

**A STUDY ON CUSTOMER USAGE OF MOBILE BANKING
SERVICES IN INDIAN OVERSEAS BANK WITH SPECIAL
REFERENCE TO CHROMPET BRANCH**

Submitted in partial fulfilment of the requirements for the award of

MASTER OF BUSINESS ADMINISTRATION

by

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SCHOOL OF MANAGEMENT STUDIES

SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Accredited with Grade “A++” by NAAC | 12B Status by UGC |

CATEGORY - 1 UNIVERSITY BY UGC | Approved by AICTE

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December 2023



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BONAFIDE CERTIFICATE

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ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to Board of Management of SATHYABAMA for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my thanks to Dr. Bharathi B, Director, Centre for Distance and Online Education, Dr. Bhuvaneshwari G, Dean, School of Management Studies and Dr. Palani, Head of the Department, Dept. of Management Studies for providing me necessary support and details at the right time during the progressive reviews.

I would like to express my sincere and deep sense of gratitude to my Coordinator Dr. T.R. Kalailakshmi for her undue support throughout my program. I express my gratitude to my Project Guide Dr. M. Soundarya for her valuable guidance, suggestions, and constant encouragement paved way for the successful completion of my project work.

I wish to express my thanks to all Teaching and Non-teaching staff members of the Department of Management Studies who were helpful in many ways for the completion of the project.

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ABSTRACT

Consumers in olden days kept using traditional system of banking. As years passed by, technology revolutionized the entire world and it did not spare the banking industry. Technology is used for offering or delivering banking services to the loyal customers and consumers. Main purpose of using technology is to cause enormous benefits to the consumers. Bankers use the technology to make the consumers keep up to date in terms of banking services.

Mobile banking refers to the use of a mobile device to carry out financial transactions. Currently, mobile banking is become easier with the development of cellular mobile applications. Clients are now able to check their balances, view their bank statements online, make transfers, and even carry out prepaid service purchases. Many financial institutions and banks make use of both SMS and apps to keep their clients informed of their account activities or to send out alerts to clients regarding possible fraud and/or updates and maintenance of service.

The main advantage of Mobile Banking services is it offers quick and instant banking services, eliminating your dependence on banks for basic transactions. No matter where you are, all you need is a stable internet connection and a robust mobile and internet network. You can conduct various kinds of transactions form from anywhere across the globe, thanks to mobile banking. Mobile banking is like carrying your bank in your pockets 24 hours a day, 7 days.

A major disadvantage of mobile banking is that it functions only if you have an internet-enabled smartphone. You need to be well-versed with the constantly evolving banking technologies to enjoy mobile banking advantages. This can prove to be quite a challenge for older people or people from rural areas. One of the main concerns with mobile banking is the potential for security breaches. Cybercriminals may attempt to steal personal information or access bank accounts through mobile apps, which can leave users vulnerable to identity theft and financial fraud.

CHAPTER - I

INTRODUCTION

1.1 INTRODUCTION:

Mobile banking is a service provided by a bank or other financial institution that allows its customers to conduct financial transaction remotely using mobile devices such as a smart phone or tablet. Unlike the related internet banking it uses software, usually called an app, provided by the financial institution for the purpose. Mobile banking is usually available on a 24-hour basis. Some financial institutions have restrictions on which accounts may be accessed through mobile banking, as well as a limit on the amount that can be transacted. Mobile banking is dependent on the availability of an internet or data connection to the mobile device. Transactions through mobile banking depend on the features of the mobile banking app provided and typically includes obtaining account balances and lists of latest transactions, electronic bill payments, remote check deposit, p2p payments, and fund transfer between a customer's or another's account. Some app also enables copies of statements to be downloaded and sometimes printed at the customer's premises. Using a mobile banking app increase ease of use, speed, flexibility and improves security because it integrates with the user built-in mobile device security mechanisms.

From the bank's point of view, mobile banking reduces the cost of handling transactions by reducing the need for customers to visit a bank branch for non-cash withdrawal and deposits transactions. Mobile banking does not handle transactions involving cash, and a customer needs to visit an ATM or bank branch for cash withdrawals or deposits, many apps now have a remote deposit option; using the device's camera to digitally transmit cheques to their financial institution. Mobile banking differs from mobile payments, which involves the use of a mobile device to pay for goods or services at the point of sale or remotely, analogously to the use of a debit or credit card to affect an EFTPOS payment.

The banking industry has transformed from the traditional model of queuing customers to the modern technology-based way of transactions that are available at any given point of time on any day and anywhere, provided the person has

network access to avail the services from the respective banks. With the adoption of mobile banking modes of services, the banking sector is having a tremendous growth across the globe including India. Presently the internet technology has brought the third revolution to this world. The banking sector has been upgrading their services with use of technology from time to time like introducing the ATM – Automatic Teller Machine which took more than a decade to get popular and the phone and 2 net banking took half the time of ATM. But the mobile banking technology which is the third era of technology of banking sector after phone and net banking and net banking and comparatively its growth is phenomenal when compared to the first two eras. Even in India the mobile banking is growing fast because of the world's second subscriber base in mobile sector after China. The main objective of this paper is to explore the factors that affect the mobile banking services in India with references to Chennai City.

1.2 HISTORY OF MOBILE BANKING:

The earliest mobile banking services used SMS; a service known as SMS banking. With the introduction of smart phones with WAP support enabling the use of the mobile web in 1999, the first European banks started to offer mobile banking on this platform to their customers. Mobile banking before 2010 was most often performed via SMS or the mobile web. Apple's initial success with iPhone and the rapid growth of phones based on Google's Android (operating system) have led to increasing use of special mobile apps, downloaded to the mobile device. With that said, advancements in web technologies such as HTML5, CSS3 and JavaScript have seen more banks launching mobile web-based services to complement native applications. These applications are consisted of a web application module in JSP such as J2E and function of another module J2ME. A recent study (May 2012) by Mapa Research suggests that over a third of banks have mobile device detection upon visiting the banks' main website. A few things mobile detection such as redirecting to an app store, redirection to a mobile banking specific website or providing a menu of mobile banking options for them to choose from.

