor in influencing internet usage. Perceived costs refer to the people who believe that using online banking will cost money. One-time investment for a mobile device is a necessity in the present world. The cost and pricing of internet service are broken down into setup costs and operating expenses which is much higher in developing countries than in developed countries. There are also specific regulations or government mandates which influence access and cost of the internet. The costs vary depending on the number of Internet Service Providers in the country. Another major consideration is the monthly internet access expenditure which has a bigger slice of a person's monthly expenses. Based on the study of Martin (2003) on digitally divided society, lower socioeconomic groups would be less likely to use the internet and pay a monthly internet service subscription fee.

For this reason, it is necessary to collect the responses from the customers and to determine their security of mobile banking services. Likert's 5-point scale with a score of 5 for *strongly agree*, 4 for *agree*, 3 for *neutral*, 2 for *disagree*, and 1 for *strongly disagree* are used to evaluate the opinion of the respondents. The scores are totaled and averaged using mean % scores to understand the prime reasons for the accessibility of mobile banking Services. Table-4.16 gives a brief idea about the convenience of mobile banking Services. Hence, descriptive analysis (Mean & Standard deviation) has been applied on the responses obtained from customers regarding their level of satisfaction on the chosen 9 items in this variable of the mobile banking services that are influencing them to avail mobile banking

services and/or products. The results arrived there are shown in the Table-4.16 given above. Out of 9 items in this variable, the highest mean % score *(Retail-banks charge with the negligible annual fee)* (Mean = 3.80; Std. Error = 0.066; Std. Deviation = 1.049) indicates that the prime reason for the app speed of mobile banking services. This may be due to the reason that the customers feel more comfortable in mobile banking using. The second main reason, *Efficient and speedy e-banking transaction with lower transaction cost,* (Mean = 3.72; Std. Error = 0.056; Std. Deviation = 0.885) indicates that there is more comfortable among the users regarding various mobile banking facilities, options, and benefits of retail banking services. ***The overall mean of the construct is 3.62, which is almost between the neutral and agree values of the scale and depicts a moderately positive conviction of the respondents about the fee and charges construct.***

For further analysis, there are 5 probable reasons for customers' convenience of mobile banking services. Cronbach's alpha, which is the most common measure of internal consistency (reliability) in a survey/questionnaire that forms a scale, is used to check whether the scale is reliable. In this study, the reliability of measurement items was evaluated by examines the consistency of the respondent's answers to all the question items in the measure, as recommended (Hair *et al.*, 2013). Cronbach's alpha reliability coefficients were used to measure the internal consistency of each measure. Reliability coefficients less than 0.6 were considered poor, 0.7 were acceptable, and those greater than 0.8 were considered good, as suggested (Hair *et al.*, 2013). The Cronbach's Alpha (α) value is more than 0.70, (α=0.797) and hence, the data used for the study is considered consistent and reliable.

Table - 4.17. Descriptive Statistics of Customer Satisfaction Construct

	CUSTOMER SATISFACTION	Statistic (N)	Mean	Std. Error	Std. Deviation
1.	Overall, I am satisfied with the retail banking services offered by the banks	500	3.99	0.057	0.894
2.	The retail banking services offered by the bank exceed my expectations	500	3.57	0.062	0.984
3.	The retail banking services offered by the bank are close to my ideal SSTs	500	3.07	0.077	1.210
4.	**Overall Mean of Construct**		**3.54**		1.029

Customer's satisfaction is a mood or reaction by consumer/customer to buy and consume a product. In marketing terms, customer's satisfaction is woven with the experience of buying the goods or services. When the outcomes are evaluated by customers, they are in turn comparing the results of their own experiences with expected results (Chiu et al., 2017). In other words, customer satisfaction is a degree of a positive feeling of the customer to the service provider. According to Oliver, customer's satisfaction is a response to consumer's prosperity and answering this radical question that whether the product/service has provided an enjoyable level of consumption-related prosperity or not (Kaura, 2013).

For this reason, it is necessary to collect the responses from the customers and to determine their customer satisfaction with mobile banking services. Likert's 5-point scale with a score of 5 for *strongly agree*, 4 for *agree*, 3 for *neutral*, 2 for *disagree*, and 1 for *strongly disagree* are used to evaluate the opinion of the respondents. The scores are totaled and averaged using mean % scores to understand the prime reasons for the accessibility of mobile banking Services.

Table-4.17 gives a brief idea about the customer satisfaction of mobile banking in retail banking. Hence, descriptive analysis (Mean & Standard deviation) has been applied to the responses obtained from customers regarding their level of satisfaction on the chosen 3 items in this variable of the mobile banking services that are influencing them to avail mobile banking services and/or products. The results arrived there are shown in the Table-4.17 given above. Out of 3 items in this variable, the highest mean % score *(Retail-banks charge with the negligible annual fee Overall, I am satisfied with the retail banking services offered by the banks)* (Mean = 3.99; Std. Error = 0.057; Std. Deviation = 0.893) indicates that the prime reason for the customer satisfaction of mobile banking services. This may be due to the reason that the customers feel more comfortable in mobile banking using. The second main reason, *the retail banking services offered by the bank exceed my expectations,* (Mean = 3.57; Std. Error = 0.062; Std. Deviation = 0.984) indicates that there is more comfortable among the users regarding various mobile banking facilities, options, and benefits of retail banking services.

The overall mean of the construct is 3.54, which is between the neutral and agree values of the scale and depicts a moderately positive conviction of the respondents about the satisfaction construct.

For further analysis, there are one probable reasons for customer satisfaction with mobile banking services. Cronbach's alpha, which is the most common measure of internal consistency (reliability) in a survey/questionnaire that forms a scale, is used to check whether the scale is reliable. In this study, the reliability of measurement items was evaluated by examines the consistency of the respondent's answers to all the question items in the measure, as recommended (Hair *et al.,* 2013). Cronbach's alpha reliability coefficients were used to measure the internal consistency of each measure. Reliability coefficients less than 0.6 were considered poor, 0.7 were acceptable, and those greater than 0.8 were considered good, as suggested (Hair *et al.,* 2013). The Cronbach's Alpha (α) value is more than 0.60, (α=0.639) and hence, the data used for the study is considered consistent and reliable.

Table - 4.18. Descriptive Statistics of risks associated with mobile technology Construct

	RISKS/CHALLENGES ASSOCIATED WITH MOBILE TECHNOLOGY	**Statistic (N)**	**Mean**	**Std. Error**	**Std. Deviation**
1.	Lack of adequate mobile technology experience	500	3.63	0.062	0.978
2.	Worrying about security on online transactions	500	3.66	0.061	0.961
3.	Worrying about the integrity of the third-party gateway (PayU etc.)	500	3.54	0.070	1.105
4.	Not familiar with mobile transaction process	500	3.80	0.066	1.049
5.	Unattractiveness of the apps /mobile web pages	500	3.68	0.067	1.057
6.	Wrong information on the apps/mobile web pages	500	3.63	0.062	0.976
7.	Fear of biased information of the banking service providers	500	3.72	0.056	0.884
8.	The trustworthiness of the information source	500	3.50	0.065	1.035
9.	Misleading Information	500	3.44	0.067	1.056
10.	**Overall Mean value of Construct**		**3.62**		**1.011**

Generally, risk can be defined as the intentional interaction with uncertainty. Risk perception is the subjective judgment people make about the severity of a risk. Conducting electronic transactions is a risk that faces consumers, as it does not have any kind of physical contact, which subsequently; affects the adoption of

internet technology, (Cheng & Tsai 2011; Cheng & Chen 2011). In this study, Risk is associated with possible losses from the m-banking transactions because it concerns a virtual environment with no interaction –with employees-, not a traditional environment, (Ruiz-Mafe & Sambals, 2008). Broekhuiz and Huizingh (2009) considered the risk to be one of the determinants of the online purchase and they found that it affects the inquirers' purchase to a great extent. Moreover, enough literature about electronic banking adoption in many countries employed risk as one of the key factors influencing adoption, (Kesharwani & Bisht 2011; Juwaheer et al., 2012; Nasri, 2011). Moreover, an adequate amount of literature considered the risk as a basic influence in adopting m-banking in different nations (Kazi Mannan, 2013; Ghalandari et al., 2013).

For this reason, it is necessary to collect the responses from the customers and to determine their risk of mobile banking services usage. Likert's 5-point scale with scores of 5 for *strongly agree*, 4 for *agree*, 3 for *neutral*, 2 for *disagree*, and 1 for *strongly disagree* are used to evaluate the opinion of the respondents. The scores are totaled and averaged using mean % scores to understand the prime reasons for the risk for mobile banking Services. Table-4.18 gives a brief idea about the possible risk factors of mobile banking. Hence, descriptive analysis (Mean & Standard deviation) has been applied on the responses obtained from customers regarding their level of risk on the chosen 9 items in this variable of the mobile banking services that are influencing them to avail mobile banking services and/or products. The results arrived there are shown in the Table-4.18 given above. Out of 9 items in this variable, the highest mean % score *(Not familiar with mobile transaction process)* (Mean = 3.80; Std. Error = 0.066; Std. Deviation = 1.049) indicates that the prime reason for the customer satisfaction of mobile banking services. This may be due to the reason that the customers feel more risk in the mobile banking using. The second main reason, *Fear of biased information of the banking service providers,* (Mean = 3.72; Std. Error = 0.056; Std. Deviation = 0.884) indicates that there is more risk using mobile banking regarding various

mobile banking facilities, options, and benefits of retail banking services.

Table - 4.19. Descriptive Statistics of Preference of using mobile technology Construct

	PREFERENCE OF USING MOBILE TECHNOLOGIES	Statistic (N)	Mean	Std. Error	Std. Deviation
1.	SMS	500	3.79	0.069	1.095
2.	Mobile banking	500	3.80	0.064	1.007
3.	Banking apps	500	3.92	0.062	0.983
4.	Voice calls	500	3.66	0.068	1.071
5.	Download games	500	3.46	0.071	1.116
6.	Play games	500	3.52	0.063	0.999
7.	Text messaging (SMS, MMS)	500	3.64	0.070	1.108
8.	Picture messaging (picture exchange)	500	3.40	0.068	1.072
9.	Voicemail	500	3.52	0.067	1.061
10.	Download ringtones and icons	500	3.52	0.065	1.023
11.	Voice activated dialing	500	3.58	0.066	1.051
12.	Wireless internet access	500	3.73	0.072	1.140
13.	**Overall Mean of the Construct**		**3.63**		**1.060**

The above Table 4.19 shows the preferences of using mobile banking services in retail banking. It is necessary to know the responses from the customers and to determine their preferences for using mobile banking services. Likert's 5-point scale with scores of 5 for *strongly agree*, 4 for *agree*, 3 for *neutral*, 2 for *disagree,* and 1 for *strongly disagree* are used to evaluate the preferences of the respondents. The scores are totaled and averaged using mean % scores to understand the prime reasons for the preferences of mobile banking Services. Table-4.19 gives a brief idea about the preferences of using mobile banking services. There are 12 items relating to the preferences of using mobile banking

services that were asked to the respondents and descriptive analysis (Mean & Standard deviation) has been applied to the responses obtained from customers regarding their preferences. The results arrived there are shown in the Table-4.19 given above. Out of 12 items in this variable, the highest mean % score (Banking Apps) (Mean = 3.92; Std. Error = 0.062; Std. Deviation = 0.982) indicates that most of the respondents were prefers mobile apps for their banking transactions. This may be due to the reason that the customers feel more useful in mobile banking. The second main preference is *Mobile banking,* (Mean = 3.79; Std. Error = 0.069; Std. Deviation = 1.095) indicates that more respondents are using mobile banking.

Table - 4.20. Descriptive Statistics of preference to use cashless transaction Construct

	PREFERENCE TO USE CASHLESS TRANSACTION OVER CASH	**Statistic (N)**	**Mean**	**Std. Error**	**Std. Deviation**
1.	Convenience	500	4.09	0.062	0.979
2.	Accuracy	500	3.84	0.059	0.932
3.	Easy to access	500	3.99	0.057	0.905
4.	Confidence in using the technology	500	3.83	0.058	0.922
5.	Personalized to my needs	500	3.83	0.059	0.938
6.	Visual appearance	500	3.81	0.059	0.929
7.	**Overall Mean of the Construct**		**3.90**		**0.934**

The above Table-4.20 shows the preferences to use cashless transactions over cash in retail banking. It is necessary to know the responses from the customers and to determine their preferences to use cashless transactions. Likert's 5-point scale with scores of 5 for *strongly agree*, 4 for *agree*, 3 for *neutral*, 2 for *disagree,* and 1 for *strongly disagree* are used to evaluate the preferences of the respondents. The scores are totaled and averaged using mean % scores to

understand the prime reasons to use cashless transactions of mobile banking Services. Table-4.20 gives a brief idea about use cashless transactions using mobile banking services. There are 6 (Convenience; Accuracy; Easy to access; Confidence in using the technology; Personalized to my needs; and Visual appearance) items relating to using cashless transactions of using mobile banking services were asked to the respondents and descriptive analysis (Mean & Standard deviation) has been applied on the responses obtained from customers regarding their preferences. The results arrived there are shown in the Table-4.20 given above. Out of 6 items in this variable, the highest mean % score (Convenience) (Mean = 4.09; Std. Error = 0.062; Std. Deviation = 0.979) indicates that most of the respondents were prefers mobile apps for their banking as it was more convenient to use cashless transactions. This may be due to the reason that the customers feel more convenient to use mobile banking. The second main preference is *Easy access,* (Mean = 3.99; Std. Error = 0.057; Std. Deviation = 0.905) indicates that more respondents are using mobile banking for their cashless transactions.

