Chapter 11

Introduction
CHAPTER 1

INTRODUCTION

The banking sector is a key component in the service sectors as major chunk of the funds flows through this sector. At global concept, banking system is the focal point in the financial set-up of any developing country. The economic progress of a country is defined by the growth, development and prosperity of its banking industry which is reflected by the quality of service rendered to customers by gaining their confidence and faith. It forms the core of the money market in an advanced country. Today, the banking industry is facing the unprecedented set of challenges like rapidly changing market, new and innovative technologies, wide economic uncertainties, severe competition more demanding customers, etc. Customer satisfaction, customer retention and new customer acquisition are the prime focal points in the banking system.

Banking industry is a customer-oriented service industry. The customer is the focus and customer service is the main differentiating factor. It is a well known fact that no business can exist without gaining customer satisfaction. Customer satisfaction, a key performance indicator, within business is a measure of how products and services supplied by a company to meet or surpass customer expectation. In a competitive market place, customer satisfaction is seen as a key differentiator and increasingly has become a key element of business strategy. It is an ambiguous and abstract concept. It depends on a number of psychological, physical and demographic variables.

Understanding the nuances of customer satisfaction is a challenging task. Undoubtedly, this exercise in the context of the banking industry will give us an insight into the parameters of customer satisfaction and their measurement (Kumbhar V.M., 2011).
The modern banking in India started only in the eighteenth century. ‘Bank of Hindustan’ the first bank in India was established in 1770. Better means of communications, transportation, uniform currency, the unification of the country under one Government laid the foundation for development of banking institutions in the country. The Indian banking sector starting with the ‘Presidency Banks’, the ‘Bank of Bengal’ in 1809 through ‘Imperial Bank of India’, etc. This has been developed by gaining momentum in advanced manner through enactment of Banking Regulation Act 1949, expansion of branches during 1950-1970, two historic events in the year 1969 such as social control on banking companies and Nationalisation of 14 major Indian banks, special thrust on internal control and profitability through newer activities during 1985-1990 and M. Narasimham committee’s recommendations to improve its efficiency and effectiveness in the then Indian Financial System.

The economic crisis of 1991 brought in several economic reform measures of far-reaching consequences which encompassed almost all the segments of the economy viz., the industry, trade and foreign exchange, the financial sector and public finance. Banking was perhaps one sector that was more deeply touched by the liberalisation process than any other. In the post liberalisation era, the thrust of reforms made the Indian banking system not only global in character but also reoriented in tune with international norms and practices. Thus, the Indian banking industry has galvanised itself to match the best in the world, and in no doubt leads to increased competition, especially in the retail segment and this competition bears out Charles Darwin’s ‘survival of the fittest’ theory (Neeraj Swaroop, 2003). To fulfill this concept the Indian banking sector has been undergoing metamorphic changes like Mechanisation, Nationalisation, Computerisation, Liberalisation, etc.

1.1 EVOLUTION OF MECHANISATION, NATIONALISATION, COMPUTERISATION AND LIBERALISATION IN THE INDIAN BANKING SECTOR

The Indian financial sector was undoubtedly well developed even before the political independence (1947). The history, development and growth of the Indian banking sector may be classified into two phases namely Pre-Independence
(1770-1947) and Post-Independence (1947 till date). Since independence, the Indian banking system has made significant progress due to technology up-gradation. The Post-Independence phase may be further classified into three sub-phases namely Pre-Nationalisation Period (1947-1969), Post-Nationalisation Period (1969-1991) and Post-Liberalisation Period (1991-till date).

In 1960 the Mechanized banking system was introduced in the Indian banking system. During 1965-1970 the focus was online balance checking and updating of the balances with tellers at the counter accessing centralised computers. A historic event of the Nationalisation of 14 banks in India in 1969 has laid strong foundation for development of Indian banking sector. It’s objective was to control the commanding heights of economy, extend banking facilities to unbanked and under banked places, especially in rural areas, to ensure an increased flow of financial assistance to the hitherto neglected sectors, to foster the growth of new and progressive entrepreneurs, to give a professional bent to bank management with a view to remove the control of the few, etc. Commercial banks acted as a vital instrument for the purpose by way of rapid branch expansion, deposit mobilisation and credit growth.

During 1970s computer based banking industry was introduced. This led to a four-fold increase in the number of branches, a five-fold increase in advances and a six-fold increase in deposits during seventies. Mechanisation was experienced as the best solution to the problems ingrained in the mutual system of operations, their adverse impact on customer services and the serious dangers to banks in the context of increasing incidents of frauds. Distributed Data Processing was introduced with data residing at different computers at different locations. During 1980s computer-linked communication based banking was introduced.

Nationalisation of six more commercial banks in 1980 had further widened the sphere of operation of the public sector banks implementing all the government sponsored programmes such as Integrated Rural Development Programmes, Differential Rate of Interest, etc. These led to a manifold increase of not only the number of branches but also the number of clientele (Bihari S.C., 2007). During 1980-1990 the business volumes were also highly increased. This resulted
in lack of inter-reconciliation of accounts during 1980s among the branches of banks. This paved way for frauds in banks. So, at this stage, banks introduced computers for reconciliation work at big branches where the workings and calculations were cumbersome which reduced frauds (Ashwini Kumar Sharma, 2007).

To safeguard banks RBI, the central bank of India constituted various committees then and there to examine the issues. Based on their valuable recommendations, RBI streamlined the Indian banking system. Thus, the technology inclusion and adoption in Indian banks have become an ever continuous process. The first of these committees viz., the Committee on the Mechanisation of the Banking Industry (1984) was set up for the first time to suggest a model for Mechanisation of bank branches, Regional/Controlling Offices and Head Office necessitated by the explosive growth in the geographical spread of banking following Nationalisation of banks in 1969.

First Rangarajan Committee (1983) drew up a phased plan for Computerisation and Mechanisation in the Indian banking system that were to be implemented between 1984-1989. The focus was on customer service. Two models of branch automation were developed and implemented. They were i) Front office Mechanisation where front desk operations were computerized while back office work was done manually and ii) Back office automation covering Mechanisation of General Ledger and back office operations while the front office work was done manually. It improved the Management Information System (MIS) and Accounting System in the banks. It recommended for installation of standalone Advanced Ledger Posting Machines (ALPM) with limited memory and limited role in the urban branches and suggested micro processor based computer with processing capabilities at the regional and zonal offices, installation of computers at the Head Office of the banks, Computerisation of clearing house operation at all RBI centres and National Clearing Cell at four metropolitan centres using Magnetic Ink Character Recognition (MICR) cheques, main frame computers and reader sorter machines. The networking solutions like “Banknet” were considered for implementation. In the first phase of computerisation spanning the five years ending in 1989, banks in India had installed 4776 ALPMs at the branch level, 233 mini
computers at the Regional/Controlling Office levels, trained over 2000 programmers/systems personnel and over 12000 Data Entry Terminal Operators, introduced MICR clearing at 4 centres and computerized clearing settlement at 6 centres.

Second Rangarajan Committee (1988) recommended for the branch Computerisation in two phases as branches with over 1500 vouchers and branches between 750-1500 per day and three models were suggested namely i) use of super micro, mini or super mini computers in branches with online terminals and link to “Banknet” through public data network ii) use of local area network with central server and personal computers with a link to “Banknet” network, and iii) use of central computer in a city with the branch terminals through dedicated lines as well as fall back lines. It further recommended installation of main frames in five years time with provision for connectivity to Banknet, Society for Worldwide Interbank Financial Telecommunication (SWIFT), etc. Banks were experimented with the Total Branch Computerisation (TBC) covering all aspects of banks transaction at the branch level. The SWIFT network was introduced in December 1991 for all international transactions of the bank. Besides, Computerisation efforts among the public sector banks (PSBs) in India, which account for over 80 per cent of the assets of the entire banking system, had been substantial with Advanced Ledger Posting Machines, Electronic Accounting Machines and Personal Computers.