1.3 MOBILE BANKING SERVICES IN INDIA:

In India the services of mobile banking were started with SMS messaging in the year 2002 and slowly picked up with the increase of mobile subscriber base in recent

years and today half the populations are using the mobile phones. But only less than 5% are using their mobiles for the banking services even though the mobile banking is convenience, but its usage is not being used to its potential. The word of smart phones is in-turn making the people to use the ever-growing internet usage on mobile handsets, for using the applications based on banking services have emerged as a new concept. Peterson, (2009); Banks in India compete to use this advanced technology to increase customer base and reduce their operational costs. Wang, Lin & Tang, (2003); Ashta, (2010); with the launch of 3 mobile banking in India, there is indeed tremendous growth in mobile banking transactions. The primary factor which attracts customers to mobile banking is its availability 24 hours / 365 days and ease of transactions, but still mobile banking has a long way to achieve as majority of customers still prefer to bank in the traditional ways. Mehta (2012); Earlier the banks used to offer SMS banking, now these banks are offering most of the banking services on mobile phone through WAP-based applications. The RBI has taken large initiatives for mobile banking like relaxing the per day limit value of mobile banking transactions from Rs.50,000 to no limit. Allowing non - banks to offer banking services by appointing the business correspondents by banks is towards focusing the drive of banking services to the rural areas where most of the population is still deprived of banking facilities and services. This in – turn shall allow the banks and its non – bank business correspondents to offer services using a mobile phone with the development of barcode, field communication, and sound wave techniques, thus helping to achieve the goal of financial inclusion for all in India. With the adoption of these technologies, mobile banking has led to more transactions, and increased the reach to connect to the last when compared to the traditional channels of banking like branches and ATMs.

1.4 STATEMENT OF PROBLEM:

To access the financial services, various banks have implemented mobile banking services to its customers. Banks have also invested major portion of its funds to reach its customers anytime and to reduce cost of providing such benefits. Besides providing these services, still customers stand in the long queues to get the transaction done. Therefore, the research tried to study the factors affecting the mobile banking services offered by the banks. Bank that is proving the various services for the customers to retain them based on that the expectation of the

customer must be found by the banks to make their services better. The attitude of the customers is varying from period to period based on the up gradation of the technology. Mobile Banking that helps the customer to make all the activities of the customer to easily done with in a fraction of a second without waiting for anyone, at the same time the banks must be dynamic. In this background the study aims to analyse the customers' usage towards mobile banking services.

1.5 NEED FOR THE STUDY:

Technology helps in the improvement of the services rendered by Global banking sector. Mobile banking is one such initiative using the technology. This research work aims to understand the various factors affecting the mobile banking services towards the customers. The significance of the study is to find out the problems in the form of factors affecting such services and to give suggestions for the overall success towards this initiative. The innovation of ATM (Automated Teller Machine) and internet banking enabled customers to complete the financial transaction by sitting at home but the customer was having problems of carrying but mobile phones are free from these difficulties. Mobile phones can be carried everywhere and used by large number of people. In the age of globalization and digitalization mobile banking has shown a way to reach the top of the pyramid in the banking business through its variety of services. Mobile banking helps to bring the unbanked in the banking world.

1.6 OBJECTIVE OF THE STUDY:

1. To know the conceptual framework of mobile banking services.
2. To analyse the customer usage of mobile banking services in public sector banks with special reference to Chrompet.
3. To identify the overall satisfaction level of the respondents towards mobile banking.
4. To offer suggestions to overcome the problems faced by customers while using mobile banking.

1.7 RESEARCH METHODOLOGY:

The present study was carried out with the objective to find out the customer's frequency of using mobile banking services in public sector banks. Both primary and secondary data have been used in the study. The primary data were collected from the existing mobile banking customers of public sector banks. The study was conducted 5 public sector banks. Twenty customers were selected randomly from each bank for the collection of data. The primary data were collected through a questionnaire which was prepared and the respondents were required to provide necessary details when they visited the bank branches. Required secondary data for the study were collected from journals, Magazines, and RBI reports.

1.7.1 Sampling Technique and Sampling Size:

To analyse the data, a convenient sampling method was adopted for the purpose of the study. To enable the researcher to input the data by and large this method was adopted. A total of 100 bank customers were collected from public sector banks which were available in local area.

Samples drawn from selected public sector banks by public

S.NO	NAME OF THE BANK	SAMPLE CUSTOMER
1	Indian bank	10
2	Indian Overseas bank	10
3	State bank of India	10
4	Canara bank	10
5	Bank of Baroda	10
Total		50

1.8 TOOLS USED FOR THE ANALYSIS:

The tools used for the analysis is Percentage analysis, Rank analysis.

1.9 CHAPTERISATION SCHEME

Chapter 1 - Introduction.

Chapter 2 - Mobile banking services in India – An overview.

Chapter 3 - Analysis on customer usage of Mobile banking services in public sector banks.

Chapter 4 – Data interpretation and analysis

Chapter 5 - Summary of findings and conclusion.

CHAPTER- II

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

Mahdi, Rezaul & Rahman, 2010 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.

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.

2.3. 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, labour, 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. 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 allow 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 centre representative. In telephone banking, customers cannot 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 many 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 centre.

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 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 it completely overlooked the urban Indians.

Bhat and Khan (2013) detected that there was 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.

Niklas Arvidsson (2013) initiated an examination to identify consumer's behaviour 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.

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 behaviour 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.

Shih, Kuang Hsunl Hung., Hsu Feng Lin (2010) this study tells us that mobile banking is a channel through which banks interact with customers via mobile devices. Mobile banking is an emerging mobile commerce application. It is a challenging task for banks to encourage customers to continue using mobile banking services and attract new customers to the service. This study clarifies the differences in the thinking paths of users of mobile banking services and consumers who have not yet used mobile 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 mobile banking services.

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.

2.4. 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 public sector undertaking banks are responsible for the slow adaptation of the e-banking system in public sector undertaking 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 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 to 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, 2007 was 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).
19. In 2017 - Bharat Bill Payment System (BBPS)

20. In 2018 - BHIM Aadhaar Pay system was introduced. It played a major role in expanding digital payment method in India.

21. In 2019 - National Common Mobility Card (NCMC) – One Nation One Card

22. In 2020 - The pandemic brought about a need for contactless payment systems. More and more people from all over the country shifted to digital payments, such as Aadhaar Enabled Payments System (AePS), BHIM Aadhaar Pay (BAP), Unified Payments Interface (UPI), and Bharat Bill Payments System (BBPS).

23. In 2021 - E-payment options like UPI, Cards, PPIs, and emerging payment modes like Bharat BillPay, NETC FAST tags became popular.

24. In 2022 - New payment technologies such as blockchain, cryptocurrencies, and digital wallets are gaining popularity.

25. In 2023 – Smart speaker payment, buy now pay later (BNPL) and the emergence of 5G for better online payment processes.

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

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 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 "logins 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 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.

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.

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.

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.

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.

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 bank' and the licensing requirements required for such entities are also areas that are being investigated 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.

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.

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.

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.

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.

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.

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.

Heikki Karjaluohto & Pento (2003), analysed 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.

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 do not 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.

2.6. 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 behaviour in the postadoption phase of the e-post box, 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 modelling and a sample of 750 current customers of the e-post box 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 behaviour. 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 favourable attitudes towards and highest intentions to continue using the e-post box; 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 mobile 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 analysed through partial least square structural equation modelling (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 mobile banking; thus, it is expected to potentially contribute to prevailing literature, especially in the context of China, where few studies that address mobile 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 modelling 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.

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 behavioural 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 modelling were used to analyse 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 behavioural 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 analysed 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.

Maditinos, Chatzoudes & Sarigiannidis (2013), initiated a 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.