Table - 4.21. Descriptive statistics of ease of use through mobile Construct

	EASE OF USE THROUGH MOBILE	**Statistic (N)**	**Mean**	**Std. Error**	**Std. Deviation**
1.	Mobile phone bill	500	3.89	0.062	0.988
2.	Utilities (Electricity bill, water bill, etc.)	500	3.76	0.062	0.974
3.	School fees	500	3.73	0.058	0.921
4.	Groceries	500	3.70	0.058	0.910
5.	Office stationaries	500	3.63	0.064	1.007
6.	Other household items	500	3.62	0.063	0.999
7.	Clothing	500	3.72	0.064	1.014
8.	Cinema	500	3.61	0.069	1.085

9.	Insurance	500	3.48	0.070	1.109
10.	Donations	500	3.69	0.068	1.078
11.	**Overall mean of the Construct**		**3.68**		**1.008**

The above Table-4.21 shows the preferences of ease of use through mobile banking. Mobile banking is considered to be easy and compatible with the situation. User friendly is the factor that determines the easiness of the mobile banking system. This factor includes statements that explain the friendliness of mobile apps and structure. It is necessary to know the responses from the customers and to determine their **ease of use** through mobile banking services. Likert's 5-point scale with scores of 5 for *strongly agree*, 4 for *agree*, 3 for *neutral*, 2 for *disagree*, and 1 for *strongly disagree* are used to evaluate the preferences of the respondents. The scores are totaled and averaged using mean % scores to understand the prime reasons for the ease of use through mobile banking Services. Table-4.21 gives a brief idea about ease of use through mobile banking services. There are 10 items relating to mobile banking ease of use services that were asked to the respondents and descriptive analysis (Mean & Standard deviation) has been applied to the responses obtained from customers regarding their preferences. The results arrived there are shown in the Table-4.21 given above. Out of 10 items in this variable, the highest mean % score *(*Mobile phone bill*)* (Mean = 3.89; Std. Error = 0.062; Std. Deviation = 0.988) indicates that most of the respondents were prefers mobile phone bill for their banking as it was more convenient to use cashless transactions. This may be due to the reason that the customers feel more convenient to use mobile banking. The second main preference is Utilities (Electricity bill, water bill, etc.), (Mean = 3.76; Std. Error = 0.062; Std. Deviation = 0.974) indicates that more respondents are using mobile banking for their cashless transactions.

4.4 DIFFERENCES OF DEMOGRAPHIC VARIABLES ON THE PREFERENCE OF MOBILE BANKING FACTORS

Mobile banking services are considered as the dependent variable and demographic variables are considered as independent variables. The different components of the demographic variables namely 'age, gender, marital status, educational status, occupational experience, monthly income, among customers' influence the level of satisfaction of Mobile Banking (MB) services at a significant level. One-way analysis of variance (ANOVA) is applied to find out the influence of demographic profile on the level of satisfaction of MB services. The results obtained and the findings thereon are listed below.

4.4.1 ANOVA & POST HOC TESTS FOR IMPACT OF AGE ON MOBILE BANKING FACTORS

The table 4.22 highlights the ANOVA results extracted from SPSS output. It reads a p-value that is more than the accepted level (0.05) of significance, except for one variables i.e., **Convenience,** which statistically signifying the differences in the preferred form of Mobile banking factors based on their age group. The results depict that the **Convenience** (F=5.405, p=0.001) existence of statistical differences in the preferred form of Mobile banking by respondents based on their age group, but it does not offer clarity on the specific differences between the age groups on preferred Mobile banking. An analysis of variance (ANOVA) followed by a post hoc (Games-Howell procedure) test is used for understanding the demographic differences between respondents on their preferred choice of mobile banking usage.

Table 4.22. Differences of Age on Mobile Banking Factors

ANOVA							
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**	**Significant / Not significant**
ACCESSI-BILITY	Between Groups	1.296	3	.432	1.522	.208	Not Significant
	Within Groups	140.734	496	.284			
	Total	142.030	499				
CONVEN-IENCE	Between Groups	12.467	3	4.156	5.405	**.001**	**Significant**
	Within Groups	381.359	496	.769			
	Total	393.826	499				
PRIVACY	Between Groups	2.917	3	.972	1.239	.295	Not significant
	Within Groups	389.325	496	.785			
	Total	392.242	499				
SECURITY	Between Groups	2.596	3	.865	1.461	.224	Not significant
	Within Groups	293.820	496	.592			
	Total	296.416	499				
DESIGN	Between Groups	1.507	3	.502	.804	.492	Not significant
	Within Groups	309.873	496	.625			

	Total	311.380	499				
CONTENT	Between Groups	1.271	3	.424	.594	.619	Not Significant
	Within Groups	353.848	496	.713			
	Total	355.119	499				
SPEED	Between Groups	1.070	3	.357	.557	.644	Not significant
	Within Groups	317.519	496	.640			
	Total	318.589	499				
FEES & CHARGES	Between Groups	1.858	3	.619	.986	.399	Not significant
	Within Groups	311.495	496	.628			
	Total	313.353	499				

Note: Mean difference is significant at 0.05

Table-4.23 Post Hoc Tests - Multiple Comparisons Tests (Games-Howell)

Dependent Variable: Convenience						
Games-Howell						
(I) Age	**(J) Age**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**	**95% Confidence Interval**	
					Lower Bound	**Upper Bound**
18-25	26-35	-.20157	.10157	.197	-.4642	.0611
	36-45	-.33942*	.10858	**.011**	-.6201	-.0587
	Above 46	.18219	.14934	.617	-.2126	.5770
26-35	18-25	.20157	.10157	.197	-.0611	.4642

	36-45	-.13785	.09591	.477	-.3855	.1098
	Above 46	.38375*	.14039	**.042**	.0100	.7575
36-45	18-25	.33942*	.10858	**.011**	.0587	.6201
	26-35	.13785	.09591	.477	-.1098	.3855
	Above 46	.52161*	.14554	**.004**	.1358	.9074
Above 46	18-25	-.18219	.14934	.617	-.5770	.2126
	26-35	-.38375*	.14039	**.042**	-.7575	-.0100
	36-45	-.52161*	.14554	**.004**	-.9074	-.1358
*. The mean difference is significant at the 0.05 level.						

Table 4.23 shows the results of the post-hoc test. It is found from the table that in case of convenience, the age group between 36-45 years and 18-25 years (p=0.001), 26-35 years and above 46, 36-45 and above 46 are significant while using the mobile banking.

Hypothesis:

Here, the researcher used ANOVA & Games-Howell post-hoc test to establish the association between the age group of respondents with mobile banking factors on customer satisfaction.

H0: There is no difference in the **age group** of the respondents with mobile banking factors on customer satisfaction.
H1: There is a difference in the **age group** of the respondents with mobile banking factors on customer satisfaction.

The hypothesis tested to diagnose the relationship between age and m-banking factors by the ANOVA & Games-Howell post-hoc test indicates that the p-value

is less than the accepted level (0.005) of significance for one variable i.e., **Convenience** (F=5.405, p=0.001). Hence, the null hypothesis is rejected, and the alternative hypothesis is accepted. In a nutshell, it can be concluded that there is a significant association between **the age** of respondents and mobile banking factors on customer satisfaction with respect to convenience. The results of the current research study are not supported with previous studies conducted by **Takele and Sira (2013)** on factors influencing customers' intention to the adoption of e-banking service shows a gradual but steady decline in the percentage preference of e-banking as the age group increases. This means that the percentage preference for e-banking for the 18 to 25 years' age group is lesser than the percentage preference for e-banking for the above 46 years' age group. This makes it quite clear that the middle age and older age group has the greater preference for electronic banking. In line with these findings, a study conducted by **Izogo et al.,** (2012) and **Alafeef et al.,** (2011) concerning the impact of demographic factors on e-banking adoption among bank customers found that age has a significant effect on customers' adoption and usage of e-banking. It implies that young and more educated peoples are better in their adoption of e-banking as compared to their counterparts. However, A study conducted by **Sheshadri and Rani (2014),** to identify the influence of demographic variables on customer adoption of e-banking services using ANOVA also revealed that there is no significant difference in the customer adoption of electronic banking among the respondents based on age. This study infers that age does not significantly influence the customer adoption of electronic banking.

4.4.2 ANOVA & POST HOC TESTS FOR IMPACT OF EDUCATION ON MOBILE BANKING FACTORS

Table-4.24. Education Levels differences on the preference on Mobile Banking Factors

ANOVA							
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**	**Significant / Not significant**
ACCESSI-BILITY	Between Groups	1.643	3	.548	1.935	.123	Not significant
	Within Groups	140.387	496	.283			
	Total	142.030	499				
CONVEN-IENCE	Between Groups	3.667	3	1.222	1.554	.200	Not significant
	Within Groups	390.159	496	.787			
	Total	393.826	499				
PRIVACY	Between Groups	2.093	3	.698	.887	.448	Not significant
	Within Groups	390.150	496	.787			
	Total	392.242	499				
SECURITY	Between Groups	2.359	3	.786	1.326	.265	Not Significant
	Within Groups	294.057	496	.593			
	Total	296.416	499				
DESIGN	Between	.735	3	.245	.391	.760	Not

	Groups			.626			Significant
	Within Groups	310.646	496	.377			
	Total	311.380	499				
CONTENT	Between Groups	3.338	3	1.113	1.569	.196	Not Significant
	Within Groups	351.781	496	.709			
	Total	355.119	499	.388			
SPEED	Between Groups	1.619	3	.540	.845	.470	Not Significant
	Within Groups	316.970	496	.639			
	Total	318.589	499				
FEES & CHARGES	Between Groups	2.037	3	.679	1.082	.356	Not Significant
	Within Groups	311.316	496	.628			
	Total	313.353	499				

Note: Mean difference is significant at 0.05

The table-4.24 below highlights the ANOVA results extracted from the SPSS output. It reads that the p-value is more than the accepted level of significance (p=0.05) for all the factors which shows that education level does not statistically signify the various factor of mobile banking on adoption.

Hypothesis:

H0: There is no difference in the **education levels** of the respondents with mobile banking factors on customer satisfaction.
H1: There is a difference in the **education levels** of the respondents with mobile banking factors on customer satisfaction.

The hypothesis tested to diagnose the relationship between education level and mobile banking factors by the ANOVA test indicates that the p-value is more than the accepted level (0.005) of significance, for all the variables. Hence, the null hypothesis is accepted. and the alternative hypothesis is rejected. This implies that educational level has no significant effect on mobile banking factors of customer satisfaction. Therefore, it implies that mobile banking usage behavior is not predicted or explained by educational level which is in line with the ANOVA test result. Consistent with the above finding, **Ismail et al. (2012)** and **Lee et al. (2003)** on their study found that education has no significant impact on customers' internet banking adoption behavior. **Annin et al. (2013)** and **Alagheband (2006)** also found that educational level has no significant impact on consumers' willingness to use e-banking services.

4.4.3 ANOVA & POST HOCK DIFFERENCES OF OCCUPATION ON MOBILE BANKING FACTORS

Table-4.25 Respondents Occupation differences on the preference on Mobile Banking Factors

ANOVA							
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**	**Significant / Not significant**
ACCESSI-BILITY	Between Groups	2.540	4	.635	2.253	0.062	Not significant
	Within Groups	139.490	495	.282			
	Total	142.030	499				
CONVEN-IENCE	Between Groups	12.453	4	3.113	4.041	**.003**	**Significant**
	Within Groups	381.373	495	.770			
	Total	393.826	499				
PRIVACY	Between Groups	11.110	4	2.777	3.607	**.007**	**Significant**
	Within Groups	381.132	495	.770			
	Total	392.242	499				
SECURITY	Between Groups	5.179	4	1.295	2.201	0.068	Not significant

	Within Groups	291.237	495	.588			
	Total	296.416	499				
DESIGN	Between Groups	10.931	4	2.733	4.502	**0.001**	**Significant**
	Within Groups	300.449	495	.607			
	Total	311.380	499				
CONTENT	Between Groups	24.027	4	6.007	8.980	**0.000**	**Significant**
	Within Groups	331.092	495	.669			
	Total	355.119	499				
SPEED	Between Groups	9.991	4	2.498	4.007	**.003**	**Significant**
	Within Groups	308.598	495	.623			
	Total	318.589	499				
FEES & CHARGES	Between Groups	22.406	4	5.601	9.530	**0.000**	**Significant**
	Within Groups	290.947	495	0.588			
	Total	313.353	499				

Note: Mean difference is significant at 0.05

The table-4.25 below highlights the ANOVA results extracted from the SPSS output. It reads that the p-value is more than the accepted level of significance (p=0.05) only for two factor Accessibility (F=2.253, p=0.062) and Security (F=2.201, p=0.068). Table-4.25 explains the existence of statistical differences in the preferred form of Mobile banking by respondents based on their occupation, but it does not offer clarity on the specific differences between the education levels that preferred Mobile banking. So, to know exact respondent differences between the occupation type preferred Mobile banking, an analysis of variance (ANOVA) followed by post hoc (Games-Howell procedure) test is conducted.