Then 568 branches were connected to SWIFT for international interconnectivity of computers and for cross-border transactions. Local Area Network of branches was established at 571 branch locations using internal captive networks while 148 branches were on the Reserve Bank of India Indian Financial Network (RBINET). A Computer based network, the Indian Financial Network (INFINET) was also established.

The financial sector reforms in 1991 made a qualitative revolution and had witnessed significant progressive changes in the Indian banking sector. Post-financial sector reforms in 1991 onwards have been witnessing the commendations by high level committee headed by M. Narasimham. It was to ensure that ‘the financial services industry operates on the basis of operational flexibility and
functional autonomy with a view to enhance efficiency, productivity and profitability’. In the year 1993, the Employees’ Unions of Banks and Indian Banks Association (IBA) jointly made an agreement which was a major breakthrough in the introduction of computerized applications and development of communication networks in banks.

Saraf Committee on Technology issues (1994) recommended for i) introduction of an electronic network for interbank payments Electronic Fund Transfer (EFT) ii) enactment of legislation for EFT and Data protection iii) introduction of Delivery Versus Payment (DVP) system in Reserve Bank of India (RBI) for securities transactions iv) use of National Informatics Centre Network (NICNET) for government and chest transactions v) extension of MICR clearing and intercity collection of cheques vi) establishment of Very Small Aperture Terminal (VSAT) network for interbank payments vii) setting an institution for research and development in banking technology and training. RBI offered EFT through National Clearing Cell (NCC) and introduced DVP in a simple form. This phase covered introduction of new services. Smt. Shere proposed draft amendments to EFT Acts and Indian parliament has enacted Information Technology (IT) Act in 2000 which have legalised digital and electronic records.

Second Narasimham Committee’s (1997) recommendations were pertaining to technology issues in the banks. They are, i) the banks may take up ‘Process re-engineering’ along with introduction of information technology in banks, ii) the banks may use data warehouse & data mining techniques, promote credit inform bureaus for sharing credit information, iii) the banks in Indian may speed up introduction of inter branch networks (India net) which would link with the Interbank network, iv) banks may prepare their own technology up gradation plans, v) the Institute for Development and Research in Banking Technology (IDRBT) Hyderabad may be entrusted with the responsibility to introduce nation wise payment network wing satellite and terrestrial telecommunication among Indian banks, vi) RBI should introduce Real Time Gross Settlement System (RTGS) for instantaneous transfer of funds among banks, vii) banks may also examine and adopt different security standards for smart cards and viii) RBI should encourage setting up of Automated Clearing Houses (ACH) by banks.
The Narasimham Committee II in 1998 made a series of recommendations that are being used as a launching pad to take Indian Banking further ahead. Vasudevan Committee on Technology up-gradation in the Banking Sector (1999) recommended i) legislative framework for electronic banking ii) outsourcing of services & technology by banks iii) strategy for intra-bank/intra-city networking iv) Computerisation of Government transactions v) data warehousing and MIS for banking sector. The committee has suggested architecture for the Indian Financial Network (INFINET) based on satellite transmission as well as intercity terrestrial leased lines with Transmission Control Protocol (TCP)/Internet Protocol (IP) for communication.

Thus, reforms and liberalisation measures have spurred in reality the dynamics of Indian banking system in all the fields not only global in character but also reoriented in tune with international norms and practices. These are the witnesses for phenomenal growth of branch network of 26 (62,211 branches) PSBs, 21 (11,602 branches) private sector banks (PRSBs) and 36 (317 branches) foreign banks totaling to 83 (74,130 branches) scheduled commercial bank (SCB) as at the end of March 2011, whereas in 1969 there were only 7,246 branches of PSBs and 1,490 branches PRSBs in India.

During the last four decades the banks have not only grown in their numbers but also there has been a drastic change in their functions and activities. The reforms detailed above have brought about significant improvement in the strength, resilience and competitiveness of the banking system. At the outset, there was the pre-reform banking phase characterized by unprecedented growth and the pursuit of mass banking. This was followed by the era of reforms, which imparted an altogether different dimension to the nuances of banking.

The last two decades of the past millennium witnessed unprecedented revolutionary changes in the financial sectors around the world. These revolutions changed the very facets of the Indian banking. Banking in India, is unique in the entire financial world. Banking reforms initiated in the country during early nineties really sowed the seeds for the ‘Banking of the New Millennium’ (Prabhakara Rao Ch., 2004).
Thus, from 1990 onwards the banks have developed their networks which spread across the globe and have provided computer based bank’s customers for their transactions. The banks have developed expert systems for quicker decision-making and IT has become a strategic thought in the planning process.

1.2 INFLUENCE OF INFORMATION TECHNOLOGY (IT) IN INDIAN BANKING SECTOR

The IT sector has been one of the hotshots of Indian economy. IT and internet are influencing customer contact, service and insight (Murty G.R.K., 2002). IT has transformed the repetitive and overlapping systems and procedures, into single key pressing technology resulting in speed, accuracy and efficiency of conducting business (Bhasin T.M., 2001). The remarkable changes in technology and its growing impact on society are inevitable (Srinivasa Rao K., 2008).

Technology, a competitive tool has been adopted by the Indian banks. The driving force behind the use of IT in banking relates to the ever-increasing expectations of the customers such as flexibility, convenience, empowerment, customization, instant, anytime and anywhere banking facilities. The Indian banks are trying to become more competitor-oriented in a new liberalised environment. The history shows that foreign banks and new private sector banks are the main competitors in the Indian banking sector. In the past decade public sector banks and old private sector banks have also improved their technology based services.

The increased branch network, mass transaction processing, complex calculations and global operations forced Indian banking system for technological adoption and technological initiatives. The IT has been shifting the Indian banking towards ‘virtual banking’. The ‘brick and mortar’ has been converting as ‘click and portal’. Not only banks have been gaining the efficiency leading to greater potential for higher profitability and consequent benefit to the economy as a whole, but also customers.

Now banks are more and more customer centric and customer friendly. The use of IT has transformed the nature of banking from ‘conventional’ to ‘convenience’ for the customers (Singh S.B., 2006-07). Banks have well understood
the need to optimally leverage technology to increase penetration, improve their productivity and efficiency, deliver cost-effective products and services, provide faster, efficient and convenient customer service (Chakrabarty K.C., 2010; Editor’s Page, 2010; Thanikodi R., et al., 2011).

In this background, IT emerged as the integrator, assisting banks in the arrangement of the process of transformation that has been taking place continuously. Customers can get detailed account information, can transfer money and can open accounts using the World Wide Web (www). Innovations are being successfully tried world over and India in particular in the recent years to put in place a modern, robust, secure, integrated payment and settlement system to enable the common man to make and receive payments in quickest possible time and in a most cost-effective manner.

1.3 THE IMPACT OF COMPUTERISATION IN THE INDIAN BANKING SECTOR

Computers have made us to live a comfortable life and are responsible for fast changing behaviour. ‘Computer knows everything’ attitude is observed everywhere (Vishwas N Wadekar, 2008). A combination of computer, telecommunication and internet technology is increasingly being used to deliver a wide range of services. The world is witnessing an information and communication revolution. The Indian banking sector has undergone a rapid and radical transformation due to all pervasive influence of computer, IT, telecommunication and electronic data processing. E-banking channels are all gaining momentum.

Computerized branches existed in the West for long. Barclays Bank had opened its first computerized branch in 1961. The first serious effort at Computerisation and Mechanisation in the banking industry was made in 1983-84. The public sector banks have fully computerized their 97.8% branches as on March 31 of 2010 and have invested Rs. 19,888 crores during the period between September 1999 and March 2010 (RBI, 2009-10).