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.

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 is a significant forecaster of consumer technology acceptance. This study also uses other non-usability features like social and psychological in TAM and DoI.

Tarasewich et al. (2002), According to the analysis highlighted by the author emphasized the fact that many 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, largely contributing, 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.

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 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.

2.7. FACTORS AFFECTING 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 Salla 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 analysed 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 analyse 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 behavioural 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'

behavioural intention to use mobile banking. The study tested the models of the theory of reasoned action and theory of planned behaviour 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 behavioural 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 behavioural intention to use online banking services.

Madhurima Deb and Aarti Agrawal, (2017) investigated factors impacting the adoption of mobile 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 mobile banking.

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.

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 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.

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 way 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.

Minna Mattila, Heikki Karjaluoto & Tapio Pentto (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.

2.8.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.

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 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 result in fulfilled clients and consequently banks can increase aggressive advantage by offering better-quality administrations to their clients in today's emulous world.

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.

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 fulfilment 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.

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.

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.

Zeinalizadeh, N. Shojaie & 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.

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.

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 dependent on customer services and satisfaction. Banks should increase their services and make a good relationship with the customer.

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).

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.

2.9. 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 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 analysed 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.

2.10 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

3.1. METHODOLOGY:

Research methodology is mainly needed for the purpose of framing the research process and the designs and tools that are to be used for the project purpose. Research methodology helps to find population engagement in the survey. This time research methodology is framed for the purpose of finding the level of population in the Current System. To know the attitude of the population the data is collected through a structured questionnaire.

3.2. RESEARCH DESIGN:

Descriptive Research Design

Descriptive research is a study designed to depict the participants in an accurate way. More simply put, descriptive research is all about describing people who take part in the study.

3.3. SAMPLING TECHNIQUE:

Convenience sampling method

A convenience sample is one of the main types of non-probability sampling methods. A convenience sample is made up of people who are easy to reach.

3.4. SOURCES OF DATA:

In this research, internal and external source of data are used. Collected raw materials through facts and figure of researcher's works. Collecting data from company records and document, these are all internal data and other data are external.

In data collection, there are 2 types

> Primary Data

It is a source of collecting data by first-hand information through observation, direct communication, or personal interviews of 37 respondent's customers. In this, questionnaire is used for conducting personal interviews and for collecting the data.

➤ **Secondary Data**

It is collected from standard books, internal sources, magazines, and newspapers and collecting data from external and internal sources from the company annual reports, company additional profile and company internal website.

3.5. STRUCTURE OF QUESTIONNAIRE:

Questionnaire was divided into two sections. First part was designed to know the general information and the second part contained the respondent's opinion on mobile banking

- Basic Introduction
- Personal Details
- Research related Questions
- Perception Questions
- Likert Scaling Questions

3.6. SAMPLE SIZE

The sample size for this research project is 150.

SAMPLE DESIGN

It is a particular definite plan formulation before collecting the data from population.

The research should select a particular sample. In sampling, there are 2 types- probability sampling and non-probability sampling. In this research, only non-probability sampling is used.

- Sampling

Sampling design: non-probability sampling

Sampling technique: convenience sampling

Sample unit: public

Sample size: 150 respondents

3.7. HYPOTHESIS:

HYPOTHESIS - 1

H0: There is no significant difference in the status of mobile banking usage.

H1: There is a significant difference in the status of mobile banking usage.

HYPOTHESIS - 2

H0: The proportion of users with high mobile banking usage is the same as the proportion of users with low or no mobile banking usage.

H1: The proportion of users with high mobile banking usage is different from the proportion of users with low or no mobile banking usage.

3.8. TOOLS FOR ANALYSIS:

Questionnaire was created to receive the necessary response required from the sample to achieve the research objective. The tools used for this are

3.8.1 PERCENTAGE ANALYSIS

Research questions are always answered with a descriptive statistic: generally, either percentage or mean. Percentage is appropriate when it is important to know how many of the participants gave a particular answer. Generally, percentage is reported when the responses have discrete categories.

3.8.2 CHI SQUARE

A chi-square test is a statistical test used to compare observed results with expected results. The purpose of this test is to determine if a difference between observed data and expected data is due to chance, or if it is due to a relationship between the variables you are studying.

3.8.3 ANOVA

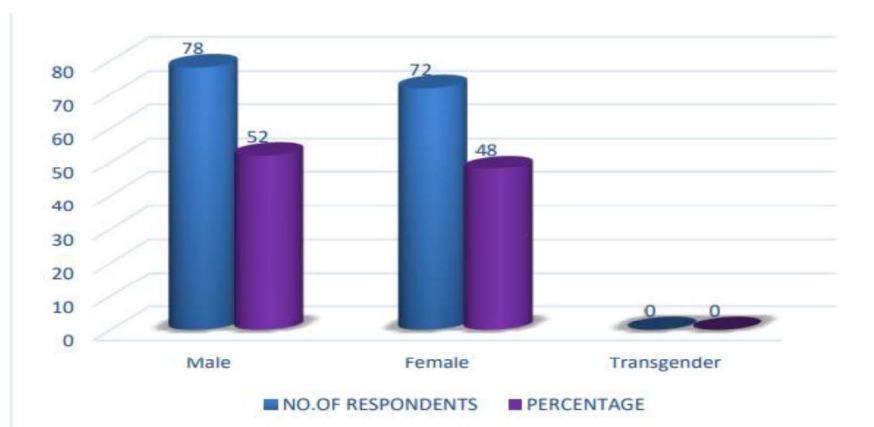
ANOVA, which stands for Analysis of Variance, is a statistical test used to analyse the difference between the means of more than two groups.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 GENDER-WISE CLASSIFICATION OF THE RESPONDENTS

S.NO	GENDER	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	MALE	78	52%
2	FEMALE	72	48%
3	TOTAL	150	100%



INTERPRETATION

From the above table it is interpreted that 52% of the respondents is male and 48% of respondents is female.

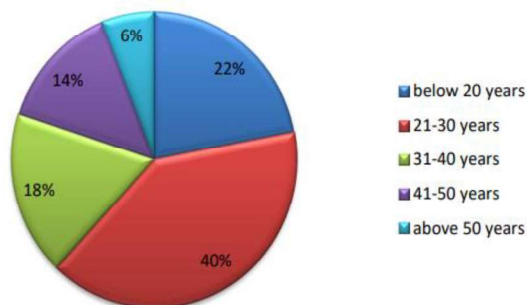
INFERENCE

Majority of the respondents are male.