Table-4.26 Post Hoc Tests - Multiple Comparisons Tests (Games-Howell)

a) Convenience				
(I) Occupation	(J) Occupation	Mean Difference (I-J)	Std. Error	Sig.
Student	**Govt. Service**	**-.48179***	**.12626**	**.002**
	Private Service	-.29101	.10744	.057
	Self Employed	-.22954	.12378	.346
	Others	-.49732	.18730	.074
Govt. Service	**Student**	**.48179***	**.12626**	**.002**
	Private Service	.19078	.11191	.433
	Self Employed	.25226	.12768	.282
	Others	-.01552	.18990	.980
Private Service	Student	.29101	.10744	.057
	Govt. Service	-.19078	.11191	.433
	Self Employed	.06148	.10911	.980
	Others	-.20630	.17795	.774
Self Employed	Student	.22954	.12378	.346
	Govt. Service	-.25226	.12768	.282
	Private Service	-.06148	.10911	.980
	Others	-.26778	.18826	.616
Others	Student	.49732	.18730	.074
	Govt. Service	.01552	.18990	.890
	Private Service	.20630	.17795	.774
	Self Employed	.26778	.18826	.616

Note: *significant at the 0.05 level.

b) Privacy

(I) Occupation	(J) Occupation	Mean Difference (I-J)	Std. Error	Sig.
Student	Govt. Service	.22951	.12806	.381
	Private Service	.18001	.11592	.530
	Self Employed	.02970	.12106	.999
	Others	**.58056***	**.18583**	**.022**
Govt. Service	Student	-.22951	.12806	.381
	Private Service	-.04949	.11165	.992
	Self Employed	-.19981	.11698	.431
	Others	.35105	.18320	.320
Private Service	Student	-.18001	.11592	.530
	Govt. Service	.04949	.11165	.992
	Self Employed	-.15031	.10355	.595
	Others	.40055	.17493	.165
Self Employed	Student	-.02970	.12106	.999
	Govt. Service	.19981	.11698	.431
	Private Service	.15031	.10355	.595
	Others	**.55086***	**.17838**	**.025**
Others	**Student**	**-.58056***	**.18583**	**.022**
	Govt. Service	-.35105	.18320	.320
	Private Service	-.40055	.17493	.165
	Self Employed	**-.55086***	**.17838**	**.025**

c) Design

(I) Occupation	(J) Occupation	Mean Difference (I-J)	Std. Error	Sig.
Student	Govt. Service	.30664	.12103	.088
	Private Service	**.30779***	**.10893**	**.042**
	Self Employed	.21957	.11501	.317

	Others	**.61043***	**.15016**	**.001**
Govt. Service	Student	-.30664	.12103	.088
	Private Service	.00115	.09955	1.000
	Self Employed	-.08708	.10617	.924
	Others	.30379	.14350	.224
Private Service	**Student**	**-.30779***	**.10893**	**.042**
	Govt. Service	-.00115	.09955	1.000
	Self Employed	-.08822	.09214	.874
	Others	.30264	.13346	.171
Self Employed	Student	-.21957	.11501	.317
	Govt. Service	.08708	.10617	.924
	Private Service	.08822	.09214	.874
	Others	**.39087***	**.13847**	**.048**
Others	**Student**	**-.61043***	**.15016**	**.001**
	Govt. Service	-.30379	.14350	.224
	Private Service	-.30264	.13346	.171
	Self Employed	**-.39087***	**.13847**	**.048**

d) Content

(I) Occupation	(J) Occupation	Mean Difference (I-J)	Std. Error	Sig.
Student	Govt. Service	.63053*	.11970	**.000**
	Private Service	.43103*	.10667	**.001**
	Self Employed	.38209*	.11679	**.011**
	Others	.78928*	.14540	**.000**
Govt. Service	Student	-.63053*	.11970	**.000**
	Private Service	-.19949	.10534	.324
	Self Employed	-.24844	.11558	.204
	Others	.15875	.14442	.806

Private Service	Student	-.43103*	.10667	**.001**
	Govt. Service	.19949	.10534	.324
	Self Employed	-.04895	.10201	.989
	Others	.35824	.13382	.069
Self Employed	Student	-.38209*	.11679	**.011**
	Govt. Service	.24844	.11558	.204
	Private Service	.04895	.10201	.989
	Others	.40719*	.14202	**.042**
Others	Student	-.78928*	.14540	**.000**
	Govt. Service	-.15875	.14442	.806
	Private Service	-.35824	.13382	.069
	Self Employed	-.40719*	.14202	**.042**

e) Speed

(I) Occupation	(J) Occu	Mean Difference (I-J)	Std. Error	Sig.
Student	Govt. Service	.32043	.12206	.070
	Private Service	.18872	.10682	.397
	Self Employed	.08608	.10957	.934
	Others	**.52486***	**.17426**	**.029**
Govt. Service	Student	-.32043	.12206	.070
	Private Service	-.13171	.10321	.706
	Self Employed	-.23434	.10605	.181
	Others	.20443	.17206	.758
Private Service	Student	-.18872	.10682	.397
	Govt. Service	.13171	.10321	.706
	Self Employed	-.10263	.08808	.771
	Others	.33614	.16161	.245
Self Employed	Student	-.08608	.10957	.934

	Govt. Service	.23434	.10605	.181
	Private Service	.10263	.08808	.771
	Others	.43878	.16344	.070
Others	**Student**	**-.52486***	**.17426**	**.029**
	Govt. Service	-.20443	.17206	.758
	Private Service	-.33614	.16161	.245
	Self Employed	-.43878	.16344	.070

f) Fees and Charges

(I) Occupation	(J) Occupation	Mean Difference (I-J)	Std. Error	Sig.
Student	Govt. Service	.58359*	.10663	**.000**
	Private Service	.44506*	.09524	**.000**
	Self Employed	.34570*	.10571	**.011**
	Others	.77885*	.12727	**.000**
Govt. Service	Student	-.58359*	.10663	**.000**
	Private Service	-.13853	.09934	.632
	Self Employed	-.23789	.10942	.194
	Others	.19526	.13037	.567
Private Service	Student	-.44506*	.09524	**.000**
	Govt. Service	.13853	.09934	.632
	Self Employed	-.09936	.09836	.851
	Others	.33379	.12123	.057
Self Employed	Student	-.34570*	.10571	**.011**
	Govt. Service	.23789	.10942	.194
	Private Service	.09936	.09836	.851
	Others	.43314*	.12962	**.011**
Others	Student	-.77885*	.12727	**.000**

	Govt. Service	-.19526	.13037	.567
	Private Service	-.33379	.12123	.057
	Self Employed	-.43314*	.12962	**.011**

From the Games-Howell post-hoc test, it is clear from table-4.26 that determinants like Accessibility and security of the mobile banking with Occupation level shows statistically not significant.

Hypothesis:

Here, the researcher used ANOVA & Games-Howell post-hoc test to establish the association between the occupation levels of respondents with mobile banking factors on customer satisfaction.

H0: There is no difference in the **occupation type** of the respondents with mobile banking factors on customer satisfaction.

H1: There is a difference in the **occupation type** of the respondents with mobile banking factors on customer satisfaction.

The hypothesis tested to diagnose the relationship between occupation type and mobile banking factors by the ANOVA & Games-Howell post-hoc test indicates that the p-value is less than the accepted level (0.005) of significance for the variables speed, Content, Design, Privacy, Convenience and Fees and Charges. The majority of the variables are significant to the occupation type of the respondents; hence, the null hypothesis is rejected, and the alternative hypothesis is accepted. This implies that occupation type has a significant effect on mobile banking factors of customer satisfaction. With reference to the above finding, **Ismail et al. (2012)** found that occupation has no significant impact on e-banking adoption. **Sheshadri et al. (2014)** also infer that there is no significant difference in the customer adoption of electronic banking based on occupation. However, this study implies that occupation has a role to play in the customer adoption of

electronic banking.

4.4.4 ANOVA & POST HOCK DIFFERENCES OF FAMILY INCOME ON MOBILE BANKING FACTORS

The table-4.27 below highlights the ANOVA results extracted from the SPSS output. It reads a p-value that is more than the accepted level of significance (p=0.05) except only one factor **Speed** (F=3.725, p=0.002), is below the accepted level which statistically signifying the differences in the preferred form of Mobile banking factors based on their family income levels. Table-4.36 explains the existence of statistical differences in the preferred form of Mobile banking by respondents based on their family income levels, but it does not offer clarity on the specific differences between the education levels that preferred Mobile banking. So, to know exact respondent differences between the family income level preferred Mobile banking, an analysis of variance (ANOVA) followed by post hoc (Games-Howell procedure) test is conducted.

Table-4.27 Family **Income** differences on the preference on Mobile Banking Factors

ANOVA							
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**	**Significant / Not significant**
ACCESSI-BILITY	Between Groups	2.397	3	.799	2.838	**.038**	**Significant**
	Within Groups	139.633	496	.282			
	Total	142.030	499				
CONVEN-IENCE	Between Groups	5.698	3	1.899	2.427	.065	Not significant
	Within Groups	388.128	496	.783			
	Total	393.126	499				
PRIVACY	Between Groups	18.524	3	6.175	8.195	**.000**	**Significant**
	Within Groups	373.719	496	.753			
	Total	392.242	499				
SECURITY	Between Groups	7.879	3	2.626	4.515	**.004**	**Significant**
	Within Groups	288.536	496	.582			
	Total	296.416	499				
DESIGN	Between Groups	9.288	3	3.096	5.083	**.002**	**significant**
	Within Groups	302.092	496	.609			

	Total	311.380	499				
CONTENT	Between Groups	21.241	3	7.080	10.518	**.000**	**significant**
	Within Groups	333.878	496	.673			
	Total	355.119	499				
SPEED	Between Groups	14.815	3	4.938	**8.063**	**.000**	**Significant**
	Within Groups	303.773	496	.612			
	Total	318.589	499				
FEES & CHARGES	Between Groups	12.783	3	4.261	7.032	**0.000**	**Significant**
	Within Groups	300.570	496	0.606			
	Total	313.353	499				

Note: Mean difference is significant at 0.05

Table-4.28 Post Hoc Tests - Multiple Comparisons Tests (Games-Howell)

a) Accessibility

(I) Income	(J) Income	Mean Difference (I-J)	Std. Error	Sig.
Up to 20,000	20000-40000	-.01241	.05626	.996
	40000-60000	-.14571	.07092	.171
	Above 60000	.10095	.07253	.508
20000-40000	Up to 20,000	.01241	.05626	.996
	40000-60000	-.13330	.06676	.193
	Above 60000	.11336	.06847	.355
40000-60000	Up to 20,000	.14571	.07092	.171

	20000-40000	.13330	.06676	.193
	Above 60000	**.24666***	**.08094**	**.015**
Above 60000	Up to 20,000	-.10095	.07253	.508
	20000-40000	-.11336	.06847	.355
	40000-60000	**-.24666***	**.08094**	**.015**

The income group of 40,000-60,000 and above 60,000 is significant considering accessibility as a factor of mobile banking.

b) Privacy

(I) Income	(J) Income	Mean Difference (I-J)	Std. Error	Sig.
Up to 20,000	20000-40000	-.08576	.09349	.796
	40000-60000	.01305	.10567	.999
	Above 60000	**.67761***	**.16136**	**.001**
20000-40000	Up to 20,000	.08576	.09349	.796
	40000-60000	.09881	.10180	.766
	Above 60000	**.76337***	**.15885**	**.000**
40000-60000	Up to 20,000	-.01305	.10567	.999
	20000-40000	-.09881	.10180	.766
	Above 60000	**.66456***	**.16631**	**.001**
Above 60000	**Up to 20,000**	**-.67761***	**.16136**	**.001**
	20000-40000	**-.76337***	**.15885**	**.000**
	40000-60000	**-.66456***	**.16631**	**.001**

In case of privacy, there seems to be significant in case of income group in between above 60,000 and up to 20,000, above 60,000 & 20,000-40,000, above 60,000 and 40,000-60,000 which shows that all the income groups have significant difference with respect to privacy as a factor of mobile banking.