The four objectives of Computerisation in banking are improvement in customers services, better house-keeping, faster decision making, increase in
productivity and profitability (Swati Anand et al., 2009). The large scale computerisation of branches and their operations have safeguarded their business resulting in operational efficiencies including better customer service (Marcus A., 2010). Customers can benefit from greater convenience, potential time saving and faster response. The computer joined with communication technology has been changing the way of the banking scene. E-banking has been gaining momentum. Due to the introduction of computers for front office banking earlier slogan ‘Service with a SMILE’ has now been replaced by ‘Service by a MACHINE’. Banks began to serve their customers with new and better services than ever before (Thanikodi R., et al., 2011).

1.4 THE ROLE OF CORE BANKING SOLUTIONS (CBS) IN BANKING SERVICES

CBS enables customers to access their accounts easily, conveniently, efficiently and speedily. It provides facilities such as anywhere banking (Leeladhar, 2005), any branch banking and anytime banking (Ramakrishnan K., 2006) on 24X7 hours (Chakrabarty K.C., 2010) basis round the clock through E-banking Alternative Delivery Channels (ADC) like Automated Teller Machine (ATM), Internet Banking (IB), Mobile Banking (MB), tele-banking, plastic money, etc. at reduced cost. It eliminates geographical (Leeladhar V., 2005) and time barriers. It promotes customer from ‘customer of a branch’ to ‘customer of the bank’. A single view of one’s owned all accounts becomes possible. CBS branch acts as a sales & service centre to customers. It makes banks not only more and more customer centric but also customer friendly. Moreover, CBS enables banks for their better assessment and management of the risk inherent to them. By introducing the universal banking in its operation, some of the private banks operating in India have opened a new arena for banks to adopt themselves to customer-centric approach.

The technology platform needs to be adaptable and scalable to offer a variety of value-added products and services over and above the core banking functionality. At the end of March, 2011 ninety percent (90%) of the branches of public sector banks were under CBS (RBI, 2010-11).
1.5 THE IMPACT OF ELECTRONIC BANKING-ALTERNATIVE DELIVERY CHANNELS (ADCS) IN THE BANKING ACTIVITIES

E-banking is defined as the automated delivery of new and traditional banking products and services directly to customers through multiple electronic means ADCs like ATM, IB, MB, etc. E-banking was firstly introduced in India by the ICICI around 1996. E-banking includes the systems that enable financial institutions, customers and individuals or businesses to access accounts, transact business or obtain information of financial products and services through a public or private network, including the Internet. The E-banking revolution provides new opportunities like Payment and Settlement Systems. E-banking creates ‘huge world of customer convenience’ (Munusamy K., 2010). With continuing technology evolution and changing demographic preferences banks all over the world keep finding new channels to put their money on (Srinivasa Rao K., 2010). E-banking improves the internal working of a bank and ensures customer satisfaction. It facilitates market penetration and growth in customer base without any geographical constraints or time-based limitations (Ashutosh Pandey, 2010).

Customers are influenced to use electronic channels to conduct their banking transactions due to the benefits gained from E-banking services. They are tremendous reduction in transaction costs, world over delivery of banking services, real-time information, real-time transaction, absence of geographical and time constraints, better employee-customer social relationship, publicity of innovative and globally accepted products/services, confidence of customers in the low-cost and cost-effective e-channels, conversion of banks from traditional (‘brick and mortar’) to e-banks(‘click and portal’), better quality service, increased speed, increased efficiency, touch-screen technology, convenient and cheaper electronic channels, easy, fast, efficient and secured financial services at reasonable costs, single window servicing, convenience for customers at their options to transact from anywhere, at anytime and using any delivery channel that are suitable for them, minimizing personal visit to the branch premises and more suitability for changing demographic preferences, etc. (Munusamy K., 2010). Thus, customers are embracing all the above benefits of E-banking.
E-banking enables banks to provide good, superior, very high quality customer service as well as to offer a broad range of products and/or services to customers. It maximizes returns, acquires more customers and builds the customer product ratio, extends their reach and increases their contact with multi platform consumers and ensures one’s privacy and trust. These features enhance customer satisfaction. When the customers adopt E-banking they have increased expectations about service and support to enable them to banking on-line (Aravazhi Irissappane D., 2004). Thus, E-banking services have become the virtual main street of the world.

1.5.1 ATM

In general, it is believed that copying a few things offered by foreign banks will provide a competitive advantage to the Indian banks. One such technology and one among the most powerful Alternative Delivery channels is ATM (Am R., 2004).

Barclays bank in London installed its first cash dispenser in 1967. Since mid 1970s it gradually emerged as a powerful channel of service delivery in West Europe and North America (SudipKar Purkayastha, 2010). All the scheduled commercial banks in India are experimenting in offering their products and/or services through ATMs.

ATM has been increasing the service level of commercial banks. It has simplified the work of the banker and as well as the customer. Internationally, the first ATM was installed on June 27, 1974 by Barclays Bank, London. In India, the ATM service was introduced in 1987 by HSBC bank. The data shows that there is the huge expansion of ATM network at global level (Kumbhar V.M., 2011). As on March 31, 2011 there have been 74,505 ATMs owned by Scheduled commercial banks in India of which On-site ATMs and Off-site ATMs are 40,729 and 33,776 respectively.

ATM provides huge convenience and flexibility to the customers of getting their need fulfilled at anytime, anywhere, any bank chosen by them. It eliminates long queues at physical branches (Ashutosh Pandey, 2010).
New technology, The Shared Payment Networked Systems (SPNS) networks among the banks is a further advancement in this area. They allow the ATM cardholders to perform many kinds of transactions (Rakesh Mohan, 2004) ranging from viewing account balance to fund transfers. This increases efficiency and reducing costs to banks as well as customers. ATMs are getting very popular with the customers because of its salient features of more comfortable, efficient service, huge convenience, speed, sharp, accuracy, cost effective, user friendly, reliability with high speed. A data shows that in the previous years, the most used channel is the ATM followed by credit card, debit card and smart-card in that order (Ravindran M., 2008). The e-channels in India are in varying stages of customer acceptance.

1.5.2 Internet Banking

The Internet has created a new economic ecosystem. On October 18, 1995 Security First Network Bank opened to the public as world’s first Internet bank. ICICI bank introduced IB first in India. Advent and adoption of Internet by the industries have removed the constraints of time, distance and communication making globe truly a small village. Financial sector is no exception. Numerous factors such as competitive cost, customer service, increase in education and income level of customers, cheapness, convenience (Bhasin T.M., 2001) speed, security, accessibility at anytime and at anywhere (Kalpana Arora, 2003) in the world, etc. influence banks to evaluate their technology and assess their electronic commerce and IB strategies.

IB is a powerful technological innovation which has the power to increase not only customer satisfaction but also the bank’s profitability. It holds the potential to drive the future of banking. It provides various types of new innovative products and /or services to customers like account enquiry, fund transfer, payment of utility bills, etc. It increases operational efficiencies and reduces costs. Online banking has a major role to play in capital market transactions too (Jayant Y. Umranikar, 2006).

The various payment and settlement systems through IB in Indian banking system are MICR, Electronic Clearing Service (ECS), EFT, Centralised Funds Message Service (CFMS), National Deferred System (NDS), INFINET,
RTGS, etc. Out of various ADCs, the IB is emerging as a most cost effective and convenient and a delightful channel to the banks as well as customers due to its inherent advantages (Bhasin T.M., 2001).