4.2 AGE-WISE CLASSIFICATION OF THE RESPONDENTS

S.NO	AGE	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	15-20 years	33	22%
2	21-25 years	60	40%
3	26-30 years	27	18%
4	31-40 years	21	14%

5	above 41 years	9	6%
6	TOTAL	150	100%



INTERPRETATION

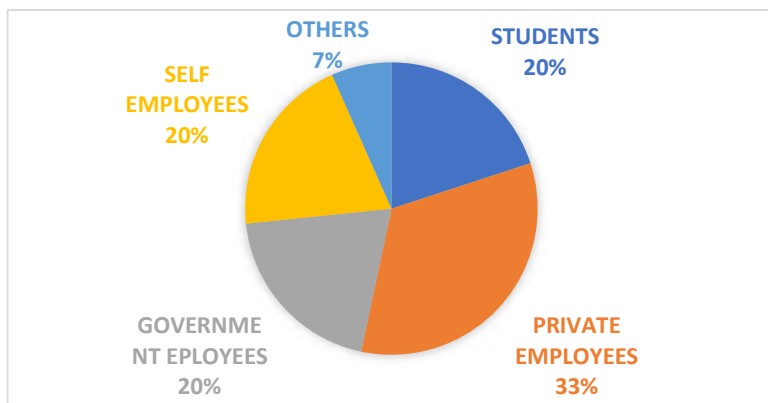
From the above table it is interpreted that the percentage of respondents 15-20 age are 22%, 21-25 age of respondents are 40%, between 26-30 age of respondents are 18%, between 31- 40 age of respondents are 14% and above 41 ages of respondents are 6%.

INFERENCE

Majority of the respondents belong to the age group of 21-30 age categories.

4.3 PROFESSION WISE CLASSIFICATION OF THE RESPONDENTS

S.NO	PROFESSION	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	Student	30	20%
2	private employee	50	33%
3	government employee	30	20%
4	self-employee	30	20%
5	others	10	7%
6	TOTAL	150	100%



INTERPRETATION

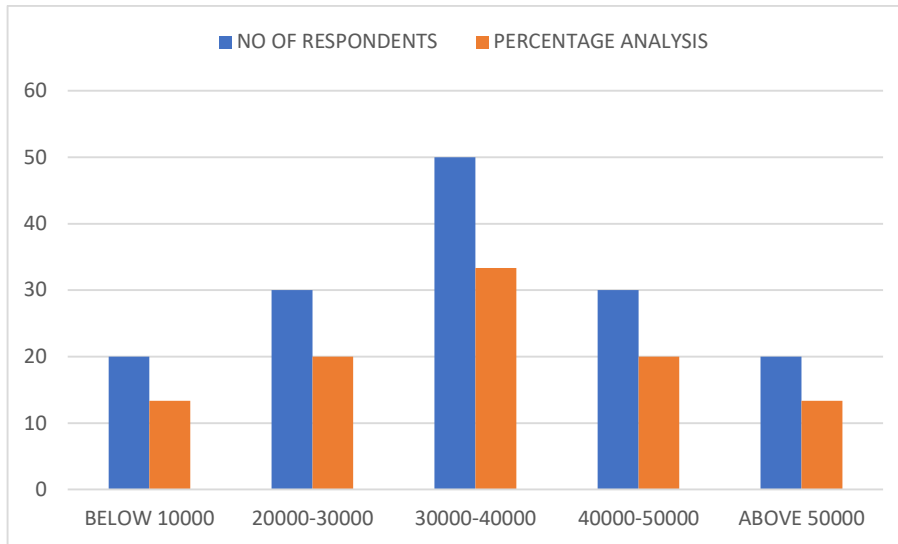
From the above table it is interpreted that the percentage of respondents of students are 20%, private employees are 33%, government employees are 20%, self-employees are 20% and others are 7%.

INFERENCE

Majority of the respondents belongs to private employee.

4.4 INCOME WISE CLASSIFICATION OF THE RESPONDENTS

S.NO	INCOME	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	below 10000	20	13%
2	20000-30000	30	20%
3	30000-40000	50	34%
4	40000-50000	30	20%
5	above 50000	20	13%
6	TOTAL	150	100%



INTERPRETATION:

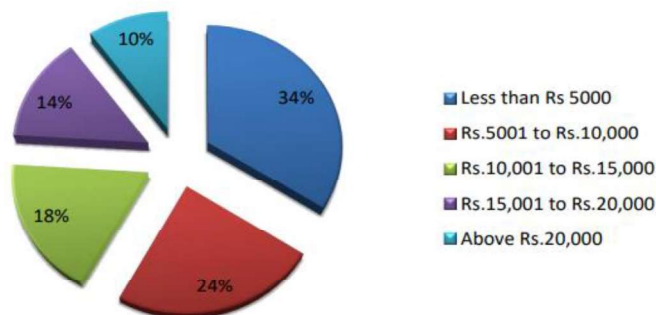
From the above table it is interpreted that 13% of the respondents are monthly income are below Rs.10,000, 20% of the respondent's monthly income is between Rs.20,000 – 30,000, 34% of the respondent's monthly income is Rs.30,000 – 40,000, 20% of the respondent's monthly income is Rs.40,000 – 50,000, 13% of the respondent's monthly income is above 50,000.

INFERENCE

Majority of the respondent's monthly income is between Rs.30,00 – 40,000

4.5 SAVINGS WISE CLASSIFICATION OF THE RESPONDENTS

S.NO	SAVINGS	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	Less than Rs.5000	51	34%
2	Rs.5000 to Rs.10,000	36	24%
3	Rs.10,000 to Rs.15,000	27	18%
4	Rs.15,000 to Rs.20,000	21	14%
5	Above Rs.20,000	15	10%
6	TOTAL	150	100%



INTERPRETATION:

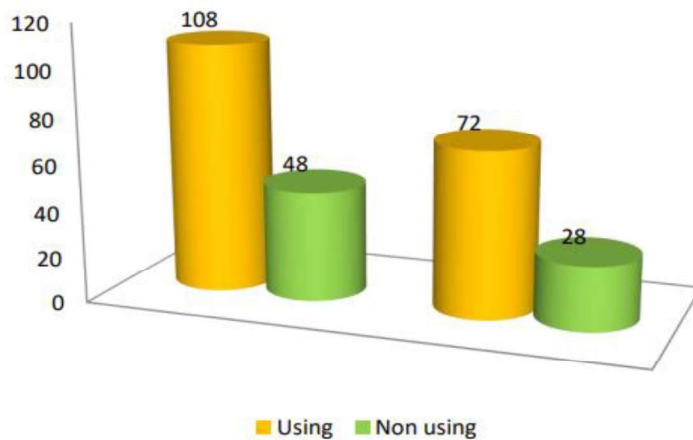
From the above table it is interpreted that 34% of the respondent's monthly savings is less than Rs 5000, 24% of the respondent's monthly savings is between Rs.5000 to Rs.10,000, 18% of the respondent's monthly savings is Rs.10,000 to Rs.15,001, 14% of the respondent's monthly savings is Rs.15,000 to Rs.20,000 and 10% of the respondent's monthly savings is above 20,000.

INFERENCE

Majority of the respondent's monthly savings is less than Rs.5,000.