c) Security

(I) Income	(J) Income	Mean Difference (I-J)	Std. Error	Sig.
Up to 20,000	20000-40000	-.06537	.08118	.852
	40000-60000	.01407	.09434	.999
	Above 60000	**.43414***	**.14423**	**.020**
20000-40000	Up to 20,000	.06537	.08118	.852
	40000-60000	.07944	.09040	.816
	Above 60000	**.49951***	**.14168**	**.005**
40000-60000	Up to 20,000	-.01407	.09434	.999
	20000-40000	-.07944	.09040	.816
	Above 60000	**.42007***	**.14961**	**.033**
Above 60000	**Up to 20,000**	**-.43414***	**.14423**	**.020**
	20000-40000	**-.49951***	**.14168**	**.005**
	40000-60000	**-.42007***	**.14961**	**.033**

All the income groups have a significant difference with respect to security as a factor of mobile banking.

d) Design

(I) Income	(J) Income	Mean Difference (I-J)	Std. Error	Sig.
Up to 20,000	20000-40000	-.04404	.08415	.953
	40000-60000	-.01340	.09769	.999
	Above 60000	**.48884***	**.13566**	**.003**
20000-40000	Up to 20,000	.04404	.08415	.953
	40000-60000	.03064	.09244	.987
	Above 60000	**.53288***	**.13193**	**.001**
40000-60000	Up to 20,000	.01340	.09769	.999
	20000-40000	-.03064	.09244	.987

	Above 60000	**.50224***	**.14095**	**.004**
Above 60000	**Up to 20,000**	**-.48884***	**.13566**	**.003**
	20000-40000	**-.53288***	**.13193**	**.001**
	40000-60000	**-.50224***	**.14095**	**.004**

All the income groups have a significant difference with respect to design as a factor of mobile banking.

e) Content

(I) Income	(J) Income	Mean Difference (I-J)	Std. Error	Sig.
Up to 20,000	**20000-40000**	**-.28302***	**.08997**	**.010**
	40000-60000	-.04434	.10078	.971
	Above 60000	**.49548***	**.12756**	**.001**
20000-40000	**Up to 20,000**	**.28302***	**.08997**	**.010**
	40000-60000	.23867	.09765	.072
	Above 60000	**.77849***	**.12511**	**.000**
40000-60000	Up to 20,000	.04434	.10078	.971
	20000-40000	-.23867	.09765	.072
	Above 60000	**.53982***	**.13309**	**.001**
Above 60000	**Up to 20,000**	**-.49548***	**.12756**	**.001**
	20000-40000	**-.77849***	**.12511**	**.000**
	40000-60000	**-.53982***	**.13309**	**.001**

All the income groups have a significant difference with respect to content as a factor of mobile banking.

f) Speed

(I) Income	(J) Income	Mean Difference (I-J)	Std. Error	Sig.
Up to 20,000	20000-40000	-.11899	.08239	.473
	40000-60000	.03749	.09782	.981
	Above 60000	**.56492***	**.15162**	**.003**
20000-40000	Up to 20,000	.11899	.08239	.473
	40000-60000	.15648	.09343	.339
	Above 60000	**.68391***	**.14882**	**.000**
40000-60000	Up to 20,000	-.03749	.09782	.981
	20000-40000	-.15648	.09343	.339
	Above 60000	**.52743***	**.15789**	**.008**
Above 60000	**Up to 20,000**	**-.56492***	**.15162**	**.003**
	20000-40000	**-.68391***	**.14882**	**.000**
	40000-60000	**-.52743***	**.15789**	**.008**

Speed has shown the significant difference among all the income groups.

g) Fees and Charges

(I) Income	(J) Income	Mean Difference (I-J)	Std. Error	Sig.
Up to 20,000	**20000-40000**	**-.22500***	**.08418**	**.039**
	40000-60000	.00124	.09717	1.000
	Above 60000	**.36450***	**.12437**	**.024**
20000-40000	**Up to 20,000**	**.22500***	**.08418**	**.039**
	40000-60000	.22624	.09397	.078
	Above 60000	**.58950***	**.12189**	**.000**
40000-60000	Up to 20,000	-.00124	.09717	1.000
	20000-40000	-.22624	.09397	.078
	Above 60000	**.36327***	**.13120**	**.035**
Above 60000	**Up to 20,000**	**-.36450***	**.12437**	**.024**

	20000-40000	**-.58950***	**.12189**	**.000**
	40000-60000	**-.36327***	**.13120**	**.035**

Note: *significant at the 0.05 level.

Fees and charges has shown the significant difference among all the income groups.

Hypothesis:

Here, the researcher used ANOVA & Games-Howell post-hoc test to establish the association between the family income levels of respondents with mobile banking factors on customer satisfaction.

H0: There is no difference in the **family income levels** of the respondents with mobile banking factors on customer satisfaction.

H1: There is a difference in the **family income levels** of the respondents with mobile banking factors on customer satisfaction.

The hypothesis tested to diagnose the relationship between family income levels and mobile banking factors by the ANOVA & Games-Howell post-hoc test indicates that the p-value is less than the accepted level (0.005) of significance, for the variables such as accessibility, Content, speed, Design, Security, privacy and fees & Charges are significant to the family income levels of the respondents; hence, the null hypothesis is rejected. and the alternative hypothesis is accepted. This implies that family income levels have significant effect on mobile banking factors of customer satisfaction. Therefore, it implies that mobile banking usage behavior is predicted or explained by family income a level that is in line with the ANOVA test result. In contrast with the above, **Alagheband (2006)** and **Annin et al. (2013)** in their study investigated that income has no significant impact on e-banking adoption. Further, **Izogo et al. (2012)** found that income does not have a significant effect on customers' adoption and usage of e-banking. However, this study implies that there is significant difference in their e-banking adoption

behavior between consumers who are indifferent income groups.

4.4.5 INDEPENDENT T-TEST OF **GENDER** ON MOBILE BANKING FACTORS

Independent Samples Test t-test for equality of means		T	df	Sig. (2-tailed)
Accessibility	Equal variances assumed	-.497	498	.619
	Equal variances not assumed	-.521	416.435	.603
Convenience	Equal variances assumed	.690	498	0.491
	Equal variances not assumed	0.679	349.692	0.497
Privacy	Equal variances assumed	-2.330	498	**0.020**
	Equal variances not assumed	-2.368	382.882	**0.018**
Security	Equal variances assumed	-1.859	498	0.064
	Equal variances not assumed	-1.868	370.558	0.063
Design	Equal variances assumed	-.734	498	.463
	Equal variances not assumed	-.730	359.323	.466
Content	Equal variances assumed	-.770	498	0.442
	Equal variances not assumed	-.769	363.897	0.443
Speed	Equal variances assumed	-1.391	498	0.166
	Equal variances not assumed	-1.393	366.568	0.165
Fees and	Equal variances assumed	-.798	498	0.425

Charges	Equal variances not assumed	-.792	356.363	0.429

Gender has a significant difference with the factors of mobile banking, Privacy which indicates that males and females has a significant difference to the privacy.

4.4.6 INDEPENDENT T-TEST OF MARITAL STATUS ON MOBILE BANKING FACTORS

Independent Samples Test t-test for equality of means		t	df	Sig. (2-tailed)
Accessibility	Equal variances assumed	-.408	498	0.683
	Equal variances not assumed	-.393	339.390	0.695
Convenience	Equal variances assumed	0.303	498	0.762
	Equal variances not assumed	0.300	370702	0.764
Privacy	Equal variances assumed	4.369	498	**0.000**
	Equal variances not assumed	4.282	359.701	**0.000**
Security	Equal variances assumed	3.214	498	**0.001**
	Equal variances not assumed	3.199	377.172	**0.001**
Design	Equal variances assumed	3.138	498	**0.002**
	Equal variances not assumed	3.158	390.204	**0.002**
Content	Equal variances assumed	3.029	498	**0.003**
	Equal variances not assumed	3.004	373.043	**0.003**
Speed	Equal variances assumed	2.830	498	**0.005**

	Equal variances not assumed	2.795	368.331	**0.005**
Fees and Charges	Equal variances assumed	3.682	498	**0.000**
	Equal variances not assumed	3.697	387.581	**0.000**

Marital status has a difference with all the factors of mobile banking except accessibility and convenience.

ANOVA & POST HOC TESTS FOR IMPACT OF DEMOGRAPHIC VARIABLES ON CUSTOMER SATISFACTION

The major demographic variables such as age, marital status, gender, occupation, income and educational qualification were again tested directly with customer satisfaction to know their effect and variance by applying the same ANOVA and Games-Howell post-hoc test. The result of the analysis is given below.

a) Difference of **Age** on Customer satisfaction

ANOVA					
CUSTOMER SATISFACTION					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.934	3	.645	1.494	.215
Within Groups	214.010	496	.431		
Total	215.944	499			

b) Difference of **Educational Status** on Customer satisfaction

ANOVA					
CUSTOMER SATISFACTION					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.981	3	.327	.755	.520
Within Groups	214.963	496	.433		
Total	215.944	499			

c) Difference of **Occupation** on Customer satisfaction

ANOVA					
CUSTOMER SATISFACTION					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.526	4	1.631	3.856	.004
Within Groups	209.419	495	.423		
Total	215.944	499			

(I) Occupation	(J) Occupation	Mean Difference (I-J)	Std. Error	Sig.
Student	Govt. Service	.28135*	.09062	.019
	Private Service	.25450*	.08426	.024
	Self Employed	.16322	.09247	.397
	Others	.43209*	.13718	.021
Govt. Service	Student	-.28135*	.09062	.019
	Private Service	-.02685	.07912	.997
	Self Employed	-.11813	.08782	.663
	Others	.15074	.13408	.793

Private Service	Student	-.25450*	.08426	.024
	Govt. Service	.02685	.07912	.997
	Self Employed	-.09128	.08124	.794
	Others	.17759	.12987	.651
Self Employed	Student	-.16322	.09247	.397
	Govt. Service	.11813	.08782	.663
	Private Service	.09128	.08124	.794
	Others	.26887	.13534	.285
Others	Student	-.43209*	.13718	.021
	Govt. Service	-.15074	.13408	.793
	Private Service	-.17759	.12987	.651
	Self Employed	-.26887	.13534	.285

d) Difference of **Income** on Customer satisfaction

ANOVA					
CUSTOMER SATISFACTION					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.859	3	.286	.660	.577
Within Groups	215.085	496	.434		
Total	215.944	499			

e) Difference of **Gender** on Customer satisfaction

Independent Samples Test		t-test for Equality of Means		
		t	df	Sig. (2-tailed)
Customer Satisfaction	Equal variances assumed	-1.313	498	0.190
	Equal variances not assumed	-1.318	369.040	0.188

f) Difference of **Marital Status** on Customer satisfaction

Independent Samples Test		t-test for Equality of Means		
		t	df	Sig. (2-tailed)
Customer Satisfaction	Equal variances assumed	2.778	498	0.006
	Equal variances not assumed	2.808	395.422	0.005

Analysis

From the above table, it is found that only **occupation** and **marital status** is significant at 5% level of significance whereas other variables such as age, gender, income, and educational qualification does not have an impact on customer satisfaction. This indicated that there is no difference in the age group, gender, income and educational status with customer satisfaction. In case of occupation, the significant difference is observed between students with Govt. service, Private service, and other category of occupation.

4.4.7 ANOVA & POST HOC TEST DIFFERENCES OF MOBILE USAGE FOR BANKING TRANSACTION ON MOBILE BANKING FACTORS

The table-4.30 below highlights the ANOVA results extracted from the SPSS output. It reads a p-value that is more than 0.05 (accepted level of significance), which statistically signifying the differences in the preferred form of Mobile banking factors based on their usage.

Table-4.30. Mobile usage for banking transaction differences on Mobile Banking Factors

ANOVA							
		Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**	**Significant / Not significant**
ACCESSI-BILITY	Between Groups	.260	3	.087	.219	.883	Not significant
	Within Groups	97.575	496	.397			
	Total	97.835	499				
CONVEN-IENCE	Between Groups	4.753	3	1.584	3.040	.030	**Significant**
	Within Groups	128.210	496	.521			
	Total	132.963	499				
PRIVACY	Between Groups	7.136	3	2.379	5.119	.002	**Significant**
	Within Groups	114.303	496	.465			
	Total	121.439	499				
SECURITY	Between Groups	.352	3	.117	.341	.796	Not significant
	Within Groups	84.767	496	.345			
	Total	85.119	499				
DESIGN	Between Groups	.440	3	.147	.377	.770	Not significant
	Within Groups	95.830	496	.390			

	Total	96.270	499				
CONTENT	Between Groups	.980	3	.327	1.188	.315	Not significant
	Within Groups	67.633	496	.275			
	Total	68.613	499				
SPEED	Between Groups	2.891	3	.964	3.001	.031	**Significant**
	Within Groups	78.986	496	.321			
	Total	81.877	499				

Note: Mean difference is significant at 0.05

Hypothesis

H0: There is no difference in the usage of the respondents with mobile banking factors on customer satisfaction.

H1: There is a difference in the usage of the respondents with mobile banking factors on customer satisfaction.

In case of usage and factor of mobile banking for customer satisfaction, it is significant for convenience, privacy and speed where as it is not significant for accessibility, security, design and content. So, it is clear that usage has a relationship with some of the factors of mobile banking.