1.5.3 Mobile Banking

It is needless to express that MB is further advancement for banks. The mobile phone has introduced a new channel to reach customers-one that is personal, easy-to-use, secured and independent upon the location and time. Customers are increasingly expecting, demanding and wanting to do their transactions through mobiles due to its convenience. MB was introduced almost simultaneously in both USA and India. The MB is becoming as most convenient, economical and efficient way of conducting the banking business. MB, a technology-enabled service offered by banks to its customers to operate selected banking services over their mobile phones using SMS (SudipKar Purkayastha, 2010).

MB offers various facilities as in IB not only to customers but also to banks (Kalpana Arora, 2003). It’s transactions are free from cost and free from risks associated with the use of cash including theft and cost of travel to pay in person. The MB offers the customer ubiquitous, immediate, localised, instantaneous ability to conduct a financial transaction by a simple authenticate method with less cost (Srinivasan G., 2006).

The MB is associated with certain features namely reduction of costs, its cheapness, elimination of costs of travelling to the bank and the convenience of cell phone banking such as user friendly, anywhere banking and anytime banking. Due to these features, in the past two years MB users have recorded three fold increase across the world. The qualities like inexpensive, ease of operation, mobility for the customers and lower transaction cost for the banker are associated with MB (Dipanwita Dutta, 2010).

1.6 CUSTOMER AND CUSTOMER SATISFACTION IN E-BANKING SERVICES

Customer is the king of the market and he is the boss today. Customer is the most important factor in the banking sector. According to Gandhian philosophy,
‘Customer is always right’. Undoubtedly the business of banking cannot function without customers.

Today’s customer is no longer a passive customer but is an aggressive person more and more demanding fast, accurate, flexibility, empowerment, customization, reliable service and efficiency in terms of cost, time and convenience. Now the customers are not interested in just product but the manner in which they are offered. Customers are not only very demanding but also sometimes not very forgiving. They need instant information. They demand anywhere and anytime banking. Banks are meeting these challenges by the way they design their web sites with advanced technology. The goal of bankers is to keep customers happy for achieving their business growth targets (Bansal A.K.).

The winners in the banking sector today are those who have right customer orientation, speed delivery, wherewithal of technology, effective tools of risk management and above all a well empowered team of human resources to add value to the products and services (Raveendranath Hebbar, 2003-04). It is very essential that both the public and private sector banks should put in place the right kind of systems to further cut down on service time and render instantaneous services to the customers. Only such banks will tend to survive in the rat race for market shares in the days to come (Eapen Varghese M., et al., 2003-04).

The greatest focus on banking services would be quality of service. The strongest customer trend is convenience which means greater use of automated services. A highly satisfied and delighted customer is a vital non-financial asset for the banks in the emerging IT era. Customer retention is economically more advantageous than constantly seeking new customers. The emergence of the new e-world customers is not only a challenge but an opportunity to redefine customer relationship in ways that will help both banks and their customers and make customers active co-participants in their success.

The banks recognize this and re-orient themselves and they design their websites with advanced technology and thereby the progress made by banks during the last decade is commendable all over the world including India. Indian banking industry is one of the largest industry in the world and has been great surge in
efficient customer services. If one looks at the episode, it is finally the mantra of customer orientation that prevails (Vasantha Kumar P., 2007-08).

Forever, customer service and customer satisfaction are highlighted as constant continuous keys for banks to retain as well as to enlarge their customer base in order to increase their business to withstand in the real changing competition in the financial market not only in domestic level but also at global level.

1.7 NEED AND IMPORTANCE OF STUDY

Due to the growing economy and rapid industrialisation in our nation the people are more and more depend on internet, for their better life styles and living comfort. The adoption and usage of E-banking is dependent on the Internet and telecommunication networks. At present nearly 40% of the population are accessing internet in the country and it is expected to increase in the near future, which will be a great boon to E-banking (Khanna P.K., 2007).

Banking is no doubt a customer-oriented services industry. Therefore, the customer is the focus and the customer service is the differentiating factor (Kumbhar V.M., 2011). It is very difficult but is very essential to understand and fulfill the customer expectation which in practice is a challenging task. This exercise in the context of the banking industry will give us an insight into the parameters of customer satisfaction and their measurement.

The core issues before the banks today are service expectations of customers, cutting operational costs and managing competition. Customer retention and customer satisfaction are inexorably inter-linked. Technology helps banks in enabling efficient management, lower operating costs, greater geographic diversification, improved or sustained competitive position, new revenue opportunities, quicker ‘go-to-market’, richer customer experience, enterprise wide customer view, etc. (Nidhi Choudhari, 2009). Indian banking sector today needs to make a promise, to the customer, especially the small and retail customer and to the society at large to make banking transactions faster, cheaper and easier in the next decade. The customer still has not been able to enjoy faster, cheaper and easier banking services. Banks need to optimally leverage technology to increase
penetration, improve their productivity and efficiency, deliver cost-effective products and services, provide faster, efficient and convenient customer service and thereby contribute to the overall growth and development of the country (Chakrabarty K.C., 2010).

The impact of the demographic variables such as age, gender, marital status, educational status, employment status, occupational experience, income, etc. of customers has significant role in determining their level of satisfaction on E-banking. With its great network of operation, the unparallel public sector banking has to compete with the fast growing private sector banking to withstand the growing volume of business, to satisfy the increased customer base and to meet the rising personnel costs through Computerisation (Marcus A., 2010). The quality of customer service in banks, particularly in public sector banks, has been the topic of vehement criticism during the post-Nationalisation phase with the shift of the so-called ‘class banking’ to ‘mass banking’ (Eapen Varghese M., 2003-04).

The success or failure of E-banking in a country largely depends on several dimensions such as consumers trust in a particular bank, service quality offered by the bank, consumer preferences and their ultimate satisfaction. Therefore, banks should continuously strive to meet the consumers’ expectations, demands and requirements in order to maintain their own identity (www.cgap.org).

In the present competitive environment, most of the banks offer the same or similar products around the world and the service quality is an effective tool to differentiate them in the market place. So, the bank managers should delight their customers by exceeding their expectations to improve customer satisfaction (Black N.J., et al., 2001). The user experience in IB has been constructing upon three underlying dimensions namely satisfaction, appearance and ease of use. In addition, when markets of electronic services mature, a good user experience of customer could be a competitive advantage, with which companies could differentiate their products and services. From this perspective, it could be argued that evaluation of user experience and different user experience scales will be likely needed in the future (Arunachalam L., et al 2007). To increase customer satisfaction firms first need appropriate measurement techniques for measuring and evaluating the gap between the expectations and perception.
The IB is going to be very crucial for India, having increasing percentage of younger generation population with computer literacy. Since research on service quality in IB is still in its infancy and the relevant literature is scarce, therefore, future research on self-service technology is necessary to provide useful recommendations to the bankers for improving the IB services (Mohammed Sadique Khan et al., 2009). It is essential to initiate studies on a regular basis for understanding the cost of transactions for small and retail customers (Chakrabarty K.C., 2010).

The customers have more options than ever before to use innovative delivery channels to access their accounts. So, the banks are being in compulsion to review periodically about their package of products and services (Arvind Mohan, 2003). An analysis indicates that there is a widening gap between the desirability and availability of the service quality in banking industry. This gap is alarming for some banks, particularly, the PSBs. The bridging of this gap is the need of the hour (Uppal R.K., 2008).

There exist minimal studies focusing on the adoption of E-banking by consumers in Africa, Middle East and Asian countries. Therefore future research should incorporate exploring the key antecedents and inhibitors of E-banking adoption in those countries (Sujana Adapa, http://my.safaribooksonline.com).