4.6 USAGE OF MOBILE BANKING SERVICE WISE CLASSIFICATION OF RESPONDENTS

S.NO	USAGE OF SERVICES	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	Yes	108	72%
2	No	48	28%
3	TOTAL	150	100%



INTERPRETATION:

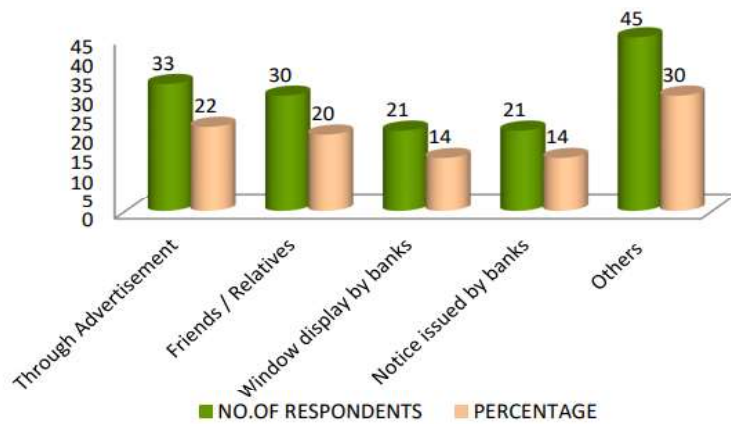
From the above table it is interpreted that 72% of the respondents are user of mobile banking services and 28% of the respondents are non-user of mobile banking services.

INFERENCE

Majority of the respondents are usage of mobile banking services.

4.7 INFORMATION ON MOBILE BANKING SERVICES

S.NO	INFORMATION ON MOBILE BANKING	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	Through advertisement	33	22%
2	Friends/relatives	30	20%
3	Windows displayed by banks	21	14%
4	Notice issued by banks	21	14%
5	others	45	30%
6	TOTAL	150	100%



INTERPRETATION:

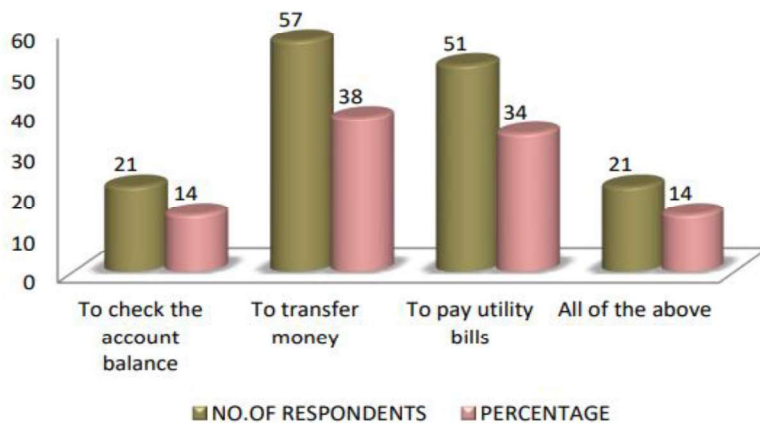
From the above table it is interpreted that 22% of the respondents know about mobile banking services through advertisement, 20% of the respondent's friends and relatives, 14% of the respondent's window display by banks, 14% of the respondents noticed issued by banks and 30% of the respondent others.

INFERENCE

Majority of the respondents got to know about mobile banking services through other means of information.

4.8 PURPOSE OF USING MOBILE BANKING SERVICES

S.NO	PURPOSE OF MOBILE BANKING	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	To check the mobile balance	21	14%
2	To transfer money	57	38%
3	To pay bills	51	34%
4	Others	21	14%
5	TOTAL	150	100%



INTERPRETATION:

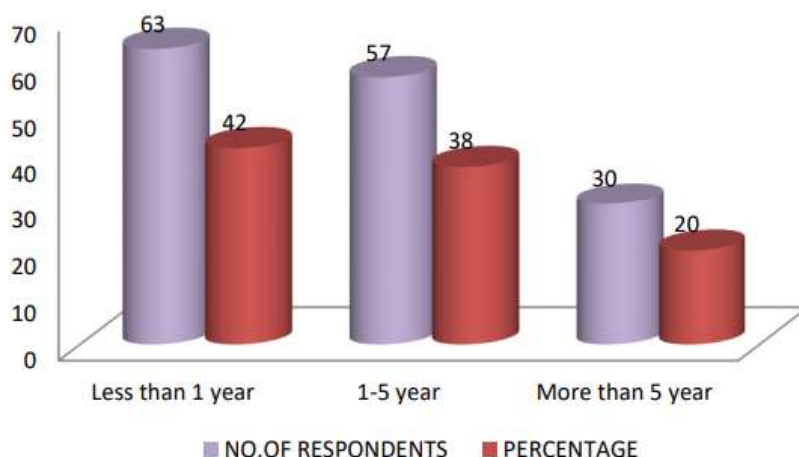
From the above table it is interpreted that 14% of the respondents use mobile banking services to check the bank balance, 38% of the respondents use mobile banking services to transfer money, 34% of the respondents use mobile banking services to pay utility bills and 14% of the respondents are using it for other purpose.

INFERENCE

Majority of the respondents use mobile banking services for transferring money.

4.9 PERIOD OF USAGE OF MOBILE BANKING SERVICES

S.NO	PERIOD OF USAGE	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	Less than 1 year	63	42%
2	1-5 years	57	38%
3	6-10 years	30	20%
4	TOTAL	150	100%



INTERPRETATION:

From the above table it is interpreted that 42% of the respondents started using mobile banking from less than a year, 38% of the respondents are using it for the past 1-5 years and 20% of the respondents are using it for the past 6-10 years.

INFERENCE

Majority of the respondents are using it from less than 1 year.

4.10 FACTORS AFFECTED YOU TO OPEN MOBILE BANKING SERVICES

S.NO	FACTOR AFFECTED	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	Time saving	50	33%
2	Easy payment	50	33%
3	Cost saving	25	17%
4	Reduced risk	25	17%
5	TOTAL	150	100%



INTERPRETATION:

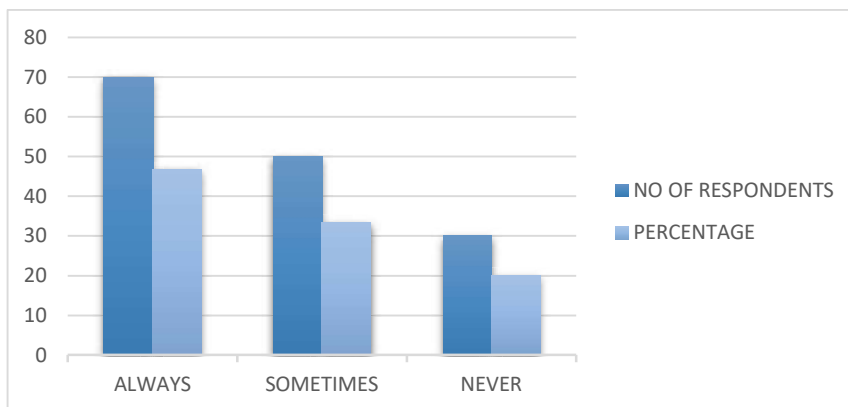
From the above table it is interpreted that 33% of the respondents use mobile banking services as it is time saving, 33% of the respondents use it for easy payment, 17% of the respondents use it for cost saving and 17% of the respondents use it for reduced risk.