4.5 SIGNIFICANCE OF FACTORS AFFECTING MOBILE BANKING ON CUSTOMER SATISFACTION

Employing the Principal components analysis (PCA) and orthogonal method with varimax rotation, exploratory factor analysis was performed using SPSS (version 25.0).

4.5.1. THE KMO AND BARTLETT'S TEST OF SPHERICITY

Table-4.31. The KMO and Bartlett's Test of Sphericity

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.747
Bartlett's Test of Sphericity	Approx. Chi-Square	17160.137
	df	5671
	Sig.	0.000

The KMO (Kaiser-Meyer-Olkin) test measures the sampling adequacy which should be greater than 0.5 for satisfactory factor analysis to proceed. If any pair of variables has a value less than this, consider dropping one of them from the analysis. The off-diagonal elements should all be very small (close to zero) in a good model. **Bartlett's Test of Sphericity** is another indication of the strength of the relationship among variables. This tests the null hypothesis that the correlation matrix is an identity matrix. An identity matrix is a matrix in which all of the diagonal elements are "1" and all off-diagonal elements are "0". The result of KMO and Bartlett's Test of Sphericity for expected factors affecting mobile banking on retail banking customer satisfaction are presented in Table-4.31, which shows that the value of Kaiser Meyer-Olkin (KMO) measure of sampling adequacy value was greater than 0.7 and Bartlett's Test of Sphericity was ($p < .000$).

The factor analysis has been applied with certain default settings and criteria. The components have been grouped based on the eigenvalues. The minimum eigenvalues should be at least 1 which is clearly given under Table 4.32. Based on the eigenvalues 8 components were obtained from factor analysis. These factors explain around 51% of the variance which is above the minimum criteria of variance explained i.e., 50%. The eigenvalues of the factors are 34.146, 9.323,

4.604, 2.971, 1.922, 1.780, 1.454 and 1.295. The first factor explains 50.965%, of the variance followed by the second component that explains 64.880% of the variance and the third component explains 71.752% of the total variance.

Table 4.32 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	34.146	50.965	50.965	34.146	50.965	50.965	14.968	22.341	22.341
2	9.323	13.915	64.880	9.323	13.915	64.880	14.168	21.147	43.488
3	4.604	6.872	71.752	4.604	6.872	71.752	11.387	16.995	60.483
4	2.971	4.435	76.187	2.971	4.435	76.187	5.334	7.962	68.444
5	1.922	2.868	79.055	1.922	2.868	79.055	4.214	6.290	74.734
6	1.780	2.656	81.711	1.780	2.656	81.711	3.150	4.701	79.435
7	1.454	2.169	83.880	1.454	2.169	83.880	2.498	3.729	83.163
8	1.295	1.933	85.813	1.295	1.933	85.813	1.776	2.650	85.813

Extraction Method: Principal Component Analysis.

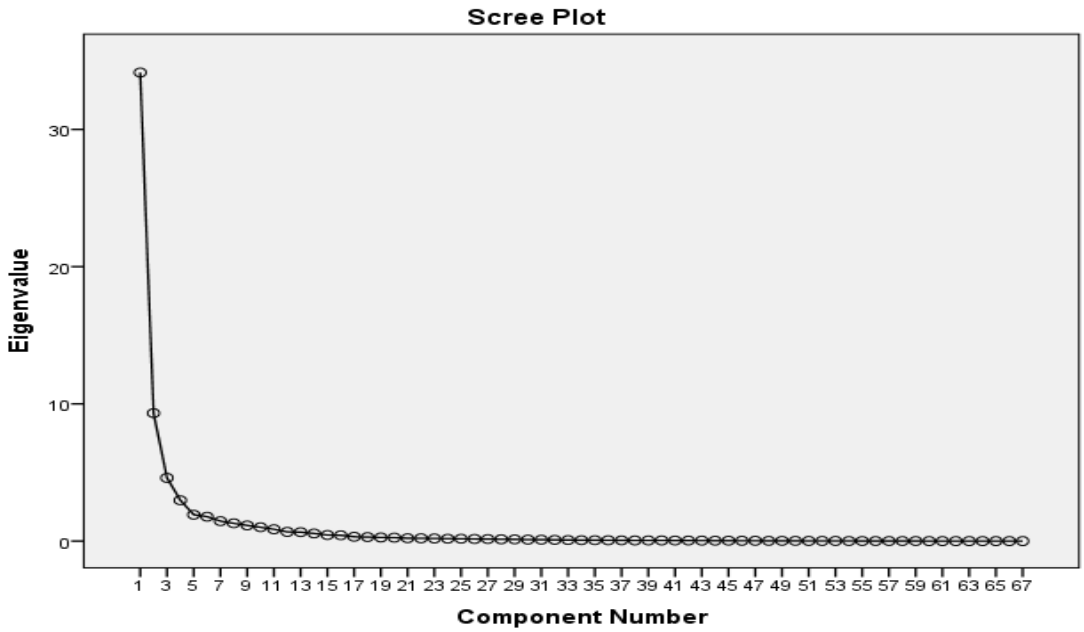


Figure-4.1 shows the scree plot test used to confirm the maximum number of factors extracted in this model under eigenvalues greater than one criterion. The slop of the scree plot revealed extraction of overall eight factors, which confirmed extraction of the same number of factors through the eigenvalue's criterion. The scree plot is based on the Eigen Values derived from the main table 'Total Variance Explained'.

4.5.2. Reliability

The results revealed (Table-4.33) that the reliability coefficient for the constructs i.e. Accessibility (α =0.958), Convenience (α =0.882), Privacy (α =0.875), Security (α =0.831), Design (α =0.708), Content (α =0.771), Speed (α =0.717), Fee & charges (α =0.797), and Customer Satisfaction (α =0.839) which was above the criteria strictly recommended (α>0.7), indicating the observed variables are reasonably good measurement of the construct Mobile Banking. The results also revealed that the construct's reliability estimate for mobile banking indicated high internal consistency and adequate reliability of the construct. Besides, all other estimation values were above the recommended (α >0.7) cut-off point indicating

strong reliability and high internal consistency in measuring the relationship of the variables. This also suggested strong construct validity (Hair *et al.*, 2013).

Table-4.33.Reliability and Validity Measures

Factors	Item	Loading	Mean	Cronbach's – α
Accessibility	ACC1	0.824	4.15	0.914
	ACC2	0.679	4.01	
	ACC3	0.824	4.16	
	ACC4	0.707	4.09	
	ACC5	0.747	4.00	
	ACC6	0.741	4.03	
	ACC7	0.725	3.85	
	ACC8	0.663	3.86	
	ACC9	0.768	3.91	
	ACC10	0.792	3.96	
	ACC11	0.634	3.85	
	ACC12	0.821	3.79	
	ACC13	0.759	3.96	
	ACC14	0.669	4.06	
Convenience	CON1	0.653	4.02	0.882
	CON2	0.648	3.84	
	CON3	0.642	4.14	
	CON4	0.613	4.03	
	CON5	0.601	4.04	
	CON6	0.557	3.85	
	CON7	0.664	3.86	
Privacy	PRI1	0.747	3.98	0.875
	PRI 2	0.741	4.03	
	PRI 3	0.725	4.12	

	PRI 4	0.663	4.04	
	PRI 5	0.768	3.82	
	PRI 6	0.747	3.99	
	PRI 7	0.792	4.00	
Security	SEC1	0.634	4.10	0.831
	SEC2	0.721	4.12	
	SEC3	0.759	3.91	
	SEC4	0.669	4.04	
	SEC5	0.812	3.88	
	SEC6	0.951	4.00	
	SEC7	0.956	4.16	
Design	DES1	0.678	3.64	0.708
	DES2	0.789	3.52	
	DES3	0.832	3.66	
	DES4	0.807	3.54	
	DES5	0.784	3.78	
	DES6	0.762	3.42	
Content	CNT1	0.788	3.76	0.771
	CNT2	0.542	3.60	
	CNT3	0.852	3.63	
	CNT4	0.814	3.72	
	CNT5	0.784	4.04	
	CNT6	0.745	3.92	
	CNT7	0.931	3.80	
Speed	SPD1	0.935	3.85	0.717
	SPD2	0.551	3.88	
	SPD3	0.688	3.86	
	SPD4	0.741	3.66	
	SPD5	0.573	3.69	

	SPD6	0.562	3.78	
	SPD7	0.557	3.73	
Fees & charges	F&C1	0.553	3.63	0.797
	F&C2	0.812	3.66	
	F&C3	0.951	3.54	
	F&C4	0.956	3.80	
	F&C5	0.678	3.68	
	F&C6	0.789	3.63	
	F&C7	0.832	3.72	
	F&C8	0.807	3.50	
	F&C9	0.784	3.44	

4.6. REGRESSION ANALYSIS

First-factor analysis is done as variables appeared to be highly correlated with each other and then linear regression analysis is done to identify which variable how much impact customers' satisfaction with mobile baking services. Regression is a statistical tool used to find out the impact of one variable with other. It also indicates the strength of relationship between two or more variables. In simple regression, there are only two variables; one variable is caused by the behavior of another variable. The variable, which is causing the behavior of another variable, is called the independent variable, and the variable, which is caused by another variable, is called the dependent variable. When there are two or more independent variables, which affect the behavior of one dependent variable such relationship is called multiple regression or linear regression. Linear regression estimates the coefficients of the linear equation, involving one or more independent variables that best predict the value of a dependent variable. Regression Analysis has been applied in this study to find out the impact of the various constructs of mobile banking and their impact on the Customer Satisfaction. Hypotheses are of two types – Null Hypothesis and alternate

hypothesis. In the light of this, the following hypotheses were set up:

Ho1 Accessibility does not influence the Customer Satisfaction

Ha1 Accessibility significantly influences the Customer Satisfaction

Ho2 Convenience does not influence the Customer Satisfaction

Ha2 Convenience significantly influences the Customer Satisfaction

Ho3 Privacy does not influence the Customer Satisfaction

Ha3 Privacy significantly influences the Customer Satisfaction

Ho4 Security does not influence the Customer Satisfaction

Ha4 Security significantly influences the Customer Satisfaction

Ho5 Design does not influence the Customer Satisfaction

Ha5 Design significantly influences the Customer Satisfaction

Ho6 Content does not influence the Customer Satisfaction

Ha6 Content significantly influences the Customer Satisfaction

Ho7 Speed does not influence the Customer Satisfaction

Ha7 Speed significantly influences the Customer Satisfaction

Ho8 Fees and Charges does not influence the Customer Satisfaction

Ha8 Fees and charges significantly influences the Customer Satisfaction

Table-4.34 Regression Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.732[a]	.535	.528	.45209
a. Predictors: (Constant), ACCESSIBILITY, CONTENT, DESIGN, SPEED, PRIVACY, CONVENIENCE, SECURITY, FEES AND CHARGES				
b. Dependent Variable: CUSTOMER SATISFACTION				

According to the above Table 4.34 the R square value is (.535) and it means that almost 53% of customer satisfaction (dependent) determined by mobile banking (independent), the result has been shown of adjusted R square is (.528) so it means that after the process of adjusting all variables almost of 52% of the customer satisfaction (dependent) variable as the influence by the mobile banking (independent).

Table-4.35 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	115.591	8	14.449	70.695	.000[b]
	Residual	100.353	491	.204		
	Total	215.944	499			
a. Dependent Variable: CUSTOMERSATISFACTION						
b. Predictors: (Constant), ACCESSIBILITY, CONTENT, DESIGN, SPEED, PRIVACY, CONVENIENCE, SECURITY, FEES AND CHARGES						

Table 4.35 shows the results of the overall significance of the regression analysis. It is found that the F value is 70.695 and significant level as shown in the model is 0.000 it means that the model is significant due to the result is less than 0.05 and based on this it may be concluded that there is a significant impact of one or more constructs of Mobile Banking on Customer Satisfaction.

Table-4.36. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	**Std. Error**	**Beta**		
1	(Constant)	.689	.178		3.873	.000
	ACCESSIBILITY	.079	.038	.064	2.052	.041
	CONVENIENCE	.053	.026	.072	2.059	.040
	PRIVACY	.119	.047	.160	2.541	.011
	SECURITY	.110	.053	.129	2.080	.038
	DESIGN	.206	.040	.247	5.157	.000
	CONTENT	-.544	.067	-.698	-8.152	.000
	SPEED	.104	.046	.126	2.264	.024
	FEES & CHARGES	.667	.065	.804	10.255	.000

a. Dependent Variable: CUSTOMER SATISFACTION

Table 4.36 shows the values of the difference coefficients. It is found that of coefficients the unstandardized constant (β 0) is .689 and (β 1) is Accessibility (0.079), Convenience (0.053), Privacy (0.119), Security (0.110), Design (0.206), Content (-.544), Speed (0.104), Fees and Charges (0.667). It means that if the customer satisfaction increase by 1 unit the mobile banking will increase by (.0.079) in case of accessibility and it shows that there is a positive and direct relation. Further, 7 out of 8 independent variables are affecting the customer satisfaction positively and significantly because the significance value in the concerned column is below 0.05. One factors i.e., Content has significant impact on the Customer Satisfaction the p value in this column is 0.000 which is below the critical value of p, which is 0.05. However, it is negatively correlated which shows that if the content for the mobile banking is more, there is chances of error which the customer does not like.