Customers become the focal point for the banking business so that bankers have to involve themselves totally in anticipating, identifying, reciprocating and satisfying their customers in a mutually rewarding manner (Ramesh H Taxak, et al., 2009). Since customer is the only one who really experiences the service, the evaluation of quality of the service must come from the customer (Shobhana V.K., et al., 2009).

Meticulous planning and appropriate implementation are necessary for successful setting up of customer service standards and for meeting such standards everyday for every transaction, it is equally important for banks to monitor outcomes by obtaining customer feedback (Prabir K Biswas 2007-08). To boost customer loyalty, banks must have a clear understanding of their customers unfulfilled needs
and must come out with products/services that will satisfy those needs (Murty G.R.K., 2002).

Increasing customer expectations and regulatory pressure that has marked the post sub-prime financial world are, in fact, posing too many questions to the business leaders to answer. Overall satisfaction of a customer from his bank is very much necessary because it is the only factor that helps any organisation to increase its business, as a delighted customer will always bring more customers. Whereas an unhappy customer will drive away ten prospective customers (Uppal R.K., 2008). Customer satisfaction leads to customer loyalty (Bhagyalakshmi Venkatesh, et al., 2009-10). The priority should be given to the different factors in the order of their influence on overall customer satisfaction level. The future of Indian banks depends on how effectively and speedily they are able to implement the necessary actions keeping in mind the needs of the customers (Prashantha C., et al., 2008).

It is emphasized that now is an ideal time for HCI researchers to analyse user satisfaction, because there is growing interest in how to attract and increase the number of online customers in e-business and e-commerce (Lindgaard, G., et al., 2003). The need of the hour, therefore, is to be awake and alive to the needs of the masses and to ensure that benefits of technology percolate to even the weakest of them. As, the saying goes ‘the strength of the chain is determined by the weakest link’. Innovation of the customer experience is no longer a choice but a necessity and more importantly a competitive weapon (Chakrabarty K.C., 2011).

In the modernized banking sector, banks have to find out a strategy to measure the satisfaction level among the customers on the various influencing variables associated with expectations of customers and E-banking services and to find out ways and means of providing innovative products and services on par with the satisfaction of customers. Unless then, banks cannot survive in the financial market. The banks need to constantly look for convenience of transacting from anywhere, at any time and using delivery channels that are suitable for them (Rakesh Mohan, 2004).
It is pointed out that the need for research is highly essential to identify the factors that determine acceptance of IB by the users. In India, comparatively less number of studies has been conducted on the current status of IB and IB adoption compared to other countries. Thus, there is a lot of scope for the research to present new ideas concerning IB in India which may be useful to the Indian banking industry (Prema C., et al., 2010).

A research concludes that nationalised banks with huge technology support, driven by competent terms of human resources will definitely emerge as winners in the race (Sridhar S., 2010).

In this juncture, it is felt necessary to know about the customer awareness on CBS and E-banking services and their facilities. Further it is also felt necessary to conduct studies on the influence of E-banking on customer satisfaction in the Indian banking sector with a view to promote and improve the E-banking activities in the Indian banking sector to survive in the existing stiff rich competition in the financial service market.

1.8 STATEMENT OF THE PROBLEM

The technology up-gradation in the banking sector benefits with several costs effects to the customers and bankers. The various influencing and beneficial factors such as speed, convenience, efficiency, effectiveness, safety, secure, etc. of E-banking services shift, ‘traditional customers to virtual customers’. The customer satisfaction level pertaining to these influencing variables has to be measured. The demands, desires and expectations of customers to be fulfilled by service providers/E-bankers without geographical constraints and time constraints. This can be achieved only when the research studies suggesting ‘the measure to improve the efficiency of E-banking services are carried over on the E-banking services and the customer satisfaction levels thereon frequently by the bankers and the researchers. Such researches will help service providers to introduce further innovative products and services to customers at real-time basis by introducing new delivery channels. Unless and until then, banks cannot survive in the banking sector. Hence, survival for fittest is the concept to be taken utmost care in promoting E-banking services.
Therefore, the problem on hand now with the researcher is that, ‘to get into a deep insight into the selected E-banking services, obtaining the views/opinions/suggestions of customers on them pertaining to selected variables for measuring their satisfaction level, analyzing customer’s awareness on CBS and E-banking services and analyzing the influence of E-banking on customer satisfaction in the public sector banks and private sector banks in the city of Chennai.

1.9 GAPS IN THE LITERATURE

The previous analysis and reviews of literature identified significant gaps that will be explored in this thesis. Since, ever-dynamic nature of customer expectations, banks in India are in force to deliver innovative products and services through innovative ADCs like ATM, IB, MB, etc. So, India has recognized well the importance of communication technologies for their smooth functioning. Also, most of the studies are in the area of measuring level of satisfaction of traditional customers of commercial banks in Chennai city. IB has turned out to be the nucleus issue of various studies all over the world. In India, there has been a constant literature gap on this issue (Pooja Malhotra et al., 2006).

Another study has been made on the genesis and growth of customer service in commercial banks, the customer opinion about customer service and their satisfaction level derived by them from general banking services and the mechanism of Banking Ombudsman Scheme with special reference to metro and urban branches in Tamilnadu (Vimala D., 2003). It becomes necessary for continuous research to measure level of satisfaction of customers and to provide suggestions to banks to improve their services in order to survive in the society. A study on the need for Computerisation, the developments of customer service front and grievances of customers due to Computerisation in commercial banks has been done in Chennai City (Malathishiri K.P., 2002).

Yet another study has carried out an evaluation of the customer satisfaction and the service quality in private and public sector banks in Chennai Region and has suggested measures to improve these aspects (Syed Rafiq Ahmed S., 2003). Another study has been carried out to find the awareness and customer satisfaction level of customers on technological driven services in the Nationalised
banks in Chennai city and has made suggestions to improve them in the Nationalised banks (Sridhar, 2010). Multifarious facilities are being offered to customers through E-banking services. But there were no much researches measuring customer satisfaction level which are mainly required for suggesting and for improving the efficiency of E-banking services.

There are very few researches on E-banking services in public sector banks and/or private sector banks in the city of Chennai. It is also observed that there are hardly few researches on E-banking services either at global level or at national level. It is also observed from the previous studies/researches that there is a constant literature gap on E-banking services in India. The studies and/or researches are on the E-banking services in all the public sector banks and/or all the private sector banks in India as well as in the city of Chennai. There are meagre researches/reviews available pertaining to the E-banking services in respect of foreign banks at national level but not in the city of Chennai. There is a significant number of literature reviews on the customer satisfaction in the Indian banks at national and international level but, the combined researches or reviews on the ATM services, IB services and MB services are not available in the city of Chennai.

The researches on the comparison of E-banking services and customer satisfaction between all the public sector banks, private sector banks and foreign banks are very few in numbers. The number of researches/reviews on the traditional services in the banking sector are highly significant in number whereas not in E-banking services. Since the previous study and researches conclude that the existence of constant literature gap relating to E-banking services in India and with specific to the city of Chennai, the present study is raised with the objective of filling up of the gaps in the field of E-banking services and customer satisfaction in the city of Chennai. So, the researcher is decided to make a study on the Influence of E-banking on customer satisfaction in the Indian banking sector with reference to Electronic banking scenario in the city of Chennai as a measure to fill this constant gap prevailing in the study on E-banking services in the city of Chennai. The researcher is also decided to have a comprehensive study on ATM services, IB services and MB services.
There are no much researches in India made in respect of E-banking services exclusively in the foreign banks and private banks in India. There are not much either separate or combined researches made in respect of E-banking services pertaining to either in all public sector banks or all private sector banks in city of Chennai.