INFERENCE

Majority of the respondent's use mobile banking services for time saving and easy payment purposes.

4.11 FREQUENCY OF USING MOBILE BANKING SERVICES FOR YOUR BANKING TRANSACTIONS

S.NO	FREQUENCY OF USAGE	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	Always	70	47%
2	Sometimes	50	33%
3	Never	30	20%
4	TOTAL	150	100%



INTERPRETATION:

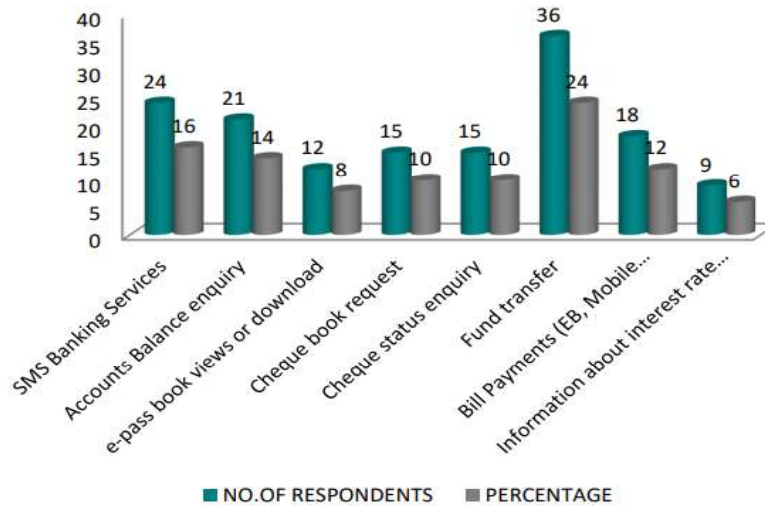
From the above table it is interpreted that 47% of the respondents always use mobile banking transaction, 33% of the respondents sometimes use mobile banking for their transactions and 20% of the respondents never use mobile banking for their transaction.

INFERENCE

Majority of the respondents use mobile banking services for their transaction.

4.12 CUSTOMER AWARENESS ABOUT MOBLE BANKING SERVICES

S.NO	CUSTOMER AWARENESS	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	SMS Banking Services	24	16%
2	Accounts Balance enquiry	21	14%
3	e-pass book views download	12	8%
4	Cheque book request	15	10%
5	Cheque status enquiry	15	10%
6	Fund transfer	36	24%
7	Bill Payments (EB, Mobile recharge, etc)	18	12%
8	Information about interest rate and other services	9	6%
9	TOTAL	150	100%



INTERPRETATION:

From the above table it is interpreted that 16% of the respondents are aware about the SMS banking services, 14% of the respondents are aware about account balance enquiry, 8% of the respondents are aware about E pass book views or download the statement, 10% of the respondents are aware about check book request, of the respondents are checked a status enquiry, of the respondents are transferring a fund, 10% of the respondents are aware about bill payments (EB, Mobile recharge etc.) and 6% of the respondents are aware about the information related to interest rate and other updates.

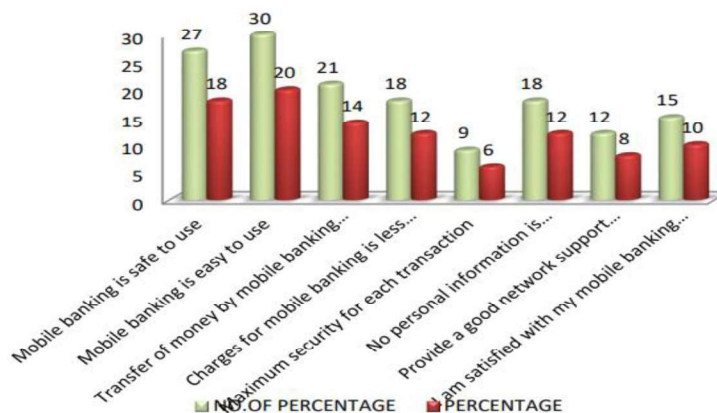
INFERENCE

Majority of the respondents are aware and using it for fund transfer purposes.

4.13 CUSTOMER USAGE OF MOBILE BANKING SERVICES

S.NO	CUSTOMER USAGE	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	Mobile banking is safe to use	27	18%
2	Mobile banking is easy to use	30	20%

3	Transfer of money by mobile banking is reliable	21	14%
4	Charges for mobile banking is less compared with other services	18	12%
5	Maximum security for each transaction	9	6%
6	No personal information is compromised	18	12%
7	Provide a good network support without problems	12	8%
8	I am satisfied with my mobile banking services	15	10%
9	TOTAL	150	100%



INTERPRETATION:

From the above table it is interpreted that 18% of the respondents use mobile banking services as it is very safe to use, 20% of the respondents find it easy to using a mobile banking services, 14% of the respondents use it for transfer of money as it is reliable , 12% of the respondents use it as it less charges are compared with other services, 6% of the respondents use it for maximum of security for each

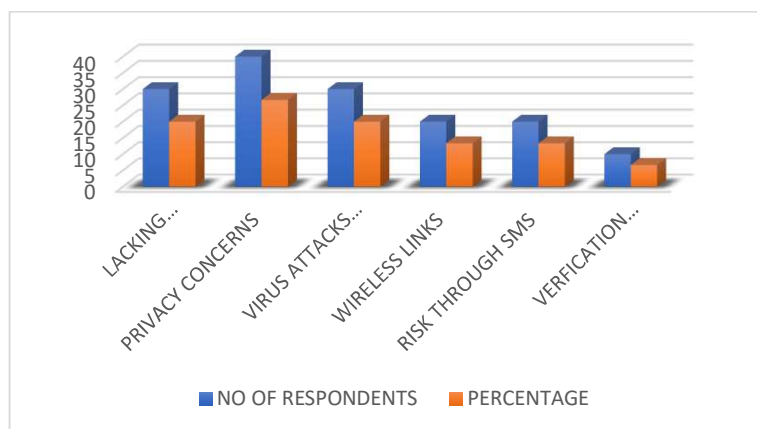
transaction, 12% of the respondents use it as their personal information is not compromised , 8% of the respondents use it as it provides a good network for supporting without problems and 10% of the respondents use it as they are satisfied with their mobile banking services.

INFERENCE

Majority of the respondents use mobile banking services as it is easy to use.