4.6. HYPOTHESIS TESTING

Hypothesis testing is a statistical method that is used in making statistical decisions using experimental data. Hypothesis Testing is an assumption that we make about the population parameter.

Table-4.37. Results of Hypothesis Testing (Alternate Hypotheses)

Hypothesis	Independent to Dependent Factor	Beta	t	P-Values	Results
H1	Accessibility and Customer Satisfaction	.064	2.052	.041	Supported
H2	Convenience and Customer Satisfaction	.072	2.059	.040	Supported
H3	Privacy and Customer Satisfaction	.160	2.541	.011	Supported
H4	Security and Customer Satisfaction	.129	2.080	.038	Supported
H5	Design and Customer Satisfaction	.247	5.157	.000	Supported
H6	Content and Customer Satisfaction	-.698	-8.152	.000	Supported
H7	Speed and Customer	.126	2.264	.024	Supported

	Satisfaction				
H8	Fees & Charges & Customer Satisfaction	.804	10.255	.000	Supported

From the above table-4.37 model it could be inferred that all the factors such as Convenience, Privacy, Security, Design, Speed, and fees and Charges, Convenience and content were the dimensions that bring about a major change in customer satisfaction with m-banking. This result holds well with the results of different authors (Rostami, Mogadam, 2010; Rangsan. Nochai and Titida, 2013; Sharma & Malviya, 2014). Other dimensions like Security (Gupta and Banzal, 2012; Rangsan. Nochai and Titida, 2013), Privacy (Rangsan. Nochai and Titida, 2013), Speed & Design (Rangsan. Nochai and Titida – Customer Support, 2013), and Accessibility (Gupta and Banzal, 2012; Rangsan. Nochai and Titida, 2013) also have some impact on the customer satisfaction on e-banking. So, the suggestion was given to the banks that m-banking working should be made easy without compromising on security at any cost since that was the second important dimension that affects the customer satisfaction on e-banking. Banks should take the necessary steps to offer user-friendly m-banking facilities with good security.

4.8 DEMOGRAPHIC VARIABLES AS MODERATOR

The effect of demographic variables as moderator was carried out by applying PROCESSv4.0 by Andrew F. Hayes. It is found that Marital status is playing moderator role with Independent variable Accessibility and convenience and customer satisfaction as an outcome variable. Similarly, gender as another demographic variables is moderating along with Convenience as independent variables and customer satisfaction as dependent variables. The results were given below,

Model 01

	Coeff	se	t	p
constant	4.4950	.5188	8.6643	0.0000
Accessibility	-.2348	.1672	-1.4042	.1609
Marital Status	-.8743	.3423	-2.5542	.0109
Int_1	.2297	.1099	2.0894	**.0372**

Y: Customer Satisfaction OUTCOME VARIABLE: Customer Satisfaction

X: Accessibility (Focal Predict)

W: marital Status (Moderator Variables)

Model 02

	Coeff	se	t	p
constant	3.8714	.3426	11.3012	0.0000
Convenience	-.0303	.0968	-.3126	.7547
Marital Status	-.6308	.2329	2.7086	.0070
Int_1	.1364	.0659	2.0703	**.0389**

Y: Customer Satisfaction OUTCOME VARIABLE: Customer Satisfaction

X: Convenience (Focal Predict)

W: Marital Status (Moderator Variables)

Model 03

	Coeff	se	t	p
constant	2.1965	.3442	6.3823	0.0000
Convenience	.3580	.0972	3.6827	.0003
Gender	.5755	.2344	2.4549	.0144
Int_1	-.1424	.0665	-2.1424	**.0326**

Y: Customer Satisfaction OUTCOME VARIABLE: Customer Satisfaction

X: Convenience (Focal Predict)

W: Gender (Moderator Variables)

4.9 CHAPTER SUMMARY

This Chapter presented and explained data obtained during the study based on research questions, specific objectives, and hypotheses. Tables and figures were used to present findings. The data were analyzed using inferential and descriptive analysis. The upcoming chapter presents matters concerning the summary of findings, implications, limitations of the study, conclusion, and recommendations.

CHAPTER-5

RESULT DISCUSSION AND CONCLUSIONS

CHAPTER-5
SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

5.1. INTRODUCTION

This chapter presents a summary of findings, discussion, conclusions, and recommendations made to the study. Suggestions for further research have been given. The chapter is organized into sub-themes basing on the objectives of the study.

5.2. SUMMARY OF RESEARCH FINDINGS

5.2.1. GENERAL FINDINGS

The purpose of this research was to assess the effects of mobile banking on customers' satisfaction. The study was guided by four specific objectives: To ascertain the relationship of mobile Banking in the retail banking sector; to identify the influence of demographic variables on mobile banking and customer satisfaction; to ascertain the impact of Mobile Banking on Customer Satisfaction concerning Retail Banking; to study the impact of various dimensions of mobile banking on Customer Satisfaction and to identify the stumbling blocks in respect of the use of mobile banking.Hence, following the objective of the study, the target population includes 4 (SBI, Bank of Baroda, ICICI & HDFC) banks from Bengaluru city (Top 2 mobile banking providers from each public and private sector). All respondents are clients who have bank accounts in the selected banks in Bengaluru city. Based on Hair's criterion (Hair et al., 2013) estimated minimum sample size was at least five times the estimated parameter. A total of 500 (125 from each bank) mobile banking customers are randomly chosen from

the targeted banks for this study. Data was collected from the respondents through a structured questionnaire. The collected data were processed by using SPSS 24.0 for enhancing a reliable and valid result. The results were thereafter presented in tables.

5.2.2. SUMMARY OF KEY FINDINGS

1. From this research it was indicated that mobile banking provides a better banking experience for customers, the fact that customers can check their balance, perform transactions without visiting any bank provides an easy and comfortable experience for them, with mobile banking customers can be assured about their online security if the bank has taken the proper precaution and security measurement required when making transactions online.

2. The study had a response rate of 97 % with more male (64.5%) compared to female respondents (35.5%). The majority of the bank customers found that the maximum of 35.9% of customers is in the age group 26 – 35 followed by 32.6% in the age group 36-45. It is also found that 25.2% are in the age group up to 25 and a minimum of 6.3% in the age group above 46 with the composition consists of 63.1% of married customers and 36.9% of unmarried customers.

3. The majority of the bank customers had used banks for up to 5 years. 39.8% who were found that the customers are graduates followed by 33.7%, 21.2%, and 5.3% are with the educational status of post-graduate, up to higher secondary and above post-graduate respectively had IT skills with the majority being self-employed. The respondents understood what digital banking entailed. On the speed of transactions, it was revealed that mobile money was the most

frequently used digital channel. Mobile banking was used because itis considered fast, 74.3% of the respondents were to a large extent satisfied with the speed of digital banking. The speed of processing transactions was considered fast (mean7.52). Banks have measures that they undertake in case the process of transaction is slow. A strong positive relation existed between the speed of transactions and customer satisfaction (p=0.024 and <0.01).

4. On the accessibility of mobile banking, it was revealed that the ability to transact at preferred timing was considered the most important factor while looking at accessibility. Mobile banking was the most accessible form of digital banking with 61.7% indicating to a moderate extent they could access banking services. 54.9% revealed that their bank was accessible as they could transact, pay bills and access their bank accounts. 50.8% were faced with challenges resulting from the use of technology. There was an increase in accessibility of mobile banking as proved by the increase in the number of ATMs and internet banking. Banks had increased on agency banking to capitalize on the growing customer base thus increase on their accessibility.

5. Banks ensured customers were informed on how they could access different digital banking channels. It was however noted that there were no specialized digital services for persons living with various forms of disabilities such as the blind. A positive strong relation exists between customer satisfaction and accessibility existed (P=0.041 and < 0.01).

6. Mobile money was the easiest digital channel to adapt. There were at

least five transactions carried out by bank customers in a day. The majority of customers had been using banks for up to 5 years. 62% of customers did not have any problem adapting to the mobile banking platforms offered. 60.9% had between 3-4 mobile banking channels. 84% indicated that mobile banking was very reliable however 86.9% had used mobile banking channels that they failed to adapt citing wrong transactions as the main reason for this failure. Mobile banking was adaptable as revealed by an increase in the number of financial transactions. There were reduced complaints by customers as banks used various ways to pass information and create awareness on mobile baking to ensure adaptability.

7. Digital channels were affordable as 66.9% had never failed to transact due to transaction fees. Use of pay bill numbers was considered the most affordable as there were no transactional fees levied. 50.9% indicated that affordability is important while carrying out digital financial transactions.

8. The results depict that the **Convenience** ($F=5.405$, $p=0.001$) has the existence of statistical differences in the preferred form of Mobile banking by respondents based on their age group. An analysis of variance (ANOVA) followed by a post hoc (Games-Howell procedure) test is used for understanding the significant difference between the age groups. It is found that age groups of 18-25 & 36-45; 26-35 and above 46; 36-45 & above 46 are the age groups that are significantly using the mobile banking.

9. The results of the current study indicate the relationship between education level and mobile banking factors by the ANOVA & Games-Howell post-hoc test it indicates that the p-value is more than

the accepted level (0.005) of significance, for all the variables. This implies that level of education do not have significant effect on mobile banking factors of customer satisfaction. Therefore, it implies that mobile banking usage behaviour is not predicted or explained by educational level which is in line with the ANOVA test result. Consistent with the above finding, **Ismail et al. (2012)** and **Lee et al. (2003)** on their study found that education has no significant impact on customers' internet banking adoption behaviour. **Annin et al. (2013)** and **Alagheband (2006)** also found that educational level has no significant impact on consumers' willingness to use e-banking services.

10. The study results imply the relationship between occupation type and mobile banking factors by the ANOVA & Games-Howell post-hoc test it indicates that the p-value is less than the accepted level (0.005) of significance, for only one variable i.e. **Privacy** (F=6.729, p=0.001). The majority of the variables are not significant to the occupation type of the respondents. This implies that occupation type has no significant effect on mobile banking factors of customer satisfaction except the privacy factor. Therefore, it implies that mobile banking usage behaviour is not predicted or explained by educational level which is in line with the ANOVA test result. Similar to the above finding, **Ismail et al. (2012)** found that occupation has no significant impact on e-banking adoption. **Sheshadri et al. (2014)** also infer that there is no significant difference in the customer adoption of electronic banking based on occupation. This implies that occupation has no role to play in the customer adoption of electronic banking.
11. In case of convenience, there seems to be a significant difference between Students and Govt. Services. This may be due to the less earning capability of the students and they mostly depend upon their

parents for any consumption. In case of privacy, there is a significant difference between students, self-employed persons, and other category of occupation. In case of design, apart from student & other occupation, people those are engaged in private jobs also shows significant difference. For content and fees and charges factors, the difference is observed in all the occupation levels. However, in case of speed, it is significant between students and other categories of occupation. The analysis implies that the students plays a vital role in mobile banking factors.

12. The present study indicates the relationship between family income levels and mobile banking factors by the ANOVA & Games-Howell post-hoc test it indicates that the p-value is less than the accepted level (0.005) of significance, for all the variables except accessibility and security. This implies that family income levels have significant effect on mobile banking factors of customer satisfaction. Therefore, it implies that mobile banking usage behaviour is predicted or explained by family income a level that is in line with the ANOVA test result. Contrary to the above, **Alagheband (2006)** and **Annin et al. (2013)** in their study investigated that income has no significant impact on e-banking adoption. Further, **Izogo et al. (2012)** found that income does not have a significant effect on customers' adoption and usage of e-banking. This implies that there is significant difference in their e-banking adoption behaviour between consumers who are indifferent income groups.

13. Privacy is significant in case of gender which shows that male and female behaves differently when the concept of privacy comes into picture. This may be due to the fact that the risk factors that are undertaken by males and females are quite different when financial

transactions happens.

14. Marital status has a difference with all the factors of mobile banking except accessibility and convenience. This may be due to the fact that time and effort in accessing the mobile banking does not differ with respect to married, unmarried and other category of people.

15. From the analysis of customer satisfaction with demographic variables, it is found that only **occupation** and **marital status** is significant at 5% level of significance where as other variables such as age, gender, income and educational qualification does not have an impact on customer satisfaction. This indicated that there is no difference in the age group, gender, income and educational status with customer satisfaction. In case of occupation, the significant difference is observed between students with Govt. service, Private Service and other category of occupation. This is also observed while the factors of mobile banking are analyzed with the demographic variables.

16. It is found that Marital status and gender is playing as moderator role with accessibility and convenience as independent variable and customer satisfaction as an outcome variables and with Convenience as independent variables and customer satisfaction as dependent variables respectively.