Only very few researches were on E-banking services that are offered in Chennai city. As stated above there is a significant number of literature reviews analysing customer satisfaction in the Indian banking sector in regard to traditional services. This present study is to fill up the constant gap that exists in the literature relating to the influence of E-banking services on customer satisfaction in the city of Chennai and thereby this thesis undoubtedly will be an added advantage to bankers to know the customer thoughts and expectations relating to E-banking services and to fulfill them by providing good and superior quality service to the customers.

1.10 SCOPE OF STUDY

According to the observations from the literature review, the present study is confined to the various selected factors associated with the influence of E-banking and their influence on customers in deciding their level of satisfaction on E-banking services.

The present study is on measuring customer level of awareness on core banking solutions/systems (CBS) and E-banking services, customer satisfaction level on E-banking services in the city of Chennai. The E-banking services taken for present study are only ATM, IB and MB services.

The customers of all 26 PSBs and all 21 private sector banks at end of March 2011 have been taken for present study. Out of 21 PRSBs 2 banks namely the Nainital bank and Ratnakar bank were not taken for present study due to non-existence of their branches in the city of Chennai and SBI Commercial and Industrial bank due to its merger with SBI in July 2011.
1.11 **OBJECTIVES OF THE STUDY**

The statement of the problem and gaps in the literature have directed researcher to frame and to analyse the following objectives in the present study.

1. To study the profile of bank’s customers, their awareness level on Core Banking Systems, ATMs, Internet Banking and Mobile Banking services and their banking habits towards ATMs, Internet Banking and Mobile Banking Services
2. To analyse the level of satisfaction of customers in ATM services
3. To analyse the level of satisfaction of customers in Internet Banking services
4. To analyse the level of satisfaction of customers in Mobile Banking services
5. To examine the influence of demographic variables on the level of satisfaction on ATMs, Internet Banking and Mobile Banking services.

1.12 **HYPOTHESIS**

In order to achieve a sharp pinning down of the research problems and objectives, the following hypothesis were formulated.

1. There is no association between ‘the banking habits of customers’ and ‘the level of satisfaction of ATM services’.
2. There is no association between ‘the awareness level of customers’ and ‘the level of satisfaction of ATM services’.
3. There is no association between ‘the banking habits of customers’ and ‘the level of satisfaction of Internet banking services’.
4. There is no association between ‘the awareness level of customers’ and ‘the level of satisfaction of Internet banking services’.
5. There is no association between ‘the banking habits of customers’ and ‘the level of satisfaction of Mobile banking services’.
6. There is no association between ‘the awareness level of customers’ and ‘the level of satisfaction of Mobile banking services’.

7. There is no significant influence of demographic variables of customers on satisfaction level of E-banking services.

1.13 RESEARCH METHODOLOGY

1.13.1 Research Design

The research design is empirical in nature. Since the study is conducted using both analytical and diagnostic type of research. The study is conducted in two-stage format, with a preliminary pilot study followed by the main study. The major part of the study is based on primary data.

1.13.2 Study Area

The city of Chennai is the capital of the state of Tamil Nadu has been chosen for the purpose of study because of the following reasons:

- Chennai city is a major commercial, cultural, economic and educational center in South India. It is also known as the "Cultural Capital of South India. The city has been termed as ‘India's health capital. Chennai has a diversified economic broad base anchored by the automobile, software services, hardware manufacturing, computer, technology, health care and financial services industries. According to the Confederation of Indian Industry, Chennai is estimated to grow to a US$100–billion economy, 2.5 times its present size, by the year 2025. As of 2012, the city is India's second largest exporter of information technology (IT) and business process outsourcing (BPO) services. A major part of India's automobile industry is based in and around the city. So, it earns the nickname "Detroit of India". Chennai is currently the largest electronics hardware exporter in India, accounting for 45% of the total exports in 2010-11. Chennai has a stock exchange called the Madras Stock Exchange. Major software companies have their
offices set up here, with some of them making Chennai their largest base.

- As of 2011, the city is one of the most densely populated cities in the world. It is the fourth most populous metropolitan city in the nation, sixth most populous city in India and 31st largest urban area in the world. The sex ratio is 951 females for every 1,000 males, slightly higher than the national average of 944. The average literacy rate rose from 85.33% in 2001 to 90.33% in 2011, much higher than the national average of 79.5%. Chennai is in second place for literacy among metropolitan city centers in India. The financial literacy of people in Chennai is favorable for the purpose of study.

- The city has become the financial and business centre of the entire nation. Chennai possesses its significance in India, because of its vibrant banking culture and Trading. The city has emerged as an important centre for banking and finance in the World Market. Chennai has strong contribution in the development of not only Indian banking sector but also World banking sector. Chennai has strong contribution in the development of not only Indian banking sector but also world banking sector. Chennai is the Headquarter of Indian Bank and Indian Overseas Bank. The city is home to the south zonal office of the Reserve Bank of India. The city also houses the permanent back office of the World Bank. Several foreign banks have established their branches in the city. Chennai is home to the national level commercial banks, Indian Bank, Indian Overseas Bank and many state level co–operative banks, finance and insurance companies. Prominent financial institutions, including the World Bank, Standard Chartered Bank, ABN AMRO, Citibank, etc. have back office and development center operations in the city. Almost every bank of the country has multiple numbers of branches in the city. All types of banks including public sector banks and private sector banks have also established their branches in the city. The city boasts of having a transaction volume which
serves 900 million people across the World through back office operation.

- The city serves as the gateway to the tourists landing in the city and starting their trip to the rest of the region. Chennai is one of the four cities in India through which the country is connected with the rest of the world through undersea fiber-optic cables. As of 2012, there were 43 foreign representations in Chennai, including consulates general, deputy high commissions and honorary consulates. Chennai serves as a major Air gateway to southern India. Chennai hosts the headquarters of the Southern Railway. Chennai is one of the cities in India that is connected by the Golden Quadrilateral system of National Highways. The Chennai Mofussil Bus Terminus (CMBT) is the largest bus station in Asia. It is the main intercity bus station of Chennai. The city is served by two major sea ports, Chennai Port, one of the largest artificial ports in India, and Ennore Port. The Chennai port is the largest in Bay of Bengal. Chennai is in second place for literacy among metropolitan city centers in India with a 90.33 percent literacy rate. As on 2010, Chennai has sister city relationships with the cities Volgograd of Russia, Denver of United States, San Antonio of United States, Kuala Lumpur of the world.

- In 2010, Chennai had the fourth highest number of active Internet users in India, with 2.2 million users. The banking habits of the residents of the city are quite similar to that of the people placed in the rest of the country (www.wickypedia.com).

The above features of Chennai city drove the researcher to consider it as a highly appropriate place to conduct the present study.

1.13.3 Sources of Data

Primary data have been collected from the customers of the 26 public sector and 18 private sector banks having their existence in the city of Chennai.
Secondary data is collected from various published and unpublished sources including Journals, Magazines, Publications, Reports, Books, Dailies, Periodicals, Articles, Research papers, Bank publications, Manuals and Booklets, Websites, E-books and E-articles.

1.13.4 Sampling Technique

Proportionate convenient sampling method is adopted to collect the primary data. The respondents for the purpose of the study are selected on proportionate convenient sampling basis.

In this research, the researcher deals with 3 types of E-banking services namely ATM, IB and MB services. It is important to get the responses from the customers who are all well acquainted with all the 3 services. Since, Chennai, the metropolitan city consists of several branches of different banks, the researcher adopted proportionate convenient sampling process based on the presence of number of branches of PSBs and PRSBs in Chennai city.

1.13.4.1 Sample frame

The customers of all the public sector and private sector banks existing in Chennai have been taken into consideration for the purpose of study.

1.13.4.2 Sample size

All the 26 public sector banks and 18 private sector banks were chosen for the purpose of study. Totally from the 44 banks, the number of questionnaires distributed was 1600. The number of questionnaires returned was 1550 and the number of questionnaires found usable was 1500. Hence, the exact sample size is 1500.