4.14 DIFFICULTY FACED IN USING MOBILE BANKING SERVICES

S.NO	DIFFICULTY FACED	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	Lacking awareness	30	20%
2	Privacy concerns	40	27%
3	Virus attack and system malware	30	20%
4	Wireless link	20	13%
5	Risk through SMS	20	13%
6	Verification concerns	10	7%
7	TOTAL	150	100%



INTERPRETATION:

From the above table it is interpreted that about 20% of the respondents found difficulty in using mobile banking services as they are not aware of the services, 27% of the respondents found difficulty as it is concerned about privacy, 20% of the

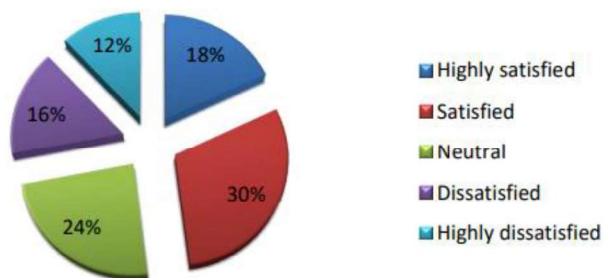
respondents faced difficulty as virus attacks and system malware may happen, 13% of the respondents faced difficulty through wireless links, 13% of the respondents found it risk through SMS and 7% of the respondents faced difficulty in verification concerns.

INFERENCE

Majority of the respondents faced difficulty in using mobile banking services as it concerns their privacy.

4.15 CUSTOMER SATISFACTION ON MOBILE BANKING SERVICES

S.NO	CUSTOMER SATISFACTION	NO OF RESPONDENTS	PERCENTAGE ANALYSIS
1	Highly satisfied	27	18%
2	Satisfied	45	30%
3	Neutral	36	24%
4	Dissatisfied	24	16%
5	Highly dissatisfied	18	12%
6	TOTAL	150	100%



INTERPRETATION:

From the above table that about 18% of the respondents said that they are highly satisfied with the mobile banking services, 30% of the respondents said that they are satisfied with the mobile banking services, 24% of the respondents said that they find it neutral with the mobile banking services, 16% of the respondents said

that they are dissatisfied with the mobile banking services and 12% of the respondents said that they are highly dissatisfied with the mobile banking services.

INFERENCE

Majority of the respondents are satisfied with the mobile banking services provided by their banks.

4.16 CHI SQUARE INTERPRETATION

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
MONTHLYSAVINGS * profession	69	97.2%	2	2.8%	71	100.0%

4.17 ANOVA INTERPRETATION

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Monthly income	74	2.66	1.417	.165
For what purpose you use mobile banking for	69	1.70	.912	.110

One-Sample Test					
	Test Value = 0				
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference
					Lower
Monthly income	16.163	73	.000	2.662	2.33
For what purpose you use mobile banking for	15.437	68	.000	1.696	1.48

One-Sample Test

	Test Value = 0
	95% Confidence Interval of the Difference
	Upper
Monthly income	2.99
For what purpose you use mobile banking for	1.91

CHAPTER 5

FINDINGS, SUGGESTIONS AND CONCLUSION

5.1. FINDINGS

- It shows that 52% of the respondents are male members and 48% respondents are female members. And most of the respondents are male.
- It is observed that 22% of the respondents are in the age group of below 20 years, 40% of the respondents are in the age group of 21-30 years, 18% of the respondents are in the group of 31-40 years, and 14% of the respondents are in the age group of 41-50 years, 6% of the respondents are in the age group of 50 years above. Hence, it is concluded that most of the respondents contacted are in the age group of 21-30 years.
- It is observed that 20% of the respondents are students, 33% of the respondents are private employees, 20% of the respondents are government employees, 20% of the employees are self-employed and others are of 7%. Hence majority of the respondents are private employees.
- It is observed that 13% of the respondents are monthly income are below Rs.10,000, 20% of the respondent's monthly income is between Rs.20,000 – 30,000, 34% of the respondent's monthly income is Rs.30,000 – 40,000, 20% of the respondent's monthly income is Rs.40,000 – 50,000, 13% of the respondent's monthly income is above 50,000. Hence majority of the respondent's income is between Rs.30000-40000.
- It is observed that 34% of the respondent's monthly savings is less than Rs 5000, 24% of the respondent's monthly savings is between Rs.5000 to Rs.10,000, 18% of the respondent's monthly savings is Rs.10,000 to Rs.15,000, 14% of the respondent's monthly savings is Rs.15,000 to Rs.20,000 and 10% of the respondent's monthly savings is above 20,000. Hence majority of the respondent's saving is less than Rs 5000.
- It is observed that 72% of the respondents are user of mobile banking services and 28% of the respondents are non-user of mobile banking services. Hence most of respondents use mobile banking services.
- It is observed that 22% of the respondents got too knew about mobile banking services through advertisement, 20% of the respondent's friends and

relatives, 14% of the respondent's window display by banks, 14% of the respondents noticed issued by banks and 30% of the respondent others. Hence most of the respondents got to know about mobile banking services through advertisements.

- It is observed that 14% of the respondents use mobile banking services to check the bank balance, 38% of the respondents use mobile banking services to transfer money, 34% of the respondents use mobile banking services to pay utility bills and 14% of the respondents are using it for other purpose. Hence majority of the respondents use mobile banking services for transferring money.
- It is observed that 42% of the respondents started using mobile banking from less than a year, 38% of the respondents are using it for the past 1-5 years and 20% of the respondents are using it for the past 6-10 years. Hence majority of the respondents started using mobile banking services from less than a year.
- It is observed that 33% of the respondents use mobile banking services as it is time saving, 33% of the respondents use it for easy payment, 17% of the respondents use it for cost saving and 17% of the respondents use it for reduced risk. Hence the time saving factor and easy payment options helped the respondents to use mobile banking services.
- It is observed that 47% of the respondents always use mobile banking transaction, 33% of the respondents sometimes use mobile banking for their transactions and 20% of the respondents never use mobile banking for their transaction. Hence majority of the respondents use the mobile banking services always.
- It is observed that 16% of the respondents are aware about the SMS banking services , 14% of the respondents are aware about account balance enquiry, 8% of the respondents are aware about E pass book views or download the statement, 10% of the respondents are aware about check book request, of the respondents are checked a status enquiry, of the respondents are transferring a fund, 10% of the respondents are aware about bill payments (EB, Mobile recharge etc.) and 6% of the respondents are aware about the information related to interest rate and other updates. Hence most of the respondents are aware of the SMS services given by the banks.