5.2.3. OBJECTIVE-WISE FINDINGS

The researcher has drawn certain findings according to the objectives of the study and it is compiled as follows:

Sl. No	Objective	Findings	
1.	To know the influence of demographic variables on the factors of mobile banking	a.	The ANOVA results extracted from SPSS output reveals that the p-value that is more than the accepted level (0.05) of significance for all the factors, except for one variables i.e., Convenience, which statistically signifying the differences in the preferred form of Mobile banking factors based on their age group. In order to understand in detail, it was found that in case of convenience, the age group between 36-45 years and 18-25 years (p=0.001), 26-35 years and above 46, 36-45 and above 46 are significant while using the mobile banking. This implies that each age group shows a significant difference considering convenience as a mobile banking factor.
		b.	The second demographic variables i.e. educational level does not have an impact on the factors of mobile banking factors.
		c.	In case of occupation, all factors of mobile banking shows significant difference except accessibility and

			security. In case of convenience, there seems to be a significant difference between Students and Govt. Services. This may be due to the earning capability of the Govt. services which is less and they mostly depend upon their parents for any consumption. In case of privacy, there is a significant difference between students, self-employed persons, and other category of occupation. In case of design, apart from student & other occupation, people those are engaged in private jobs also shows significant difference. For content and fees and charges factors, the difference is observed in all the occupation levels. However, in case of speed, it is significant between students and other categories of occupation. The analysis implies that the students plays a vital role in mobile banking factors.
		d.	In case of Income, all the factors shows statistically significant except convenience. This may be due to the fact that when there is a requirement, people use the mobile banking. So, convenience does not play a vital role here.
		e.	Gender has a significant difference with the factors of mobile banking, Privacy which indicates that males and females

			have a significant difference to the privacy.
		f.	Marital status has a difference with all the factors of mobile banking except accessibility and convenience. This shows that except educational qualification, all other demographic variables have a significant difference with the factors of mobile banking. However, age, income and occupation have a major difference with respect to the various factors of mobile banking. This is also evident that people having different age have a different requirement to mobile banking and their usage. Also, income which is somehow related to occupation enable the customers to use their mobile banking operation.
2.	To identify the influence of demographic variables on the customer satisfaction	a.	In order to understand the deeper variation, customer satisfaction was tested with various demographic variables by using the same ANOVA test. It is found that only occupation and marital status is significant at 5% level of significance where as other variables such as age, gender, income and educational qualification does not have an impact on customer satisfaction. This indicated that there is no difference in the age group, gender, income and educational status

			with customer satisfaction. In case of occupation, the significant difference is observed between students with Govt. service, Private service and other category of occupation. This is because of the fact that respondents with different occupation have a different requirement to mobile banking considering their both personal and professional life. Similarly, both the married and unmarried people show difference to the satisfaction level due to their usage and need for the mobile banking.
3.	To study the impact of various dimensions of mobile banking on Customer Satisfaction and to identify the stumbling blocks in respect of the use of mobile banking	a.	The analysis result shows the values of the difference in their coefficients. It is found that of coefficients the unstandardized constant (β 0) is .689 and (β 1) is Accessibility (0.079), Convenience (0.053), Privacy (0.119), Security (0.110), Design (0.206), Content (-.544), Speed (0.104), Fees and Charges (0.667). It means that if the customer satisfaction increase by 1 unit the mobile banking will increase by (.0.079) in case of accessibility and it shows that there is a positive and direct relation. Further, 7 out of 8 independent variables are affecting the customer satisfaction positively and significantly because the significance value in the concerned column is below

			0.05. One factors i.e., Content has significant impact on the Customer Satisfaction the p value in this column is 0.000 which is below the critical value of p, which is 0.05. However, it is negatively correlated which shows that if the content for the mobile banking is more, there is chances of error which the customer does not like. Hence, it could be inferred that all the factors such as Convenience, Privacy, Security, Design, Speed, and fees and Charges, Convenience and content were the dimensions that bring about a major change in customer satisfaction with m-banking.
4.	Other findings To ascertain the relationship of mobile Banking in the retail banking sector,		a) The exciting research studies and literature, it was indicating that the mobile has become a fifth appendage, an extension essential to get through the day. That makes your bank's approach to mobile a good gauge of your capability as an experienced business, one focused squarely on customers and how to delight them. With phones in their pockets, consumers should be able to research, compare, apply for, transact and engage with all your products and services in a simple, seamless, and occasionally surprising way.

			b) The findings of this research imply that the leaders in retail banking are no longer going mobile – they have gone. To satisfy customers, keep up with competitors, raise revenues and ensure an always-on connection, you need to mobilize, too. c) Let's talk about customer satisfaction first. From January 2017 to November 2019, banking via mobile phone was up 74 percent, according to the Adobe "Mobile Maturity Study." It's the only device with a steady uptick in use for retail banking since 2017. But by mobile, we do mean smartphone — and it's clear looking at the chart that, for retail banking use, the phone line trends up strongly while the tablet line flattens. So much for having more real estate for complex banking products. d) According to Fiserv's "Mobile Banking Adoption." Customers also increased the number and value of point-of-sale, ATM, and POS transactions, bringing increased interchange revenue to banks. Attrition is lower among mobile banking users, too.

5.3. RECOMMENDATIONS

Based on key findings of this study following recommendations were made:

5.3.1 ON THE BASIS OF FACTORS OF MOBILE BANKING PARAMETERS

5.3.1.1 SECURITY ISSUES

1. The results of this study indicate that security is one of the key factors for mobile banking adoption. It has a direct impact on customer satisfaction. Mobile phones used for Mobile Banking could be easily hacked remotely, posing security threats. To address this, banks should execute restricted functionality options while providing Mobile Banking services. Pande (2009) suggested that due to this restricted functionality user needs to apply for adding a new payee or for increasing payment limit thus preventing the initiation of unauthorized payments from the user's mobile phone remotely.
2. Further to manage remote hacking of mobile and subsequent fraud; one-time password (OTPs) should be used. When a request is received, a password is sent to the user's phone via SMS. This password is expired once it has been used or once its scheduled life-cycle has expired.
3. Many times mobile phones engaged in wireless access protocol (WAP) based Mobile Banking, lack personal firewalls which may pose a security threat. Here banks should try to build customer awareness regarding the use of firewalls, regular updating of antivirus programs in mobile phones.
4. Mobile Banking is not much secured against potential threats of malicious code, phishing, and SMShing. To make it secure against malicious codes users must be made aware of the use of antivirus and antimalware programs in JAVA-enabled phones and smartphones. Again, to protect users from the threat of phishing and SMShing consumer awareness is the key.
5. There is a fear that the recent increase in 'fund transfer limit without end-to-end encryption for banks' by RBI from Rs.1000 to Rs. 5000; may lead to an

increase in fraudulent cases. This issue should be addressed very prudently as there is trade-offs for increased security, mainly higher operational cost to banks.

6. Real-Time Notification (RTN) after any Mobile Banking transactions should be made mandatory to quickly inform customers of suspicious or potentially fraudulent activities and empower them to immediately take action.

5.3.1.2 INTEROPERABILITY ISSUES

1. Various telecommunication technologies viz. GSM, CDMA, GPRS, and a variety of mobile phones pose an interoperability challenge in offering Mobile Banking, as each of these requires different support technology. But in practice, it is too early in the service lifecycle of Mobile Banking for interoperability to be addressed within the country. Solution for this would largely be dependent on the banks, telecom operators, and mobile handset manufacturers' mutual understanding, which is a must for achieving economies of scale and reducing operational cost.
2. To address interoperability, issue Mobile Banking service providers should adopt a common ISO-8583 message format. Once banking interfaces are well defined and money movements between banks follow the IS0-8583 standards interoperability issue would automatically get resolved.
3. Speed as a factors of mobile banking has an impact on customer satisfaction. The internet speed provided by the telecom companies affects the operation where the bankers must collaborate with the companies to provide better services.

5.3.1.3 NETWORK ISSUES

1. Accessibility is another factors of mobile banking. Customers always expect easy ways of getting access to mobile banking. Any problem during their transaction demotivates them. Network congestion creates serious problems in conducting Mobile Banking transactions, further network congestion at peak texting times is a major source of dissatisfaction among customers as they may not receive confirmation of the transaction.

2. For this, it is extremely important that SMS gateway providers can provide a decent quality of service for banks and financial institutions regarding SMS services. Therefore, the provision of service level agreements (SLAs) is a requirement for mobile service providers as it is necessary to give customers the delivery guarantees of all messages, as well as measurements on the speed of delivery, throughput, etc. Thus, SLAs give the service parameters in which a messaging solution is guaranteed to perform.

5.3.1.4 STANDARDIZATION ISSUES

1. Users availing of Mobile Banking services from multiple banks find it difficult to deal with different SMS short codes of different banks. So, RBI should give guidelines to standardize short codes for a particular type of transaction of the bank.
2. Mobile service providers should focus on developing applications for low-end java based phones (in India penetration of smartphones and high-end java based phones is low, but rising very sharply).
3. Content in mobile banking also influences to the customer satisfactions. It is negatively related to customer satisfaction where standardisation becomes a challenge for the bankers.

5.3.2 DEMOGRAPHIC PARAMETERS

1. There are five major demographic variables which plays important role in customer satisfaction and factors of mobile banking. Out of these, marital status and gender act as moderating variables which infarct influences the customer satisfaction. So, the banks must take special care with respect to male vs female and their marital status.
2. The second demographic variables i.e. educational level does not have an impact on the factors of mobile banking factors.
3. In case of occupation, all factors of mobile banking shows significant difference except accessibility and security. Students, self-employed persons category are to be given importance because they use mobile banking more as compared to other category of people.
4. Income as a demographic variables affects the factors of mobile banking except accessibility. but it does not directly influence the customer satisfaction. So, the customers having different income range should be targeted by the banks so that they can use the mobile banking to a large extent in future.

5.4 IMPLICATION OF FINDINGS

5.4.1 Theoretical Implication and Comparison of Results

The study found that the major difference with respect to previous literature was observed for demographic variables such as age, occupation, income, and education. Age does not significantly influence the customer adoption of electronic banking which is in line with Sheshadri and Rani (2014). However, it is deviates from the research of Takele and Sira (2013); Izogo et al., (2012); Alafeef et al., (2011) which found that age has a significant effect on customers' adoption and usage of e-banking.

Educational level has no significant effect on mobile banking factors of customer satisfaction. This is in consistent with Ismail et al. (2012); Lee et al. (2003);

Annin et al. (2013) and Alagheband (2006).

Occupation type has a significant effect on mobile banking factors of customer satisfaction which is against the research of Ismail et al. (2012) and Sheshadri et al. (2014) stating that occupation has no significant impact on e-banking adoption.

Family income levels have significant effect on mobile banking factors of customer satisfaction. In contrast with the above, Alagheband (2006); Annin et al. (2013) and Izogo et al. (2012) in their study investigated that income has no significant impact on e-banking adoption.

The factors of mobile banking which obtain from the analysis are in line with previous literature and research. All these factors such as accessibility, convenience, design, content, privacy, security, speed, fees, and charges play a vital role in mobile banking and also influences to the customer satisfaction.

5.4.2 Policy level Implications

Through these study findings, policymakers were able to understand how mobile banking service has affected service delivery to customers, particularly non-business customers. Based on the findings from the study they were able to align mobile banking policies with the market to have a greater positive effect on service delivery.

The banks should develop the mobile banking service to get a lot of customers for banks and develop the system as much they can and improve the system to fastest than before and banks try to available all mobile banking product and services such as internet banking, web banking, POS and ATM because few banks provide all service together.

Another thing that the bank must consider is the cost of acquiring the present as well as prospect customers. There is a possibilities that these customers may opt

for mobile banking. So, the banks must devise suitable strategy to increase the no. of mobile banking customers.

Management of the banks should consider and work to increase the efficiency of their employee and use new program and system to develop banks daily work, also send employees to training inside or outside in country to develop their skills and experience and follow newest features of modern technology.

5.4.3 Implications for Government

The government should make a plan to adopt mobile banking service and provide it by governmental banks because they can use for paying salary by smart cards and directly transfer their amount to employee's account and all other payment who pay to the government employee and all other pension people.

Since the demonetization initiative of the Government of India of 2016, a swift rise in online banking and mobile banking transactions has been witnessed in India. The government has also taken several measures to encourage cashless payment and branchless banking to increase the efficiency of the banking system. Besides this complexity of life, rapid urbanization, growing traffic on roads, and busy lifestyles have also led to the growth of mobile banking in India. Banks and other intermediaries involved in online banking transactions are also considering this growing interest of users in online banking as an opportunity to reach their customers and provide them with a safe and pleasant mobile banking experience.

Though mobile banking technology is expanding across the globe, factors responsible for its expansion and growth are not uniform in different countries. Therefore, it becomes necessary to explore the factors affecting mobile banking usage in India.