1.13.4.3 Questionnaires distributed, received and analysed

The details of questionnaires distributed to the customers, received from the customers and analysed are furnished in the following Table 1.1.
## Table 1.1 Questionnaires Distributed, Received and Analysed

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of Banks</th>
<th>Number of Branches in India (as on 31.03.2011)</th>
<th>Number of Questionnaires Distributed</th>
<th>Number of Questionnaires Received</th>
<th>Number of valid Questionnaires used for Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Nationalised Banks (Public Sector Banks)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) State Bank of India and its Associates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>State Bank of India</td>
<td>13284</td>
<td>188</td>
<td>179</td>
<td>177</td>
</tr>
<tr>
<td>2</td>
<td>State Bank of Bikaner and Jaipur</td>
<td>909</td>
<td>13</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>State Bank of Hyderabad</td>
<td>1210</td>
<td>17</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>State Bank of Mysore</td>
<td>700</td>
<td>10</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>State Bank of Patiala</td>
<td>1013</td>
<td>14</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>State Bank of Travancore</td>
<td>797</td>
<td>11</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>17913</td>
<td>253</td>
<td>238</td>
<td>229</td>
</tr>
<tr>
<td>(b) Other Nationalised Banks (Public Sector Banks)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Allahabad Bank</td>
<td>2373</td>
<td>34</td>
<td>31</td>
<td>27</td>
</tr>
<tr>
<td>2</td>
<td>Andhra Bank</td>
<td>1603</td>
<td>23</td>
<td>22</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>Bank of Baroda</td>
<td>3352</td>
<td>48</td>
<td>48</td>
<td>47</td>
</tr>
<tr>
<td>4</td>
<td>Bank of India</td>
<td>3303</td>
<td>47</td>
<td>47</td>
<td>45</td>
</tr>
<tr>
<td>5</td>
<td>Bank of Maharashtra</td>
<td>1505</td>
<td>22</td>
<td>20</td>
<td>16</td>
</tr>
<tr>
<td>6</td>
<td>Canara Bank</td>
<td>3252</td>
<td>46</td>
<td>46</td>
<td>45</td>
</tr>
<tr>
<td>7</td>
<td>Central Bank of India</td>
<td>3737</td>
<td>53</td>
<td>53</td>
<td>50</td>
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<tr>
<td>8</td>
<td>Corporation Bank</td>
<td>1268</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>9</td>
<td>Dena Bank</td>
<td>1191</td>
<td>17</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>10</td>
<td>Indian Bank</td>
<td>1829</td>
<td>26</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>11</td>
<td>Indian Overseas Bank</td>
<td>2167</td>
<td>31</td>
<td>31</td>
<td>29</td>
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<tr>
<td>12</td>
<td>Oriental Bank of Commerce</td>
<td>1640</td>
<td>23</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td>13</td>
<td>Punjab &amp; Sind Bank</td>
<td>941</td>
<td>13</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>14</td>
<td>Punjab National Bank</td>
<td>4855</td>
<td>69</td>
<td>64</td>
<td>62</td>
</tr>
<tr>
<td>15</td>
<td>Syndicate Bank</td>
<td>2491</td>
<td>36</td>
<td>35</td>
<td>33</td>
</tr>
<tr>
<td>16</td>
<td>UCO Bank</td>
<td>2192</td>
<td>31</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>17</td>
<td>Union Bank of India</td>
<td>3051</td>
<td>43</td>
<td>39</td>
<td>37</td>
</tr>
<tr>
<td>18</td>
<td>United Bank of India</td>
<td>1556</td>
<td>23</td>
<td>20</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>Vijaya Bank</td>
<td>1186</td>
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<td>16</td>
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<td>20</td>
<td>IDBI Bank</td>
<td>806</td>
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<td>9</td>
<td>6</td>
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<td>Total</td>
<td></td>
<td>44298</td>
<td>632</td>
<td>603</td>
<td>564</td>
</tr>
<tr>
<td>Grand total (PSBs)</td>
<td>62211</td>
<td>885</td>
<td>841</td>
<td>793</td>
<td></td>
</tr>
<tr>
<td>(c) Old Private Sector Banks (Ltd)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Catholic Syrian Bank</td>
<td>360</td>
<td>23</td>
<td>22</td>
<td>22</td>
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<td>2</td>
<td>City Union Bank</td>
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<td>16</td>
<td>16</td>
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<tr>
<td>3</td>
<td>Dhanalakshmi Bank</td>
<td>273</td>
<td>18</td>
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<td>17</td>
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<tr>
<td>Sl. No.</td>
<td>Name of Banks</td>
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<td>Number of Questionnaires Distributed</td>
<td>Number of Questionnaires Received</td>
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</tr>
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<td>4</td>
<td>Federal Bank</td>
<td>741</td>
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<td>47</td>
<td>47</td>
</tr>
<tr>
<td>5</td>
<td>ING Vysya Bank</td>
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<td>31</td>
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<td>6</td>
<td>Jammu &amp; Kashmir Bank</td>
<td>503</td>
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<td>30</td>
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<td>7</td>
<td>Karnataka Bank</td>
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<td>30</td>
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<td>8</td>
<td>Karur Vysya Bank</td>
<td>369</td>
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<td>24</td>
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<td>9</td>
<td>Lakshmi Vilas Bank</td>
<td>269</td>
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<td>17</td>
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<tr>
<td>10</td>
<td>Nainital Bank</td>
<td>101</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>Ratnakar Bank</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>SBI Commercial and Industrial Bank</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>South Indian Bank</td>
<td>632</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>14</td>
<td>Tamilnad Mercantile Bank</td>
<td>232</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>4817</strong></td>
<td><strong>293</strong></td>
<td><strong>289</strong></td>
<td><strong>288</strong></td>
</tr>
<tr>
<td>(d) New Private Sector Banks(Ltd)</td>
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</tr>
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<td>Axis Bank</td>
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<td>86</td>
<td>86</td>
<td>86</td>
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<td>2</td>
<td>Development Credit Bank</td>
<td>82</td>
<td>5</td>
<td>5</td>
<td>4</td>
</tr>
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<td>3</td>
<td>HDFC Bank</td>
<td>1963</td>
<td>122</td>
<td>122</td>
<td>122</td>
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<tr>
<td>4</td>
<td>ICICI Bank</td>
<td>2523</td>
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<td>156</td>
<td>156</td>
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<tr>
<td>5</td>
<td>IndusInd Bank</td>
<td>303</td>
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<td>19</td>
<td>19</td>
</tr>
<tr>
<td>6</td>
<td>Kotak Mahindra Bank</td>
<td>322</td>
<td>21</td>
<td>20</td>
<td>19</td>
</tr>
<tr>
<td>7</td>
<td>Yes Bank</td>
<td>215</td>
<td>13</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>6785</strong></td>
<td><strong>422</strong></td>
<td><strong>420</strong></td>
<td><strong>419</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Grand total (PRSBs)</strong></td>
<td><strong>11602</strong></td>
<td><strong>715</strong></td>
<td><strong>709</strong></td>
<td><strong>707</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Grand Total</strong></td>
<td><strong>73813</strong></td>
<td><strong>1600</strong></td>
<td><strong>1550</strong></td>
<td><strong>1500</strong></td>
</tr>
</tbody>
</table>

(Source: RBI reports for number of banks and branches as on 31.03.2011)

### 1.13.5 Period of Study

The primary data were collected during the period of four months from February 2012 to May 2012. The entire study was conducted during a period of five and half years from January 2007 to June 2012.