- It is observed that 18% of the respondents use mobile banking services as it is very safe to use, 20% of the respondents find it easy to using a mobile banking services, 14% of the respondents use it for transfer of money as it is reliable , 12% of the respondents use it as it less charges are compared with other services, 6% of the respondents use it for maximum of security for each transaction, 12% of the respondents use it as their personal information is not compromised , 8% of the respondents use it as it provides a good network for supporting without problems and 10% of the respondents use it as they are satisfied with their mobile banking services. Hence majority of the respondents find mobile banking services easy to use.
- It is observed that about 20% of the respondent found difficulty in using mobile banking services as they are not aware of the services, 27% of the respondent found difficulty as it is concerned about privacy, 20%of the respondent faced difficulty as virus attacks and system malware may happen, 13% of the respondent faced difficulty through wireless links, 13% of the respondents found it risk through SMS and 7% of the respondent faced difficulty in verification concerns. Hence majority of the respondents faced difficulty related to privacy concerns.
- It is observed that about 18% of the respondents said that they are highly satisfied with the mobile banking services, 30% of the respondents said that they are satisfied with the mobile banking services, 24% of the respondents said that they find it neutral with the mobile banking services, 16% of the respondents said that they are dissatisfied with the mobile banking services and 12% of the respondents said that they are highly dissatisfied with the mobile banking services. Hence most of the respondents are satisfied with the mobile banking services provided by their banks.

4.2 SUGGESTIONS:

1. Bank may give clear information to the customers about charging of service cost for mobile banking services.
2. Bank should make the procedure for transaction simple and easy.
3. Awareness about various services available through the mobile banking should be created.

4. Transaction cost charged on mobile banking should be regularly communicated to customer.
5. Bank is charging more charges towards mobile banking facility so if they reduce the hidden charges or any charges it is beneficial for more customers to utilize this facility.
6. Bank must improve the service of time given for transaction to users.
7. Banks needs to create more motivation factor for the customers, about the awareness of mobile banking services to enjoy the better way of banking.
8. Proper customer redressal system should be maintained to create trust and improve security.

4.3 CONCLUSION:

The study has analysed the customer satisfaction towards mobile banking applications. This study shows that majority of the respondents are satisfied with the mobile banking applications by the banks. The users prefer to use servers facilities provided by these applications. It can be considered that mobile banking application changes the way we are transferring now and transforming in to digital payment where each person's smart phone will be the primary device for all payment. We know that in recent times, there is an enormous growth in smart phone uses and penetration of internet in rural service. This leads big potential for adoption of mobile banking applications by Indian customers. Based on the study, the Gender does not have significant relation with level of satisfaction of the customers. From all the above points we can conclude that mobile banking will gradually end the cash payment and reduce the circulation of currency note. This will lead to a transparent system and cash less economy.

REFERENCES:

- Aslam, (2009, July 12). Mobile payments: Will Colombo keep its leadership in South Asia? retried from <http://www.sundaytimes.lk/090712/FinancialTimes/ft323.html> on 2015.
- Alter, (2002). Information System: The Foundation Of E-Business. New Jersey: Prentice Hall.

- Amin, et.al (2006). Explaining Intention to use SMS Banking among Bank Islam Malaysia Berhad (BIMB) Customers: Is Gender a Good Indicator? Proceeding Of IBBC,2,92-101.
- Amin (2008) et.al. The adoption of mobile banking in Malaysia: the case of bank Islam Malaysia berhad (BIMB). International Journal of Business and Society, 9(2), 43-53.
- Kauffman (2008) et.al. The economics of mobile payments: Understanding stakeholder issues for an emerging financial technology application. Electronic Commerce Research and Applications, 7(2),141-164.
- Allport, (1935), "Attitudes", in Murchison, (Ed.), A Handbook of Social Psychology, Clark University Press, Worcester, Ma, pp. 798-844.
- Alvesson (2000) Doing Critical Management Research, London: Sage.
- Allen (2002). E-finance: An introduction. Journal of (2) Financial Services Research.
- Brown, (2003). Cell phone banking: Predictors of adoption in South Africa- An exploratory study. International journal of information management, 23(5), 381-94
- Bell, (1999) Doing Your Research Project, third edition, Buckingham: Open University Press.
- Bloor, (2000) Focus Groups in Social Research, London: Sage.
- Brewerton (2001) organizational research methods, London: sage.
- Bryman, (2003) business research methods, Oxford: Oxford University Press.
- Chiu (2005). Gender differs: assessing a model of online purchase intentions in e-tail services. International journal of services industry management, 16(5), 539-43.
- Chung, & kwon, (2009). The effects of customer's mobile experience and technical support on the intention to use mobile banking. Cyber psychology & behaviour, 12(5),539-43.

QUESTIONNAIRE

CUSTOMER USAGE ON MOBILE BANKING SERVICES

1. Gender:

- a) Male
- b) Female
- c) Transgender

2. Age:

- a) 15-20 years
- b) 21-30 years
- c) 31-40 years
- d) above 41 years

3. Occupation:

- a) private employee
- b) Self Employee
- c) Government employee
- d) Others
- e) student

4. Monthly Income:

- a) below Rs.10,000
- b) Rs.20,000 to Rs.30,000
- c) Rs.30,000 to Rs.40,000
- d) Rs.40,000 to Rs.50,000
- e) Above Rs.50,000

5. Monthly Savings:

- a) Less than Rs.5000

b) Rs.5001 to Rs.10,000

c) Rs.10,001 to Rs.15,000

d) Rs.15,001 to Rs.20,000

e) Above Rs.20,000

6. Do you use mobile banking services?

a) Yes

b) No

7. How do you know information about mobile banking services.

a) Through Advertisement

b) Friends / Relatives

c) Window display by banks

d) Notice issued by banks

e) Others

8. Purpose of using mobile banking services.

a) To check the account balance

b) To transfer money

c) To pay utility bills

d) other

9. Usage of mobile banking services

a) Less than 1 year

b) 1-5 years

c) More than 5 years

10. Factors affect you to open mobile banking services

a) Time saving

b) Easy for payment

c) Cost saving

d) Reduced risk

11. How often you use mobile banking services in your banking transaction

a) Always

b) Sometimes

c) never

12. Customer Awareness about Mobile banking services

5 – Strongly Aware 4 – Aware 3 – Neutral 2 – Not Aware 1 – Not at all aware

a) SMS Banking Services

b) account balance enquiry

c) e-pass book views or download

d) Cheque book request

e) Cheque status enquiry

f) Fund transfer

g) Bill Payments (EB, Mobile recharge etc.)

h) Information about interest rate and other services.

13. Customer usage on mobile banking services

5 - strongly agree 4 - agree 3 - neutral 2 - disagree 1 - strongly disagree

a) Mobile banking is safe to use

b) Mobile banking is easy to use

c) Transfer of money by mobile banking is reliable

d) Charges for mobile banking is less compared with other services

e) Maximum security for each transaction

- f) No personal information is compromised
 - g) Provide a good network support without problems
 - h) I am satisfied with my mobile banking services
14. Rate the overall customer satisfaction on mobile banking services
- a) Highly satisfied
 - b) Satisfied
 - c) Neutral
 - d) Dissatisfied
 - e) Highly dissatisfied
15. Whether you faced difficulty in using mobile banking services
- a) lacking awareness
 - b) privacy concerns
 - c) virus attack and system malware
 - d) wireless link
 - e) risk through SMS verification concerns