5.4.4 Managerial Implications

The results of this study have important for managerial implications of mobile banking and mobile companies in formulating their marketing strategies as per the

users' requirements to expand the penetration of their services. This study explicitly specifies the critical factors (e.g., accessibility, convenience, privacy, security, design, content, speed and Fees and Charges) affecting the mobile banking customer's satisfaction, which can be extremely useful for managers while devising mobile banking service strategies. As per the present study, accessibility, convenience, security, privacy, Fees and charges, design and speed are the most significant antecedent of mobile banking adoption. Therefore, measures can be taken to build and manage the belief formation of customers in mobile banking technology. Banks, along with other intermediaries, should also make efforts to increase public awareness about the uses, utility, convenience, and other related benefits offered by mobile banking. These entities may devise campaigns to allay the fears of customers about the potential risks involved with mobile banking and make them more educated about the benefits of mobile banking.

The results of this study are also useful to regulators in implementing their policies regarding financial inclusion and the digital economy. This can be realized by creating a favourable financial environment conducive to the use of mobile banking technology and by formulating strategies to build the trust of people and create awareness about the use of it.

5.5 LIMITATIONS OF THE STUDY

The study suffers from the following limitations:

1. The study is confined to retail banking customers in Bengaluru. The samples for the present study were collected from customers who avail mobile banking services.
2. Only the respondents from four banks (SBI, Bank of Baroda, ICICI& HDFC) are considered for the study, and the respondents from foreign banks, which have a different banking approach and culture, have been kept outside the ambits of the study.

3. Majority of the factors have been covered in this study based upon the literature review. However, some more factors may be explored by applying other appropriate statistical tools.

5.6 SCOPE FOR FUTURE RESEARCH

The findings of this study show several directions for future research.

1. The results of this study can be tested and verified in other public and private banks in India.
2. The results of this study can be tested and verified for other developing countries having a similar social and demographic structure as that of India, e.g., Indonesia, Malaysia, Sri Lanka, Bangladesh, etc.,
3. Future research can also be conducted to re-examine and validate the theoretical model empirically.
4. Since the study concentrates on mobile banking in urban areas whose perceptions or opinions might differ from the rural population, there is a potential for studying mobile banking customer satisfaction in rural contexts wherein they may be less exposed to assistive technologies.
5. Besides, a comparative study may be undertaken to understand the rural-urban divide in the inclusive banking potential of the Mobile Banking channel. Mobile banking is in the introduction stage in rural areas in India.

5.7 CONCLUSIONS

The study concluded that mobile banking was mostly used as a digital channel. Further mobile banking was considered fast and reliable and the speed was considered satisfactory. In this modern competitive business world, technology becomes an integral part of companies. Mobile banking is the type of technology by which the banking sectors are performing their task more effectively as well as efficiently. Retail banking performances are accelerated through mobile banking.

The life of the customers becomes easier and customers want to use such type of technology to get fast and convenient services. Modern customers are satisfied with the usage of this type of technology-oriented services. Ensuring customer satisfaction is the main principle of marketing. Without ensuring customer satisfaction, no business will be successful. From this study, we can see that among many factors that determine the customers' satisfaction for mobile banking services; accessibility, convenience, privacy, security, design, content, speed and Fees and Charges appear to be the most important determinants of customers' satisfaction.

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BIBLIOGRAPHY

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APPENDICES

APPENDIX – A

QUESTIONNAIRE

Impact of Mobile Banking on Customer Satisfaction concerning Retail Banking

QUESTIONNAIRE

Part A

1. Drivers of Mobile technology (5-Strongly Agree, 4- Agree, 3-Neither Agree nor Disagree2- Disagree, 1- Strongly Disagree)
   5 4 3 2 1

ACCESSIBILITY	5	4	3	2	1
Retail-banking services provided by the banks allow easy access to transaction databoth recent and historical.					
Customers can access the details on the bank charges,the details on fund transfer between accounts,informationon competitors interest rates, foreign exchange rates commission charged for foreign exchange, contact details for complaints, frequently asked questions page, in addition to the availability of search engine.					
Retail banking service practices involve consistency of performance and dependability.					
Employees of Retail-banking service providers possess the required skills and knowledge to perform the service.					
Politeness, respect, consideration, and friendliness of contact personnel.					

Retail-banking service providers making the effort to understand the customer's needs.					
Quick response and the ability to get help if there is a problem or question.					
Provision of caring and individualized attention to customers provided by call centers or web administrators.					
Retail-banks provide sufficient notice to the users and suggest alternatives for them to complete their transactions within the closure hours in case of urgent needs.					
Retail-banks provide power backup and data recovery systems to avoid interrupting transactions in case of power failure.					
Banks provide 24 hours e-based monitoring and assistance for e-banking services that need immediate assistance					
Retail-banks have more inter personal interaction with customers through out the service delivery process which may avoid mis-communications between the users and the service providers.					
Retail-banks provide help-desk services and online help facilities, and the customer service officers are friendly when addressing complaints.					
e-banks provide customer feedback services					
CONVENIENCE	5	4	3	2	1
Customers can access Retail-banking services at anytime and anywhere					
There is no queue while using e-banking services.					

Retail-banking services save time as compared to conventional banking					
Retail-banks transaction is easyto use.					
Retail-banking services are user-friendly.					
Retail-banking services facilities ensure access of account when abroad					
Retail-banks spend a great deal of time and money for developing e-banking functionality to allow customers an easy and convenient way to manage their money					
PRIVACY	5	4	3	2	1
Confidential information is delivered safely from Retail banks to customers.					
Customers' financial information may not be passed onto other organizations without the consent of the customers.					
Third parties are not able to assess customers' financial details					
Retail-banks keep customers information private and confidential					
Retail-banks ensure the protection of personal information, risk of fraud, and financial loss.					
Privacy is not a significant obstacle to the adoption of Retail banking in India.					
Customers trust that their banks are more concerned about privacy issues and will protect them					
Privacy factor influences the adoption of Retail-banking services.					

SECURITY	5	4	3	2	1
Customers are satisfied with the security system of the Retail banking service providers.					
Retail-banking service providers consider security as the most important issue of e-banking practices.					
Retail-banking service users have freedom from danger, risk, and doubt about security.					
Retail-banking service users believe that the banking infrastructure is reliable in correcting erroneous transactions.					
Retail-banks will compensate for any losses due to security reasons or infringements.					
Retail-banking service users perceive that their bank information is secure and that nobody can access their accounts.					
The security factor is a prime factor for the adoption of Retail-banking services.					
DESIGN	5	4	3	2	1
Retail-banking service medium has attractive screen layout and design.					
Retail-banking service medium has flashy graphics and color configuration.					
The design with appropriate use of graphical user interface is also considered as an important determinant for using retail-banking services.					
The design is keeping customers informed in a language they can understand and listening to them.					
It involves the correct technical functioning and the accuracy of service promises (delivering when					

promised) and product information					
Ergonomic visual structure and design are particularly important forusing Retail-banking services.					
CONTENT	5	4	3	2	1
Retail-banks provide clear, simple, and understandable guidance screen ease the customers to perform					
Retail-banks provide the suitability of the information for the user's purposes.					
Information credibility affects the acceptance of e-banking					
Up-to-date contents of information greatly positively influence the adoption of Retail-banking.					
Retail-banking services have been upgraded compared to when they first started using the services.					
Appealing aesthetic content would have a positive impact on drawing potential customers' attention.					
Retail-banks provide graphics and text on the e-banking medium to perform e-banking transactions easily.					
SPEED	5	4	3	2	1
Speed of e-transactions flow is critical to user satisfaction of using Retail-banking services					
Retail-banking service medium is not a frequent connection break down.					
Easy to navigate the medium due to smooth speed.					
Transition is efficient/no waiting time.					
Response speed to the complaint is satisfactory.					
Speed of e-Retail transactions flow is faster than traditional banking channels.					

The customers are highly satisfied with the prompt ness of the delivery of Retail-banking services					
Willingness or readiness of employees to provide e-banking services (timeliness of service, giving prompt service)					
FEES AND CHARGES	5	4	3	2	1
One of the main attributes that determine customers'decision on using Retail-the banking system is charges					
Retail-banks provides customers convenience and flexibility and can be provide data lower cost than traditional branch banking					
The price of service fees is acceptable.					
Retail-banks charge the negligible annual fee					
Customers won't terminate services even if the bank charges a high annual fee.					
If customers are to use new technologies, the technologies are reasonably priced relative to alternatives.					
Efficient and speedy e-banking transaction with lower transaction cost.					
Compared to other banks, your bank offers attractive service costs.					
Compared to other banks, your bank charges fairly for similar services.					
Compared to other banks, your bank provides more free services.					

2. Customer satisfaction (5-Highly Satisfied, 4- Satisfied, 3-Neither Satisfied Nor Dissatisfied,2- Dissatisfied, 1- Highly Dissatisfied)
   5 4 3 2 1

Overall, I am satisfied with the retail banking services offered by the banks					
The retail banking services offered by the bank exceed my expectations					
The retail banking services offered by the bank are close to my ideal SSTs					

3. Risks/challenges associated with mobile technology (5-Strongly Agree, 4-Agree, 3-Neither Agree nor Disagree2- Disagree 1- Strongly Disagree)
   5 4 3 2 1

Lack of adequate mobile technology experience					
Worrying about security on online transactions					
Worrying about the integrity of the third-party gateway (PayU etc.)					
Not familiar with the mobile transaction process					
The unattractiveness of the apps /mobile web pages					
Wrong information on the apps/mobile web pages					
Fear of biased information of the banking service providers					
The trustworthiness of the information source					
Misleading Information					

Part B

1. Type of bank account I have **Savings / Current.**
2. I prefer to use the following mobile technologies: (5-Strongly Agree, 4-Agree, 3-Neither Agree nor Disagree2- Disagree 1- Strongly Disagree)
   5 4 3 2 1

SMS					
Mobile banking					
Banking Apps					
voice calls					
download games					
play games					
text messaging (SMS, MMS)					
picture messaging (picture exchange)					
voicemail					
download ringtones and icons					
voice-activated dialing					
wireless Internet access					

3. I prefer to use cashless transaction over cash because: (5-Strongly Agree, 4- Agree, 3-Neither Agree nor Disagree2- Disagree 1- Strongly Disagree)
   5 4 3 2 1

Convenience					
Accuracy					
Easy to access					
Confidence in using the technology					
Personalized to my needs					
Visual appearance					

4. I feel the following transactions is easy to do through mobile (5-Strongly Agree, 4- Agree, 3-Neither Agree nor Disagree2- Disagree 1- Strongly Disagree) 5 4 3 2 1

Mobile phone bill					
Utilities (Electricity bill, water bill, etc.)					
School fees					
Groceries					
Office stationaries					
Other household items					
Clothing					
Cinema					
Insurance					
Donations					
Others (specify)					

5. Average transactions amount using mobile.

☐ less than Rs100 ☐ Rs100-1000 ☐ Rs1000-5000 ☐ Rs5000 and above

6. I learned about mobile technology through:

☐ Friends ☐ Family ☐ Advertisements ☐ other……..

Part C

7. Gender ☐ Male ☐ Female

8. Current Age (Years) ☐ 18-25 ☐ 26-35 ☐ 36-45 ☐ More than 46

9. Educational Background

☐ High School ☐ Bachelor's Degree ☐ Professional Degree ☐ Doctorate Degree

10. Occupation

☐ Professional ☐ Govt. Employee ☐ Private Employee ☐ Self-Employee Any other (Please Specify) _____

11. Family Income

☐ Up to 1,50,000 ☐ 1,50,001-3,00,000 ☐ 3,00,001- 4,50,000 ☐ more than 4,50,001

12. Family type ☐ Nuclear ☐ Joint

13. No. of persons in your family

☐ Two ☐ Three ☐ More than three

- Marital status ☐ Married ☐ Unmarried

☐ Mobile Usage for Banking Transactions Heavy (up to 6 hours a day)

☐ Medium (Up to 4 hours a day)

☐ Light (Up to 2 hours a day)

☐ No usage (An average of 1 hour per day

APPENDIX – B

LIST OF PUBLICATIONS

Following is the list of publications by the scholar in the research area

- Jayachandra B.S., Barik, B., & Purna Prasad, A., "An Empirical Investigation on Consumer Intention to Use Mobile Banking Payment Services in Karnataka", Wesleyan Journal of Research, ISSN – 0975-1368., December 2020, Vol 13, No 50, pp – 09-19.

- Jayachandra, B.S., "Entrepreneurial Motivation, A Conceptual Analysis", IUJ Journal of Management, The ICFAI University, Jharkhand, Sl. No. 41, Page 265-268

APPENDIX - B

LIST OF PRESENTATIONS IN CONFERENCES AND SEMINARS

Following is the list of Presentations in Conference & Seminars by the Scholar in the Research Area:

- Participated and presented a paper titled "An Article of Cyber Attacks on Banking System" in the National Seminar on "Cyber Security: Emerging Trends", organized by The ICFAI University, Jharkhand, Ranchi on 29th November 2017.

- Participated and presented a paper titled "Integration of IT in planning M & A" in the International Conference on Research in Business Management & Information Technology (ICRBIT 2015), held during April 29-30, 2015 at Department of MBA/MCA, MS Institute of Technology, Bangalore, 560 098