### 1.13.6 Questionnaire

A well structured questionnaire has been used for the purpose of the study and it has been used to collect information from the customers. It has been divided into five parts as listed below.
1. The Part-I of the questionnaire contained eleven questions of which two were direct and nine were objective typed. Of them three were focused on banking habits and eight were focused on demographic profile of customers.

2. The Part-II of the questionnaire contained four questions testing the awareness level of the customers regarding the services and facilities offered by CBS. They were of bi-polar (‘Yes’ or ‘No’) type questions.

3. The Part-III of the questionnaire pertaining to ATM services contained twenty six questions of which two were of objective type; five were of bi-polar (‘Yes’ or ‘No’) type; nineteen were of the Likert’s five-point scale type. Of them three were focused about banking habits; four were focused on the awareness level on ATM services; nineteen statements on the whole covering the influencing variables associated with ‘ATM services’ and ‘customer satisfaction level’.

4. The Part-IV of the questionnaire pertaining to IB services contained twenty eight questions of which two were of objective type; six were of ‘Yes’ or ‘No’ type; twenty were of the Likert’s five-point scale type. Of them two were focused on banking habits; six were focused on the awareness level on IB services; twenty statements on the whole covering the influencing variables associated with ‘IB services’ and ‘customer satisfaction level’.

5. The Part-V of the questionnaire pertaining to MB services contained thirty questions of which two were of objective type; six were of ‘Yes’ or ‘No’ type; twenty two were of the Likert’s five-point scale type. Of them two were focused on banking habits; six were focused on the awareness level on Mobile banking services; twenty two statements on the whole covering the influencing variables associated with ‘MB services’ and ‘customer satisfaction level’.
1.13.7 Pilot Study

A pilot study was conducted to validate the questionnaire and to confirm its reliability and feasibility for the study. A sample of 100 filled-in questionnaires was collected from customers. The Cronbach’s Alpha Criterion was applied to test the reliability of the pilot questionnaire. The value was determined as 0.925. This also explains that the statements in the questionnaires were understood by the customers at 92.5% level. Thus, the quality of the questionnaire was ascertained and the test proved high reliability. The variables considered for the analysis were satisfying the normal probability distribution. Therefore, the same questionnaire was proceeded for main study also.

1.13.8 Scale Development

This thesis employs three different scales in its measurement of the influence of E-banking on customer satisfaction in the Indian banking sector. Each scale has its own range and options. The scales are of Likert’s five point scale, bipolar scale (yes / no type) and objective type scale.

The questionnaire used both optional type and statements in Likert’s five points scale. The responses of these sections were obtained in the five point scale from the customers in the city of Chennai. This five point scale ranges as 5– Highly Satisfied, 4- Satisfied, 3 – Neutral, 2 – Dissatisfied and 1- Highly Dissatisfied.

This allowed for the standardization of results as well as making it easier for respondents to complete the questionnaire. The author and supervisor discussed the Likert’s five point scale and decided to assign the numerical value 3 for undecided or neutral. By referring to several approaches in statistics, it was decided to assign 3 to neutral. Undecided had a connotation that, the statements in the questionnaire do not have proximity to the respondents. But neutral implies that they are well acquainted with the statements in the questionnaire but they want to remain equidistant from the two extremities of satisfied and dissatisfied. This would not affect the high Cronbach’s value.
1.13.9  **Data Collection**

The sample size was determined by following the three fold approach:

1. As a first approach, the SCBs in India as at the end of March 2011 have been considered for present study.

2. As a second approach, 26 PSBs and 21 PRSBs in India as at the end of March 2011 have been taken into consideration to decide about the number of banks for the purpose of study.

3. As a third approach, the total number of 26 PSBs and 21 PRSBs of which 18 having their existence in Chennai as at the end of March 2011 have been taken for the purpose of study.

Therefore, the customers of 44 banks present in Chennai have been decided for study purpose.

1.13.10  **Data Analysis**

The primary data collected were analysed using Statistical Package for Social Sciences (SPSS V-15) computer packages. The following statistical tools have been employed in the study to obtain torrent of results from the primary data analysis.

1.13.10.1  **Factor analysis**

Factor analysis by principle component method has been applied on the variables of ATM services, IB services and MB services in view of making analysis relating to level of customer satisfaction. This analysis has identified and segmented the n-number of dependent variables into 4 meaningful predominant continuous factors in each of the above said E-banking services.

1.13.10.2  **Cluster analysis**

Cluster analysis has been applied to classify the customers based on their satisfaction level on each of the E-banking services.
1.13.10.3 **t-test**

One sample t-test has been used to bring out the satisfaction level of customers on various dependent variables influencing each of the chosen E-banking services.

1.13.10.4 **Parametric chi-square analysis**

Parametric Chi-Square analysis has been applied in present study for determining the existence/non-existence of association between the various demographic variables and awareness of customers on CBS, E-banking services and their satisfaction level in these services.

1.13.10.5 **Non-parametric chi-square analysis**

Non-Parametric Chi-Square analysis has been used in present study for determining the existence/non-existence of association between the various demographic variables and awareness of customers on CBS, E-banking services and their satisfaction level in these services.

1.13.10.6 **One way analysis of variance (ANOVA)**

ANOVA has been applied to establish the influence of demographic variables on customer different satisfaction levels on dependent factors of chosen services viz., ATM, IB and MB services.

1.13.10.7 **Karl pearson’s co-efficient of correlation**

Karl Pearson’s Co-Efficient of Correlation has been used to establish the relationship between the variables influencing the chosen E-banking services and customer satisfaction level on them.

1.13.10.8 **Percentage analysis**

Percentage Analysis has been applied to determine the contribution of variables in both bi-polar and objective typed questions present in the questionnaire.
1.14 LIMITATIONS OF THE STUDY

The limitations of the present study have been given below.

- This study has been conducted in the city of the Chennai only and hence, the findings of this study may not be applicable for the entire country. Therefore, a care has to be exercised in extending the result to other areas and other products.

- The data collected is primary data which is based on questionnaires and hence, the results would bear all the limitations of the primary data.

- The data were collected from those customers who are availing the E-banking services of all public sector banks and private sector banks and resident of the city of Chennai.

- The number of respondents was relatively small. i.e. Only 1500.

- The study has been confined to only ATM, IB and MB services and hence, the findings may not be applicable to other type of E-banking services.

1.15 CHAPTERISATION

Chapter 1 Introduction

It deals with the introduction, Indian banking scenario, need and importance of the study, statement of the problem taken up for the study, gaps in the literature, scope of the study, objectives of the study, hypothesis, research methodology followed for the study, limitations of the study and chapterisation, etc.

Chapter 2 Review of Related Literature

It explores the review of related literature on E-banking services and customer satisfaction on them in the banking sector besides identifying the research gaps.
Chapter 3 ATM, Internet Banking and Mobile Banking Services – An Overview

It provides a description of the selected E-banking Alternative Delivery Channels – ATM services, IB services and MB services.

Chapter 4 Analysis and Discussion on Demographic Profile of Customers and Awareness Level of Customers on the Core Banking System

It presents analysis and discussion on the data based on the demographic profile and on the awareness level of customers on the CBS in the public sector banks and private sector banks in Chennai and on their responses to the part-I and part-II of the questionnaire respectively.

Chapter 5 Analysis and Discussion on Awareness Level, Banking Habits and Satisfaction Level of Customers

It provides analysis and discussion on the data based on the awareness level, banking habits and satisfaction level of the customers on the ATM, IB and MB services of the public sector banks and private sector banks in Chennai city and on their responses to the part-III, part-IV and part-V of the questionnaire.

Chapter 6 Summary of Findings, Suggestions and Conclusions

The concluding chapter summarizes the findings of the study and gives out the suggestions suitable for improving E-banking services and focus on scope for further research besides a conclusion.

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Chapter 1 - References


