Chapter – VIII

SUMMARY AND SUGGESTIONS

1.2 Introduction

A sound and effective banking system is the backbone of an economy. The economy of a country can function smoothly and without many hassles if the banking system is not only flexible but also capable of meeting the new challenges posed by the technology and other external as well as internal factors. The importance and role of information technology for achieving this objective cannot be undermined. Technology advances have accelerated changes resulting in higher production of goods & services. The information technology has transformed the functioning of business across the world. It bridged the gap in terms of both reach and the coverage of system and in the process enabling better decision making based on latest and accurate information and improvement in efficiency through various new processes, products and services offered by both state owned banks, private sector banks and foreign banks and financial institutions.

At the beginning of the 21st century, the biggest banks across the world have become complex financial organizations that offered a wide variety of services to international markets and control billions of dollars in cash and assets. Supported by the latest technology, banks are working to identify new business niches, to develop customized services, to implement innovative strategies and to capture new market opportunities. With further globalization, consolidation, deregulation and diversification of the financial industry, the banking sector will become even more complex. There is an urgent need for not only technology upgradation but also its integration with the general
way of functioning of banks to give them and rim in respect of services provided to the customers, better housekeeping, optimizing the use of funds and building up of management information system for decision making. Technology has the potential to change methods of marketing, advertising, designing, pricing and distributing financial products and services and cost savings in the form of an electronic, self – service product – delivery channel. In Indian context banking section is the beneficiary of inroads made by IT. The effective integration of technology with sound business process and re-engineering is leading to exponential growth for which achievements of ICICI Bank is the best example.

Over the past decade there has been an increasing convergence between the activities of investment and commercial banks, because of the deregulation of the financial sector. Furthermore, the modern banking industry has brought greater business diversification. Some banks in the industrialized world are entering into investments, underwriting of securities, portfolio management and the insurance businesses. Taken together, these changes have made banks an even more important entity in the global business community.

The adoption of new technology has become a necessity for survival, particularly in the aftermath of liberalization, privatization, and globalization. Computers are not new to our country. In fact the first computer was installed as early as the 60’s. The initial growth was however slow. Since 1980’s there has been virtual explosion in the use of computers in both manufacturing &service sectors. The Indian Banks have been lagging behind their foreign counter-parts due to a variety reasons. In order to face global competition they had to take-up computerization on a massive scale within a short span
of time. This obviously resulted in a number of changes. This study is a modest attempt in understanding how technology has impacted the banking sector.

The tremendous advances in technology and the aggressive infusion of information technology had brought in a paradigm shift in banking operations. For the banks, technology has emerged as a strategic resource for achieving higher efficiency, control of operations, productivity and profitability. For customers, it is the realization of their anywhere, anytime, anyway banking dream. This has prompted the banks to embrace technology to meet the increasing customer expectation and face the tough competition.

Banking in the yester years, involved very little role of technology. It was more of maintenance of ledgers and registers and minimizing risk by venturing into only well known traditional areas. Usage of technology was confined to simple devices such as telex machines, funds and message transfers, electronic typewriters and telephones with fax connections.

Before 1969 Banking in India was Character Banking – where lending’s hallmarked on the grounds of respectability. After 1969, the next two decades saw the phase of Nationalized Banking where activity of banks was more focused on social sectors and Government directions. In the third phase, which started in 1991-92, ‘Prudential Banking’ was the key word. Now, in the fast changing economy, Banking in India has moved over from Prudent to a Liberalized and Competitive Banking, thanks to the globalization process that has set in.

In the present set up, Competition and Profitability have become key words for banks in India. Though these are mutually contradictory, banks have to balance the
severity of the competition and continue to be in the reckoning by improving their profits. Technology has become very important for banks to carve a plane for themselves and become leaders in their respective fields; to achieve this; banks have to improve their margins and profits by conducting transactions at low costs besides being lean in size. Towards this direction, recently, many PSBs have shed their excess staff through a Voluntary Retirement Scheme. Computerization of operations and networking would also aid reduction in transaction cost. Capital base and resources are crucial for adopting technology changes fastly; this can be noticed with the advent of e-banking and core banking services being offered by various banks.

Indian Banking, influenced by the financial sector reforms and globalization is witnessing a shift away from meeting social priorities to the confronting market forces. The power of technology has fuelled this change and made profound impact on the banking business. From being enabler, IT is gradually emerging as a driver and key differentiator of business performance and competitive superiority. The dire competition in the banking industry between the public sector banks, old private sector banks, new generation private sector banks and the foreign banks is mainly through technology innovation, up gradation and modernization. The major challenge for the Bankers is to introduce newer products, which are innovative in nature yet be brought in multiple areas to reduce the overall transaction cost for the ultimate benefits of the customers. The Indian Banks are not working in a closed environment any more. Resistance to advancing technology is no longer a solution.

In India, opening up of the banking sector in terms of entry of foreign entities and easing of restrictions on international transactions took place within the broader process
of reforms. The constant policy concern in this respect has been that of preparing the banking sector for global competition and taking preventive measures for the potential vulnerabilities that it might engender.

In short, India’s banking sector has made rapid strides in reforming itself and aligning itself to the new competitive business environment. While the operational and supervisory practices in the sector have progressively approximated international best practices, the process of convergence is not yet complete. Greater conformity to prudential norms of international standards and also adoption of better systems of risk management will enhance the stability of the banking system even as banks expand the range and volume of their operations.

Technology holds the key to the future success of Indian Banks. IT has a lot of influence on banking sector. The new methods of banking practices on account of IT ensure which service besides reducing cost in banking sector. Computerization in banking is taking place all over the world. The purpose of computerization is to bring technology to counter and enable to employees to have information as their fingertips. This enabled the banks to offer better quality of services to customers besides ensuring accurate information at a faster rate on banking transaction. Thus, the adoption of IT in banking has undergone several changes with the passage of time. Today, IT has become inseparable segment of banking organization.

The need for IT adoption in banking can be highlighted with the following points

- The increase in investment in banking sector has forced to switch on to automation of existing processes.
• Cost sharing between customers and products and its analysis forced banks to go for IT. Costs in banking are shared across products and even across customers. An investment that might have a positive impact on one customer base or product may have the desired impact on the overall cost base.

• Banking services may be a class of services for which demand and supply created additional demand. Banks have recognized that they need to offer the conveniences of newer technology to retain their existing customers.

• The mix effect of technology in banking reflect the fact that technology can replace simple repetitive functions such as the basic calculations and internally oriented back office support functions that were automated initially.

The business requirements of banks/financial institutions are changing rapidly. The customer has now emerged as the pivotal focus of attention. The highly competitive market offers customers a wide choice of banks with varying levels of customer service, efficiency and technology support. The customer demands are high and all pervasive:

• Mobility: internet banking, any branch banking, mobile banking and SMS alerts.

• High availability: ATM networks and non-stop online banking.

• Efficiency and speed: electronic funds transfer, bill payments on the internet.

• Aggregation: Consolidated view of customer accounts across the bank.

• Relationship banking: CRM and e-CRM.
• Security: Privacy and security in electronic transactions and payment systems.

To be able to meet these customer demands, banks must put in place a reliable network of computer systems and solutions across the bank. The software architecture for bank-wide computer systems and solutions should be robust and efficient to withstand growing demands and volumes of transactions, data storage, decision support, etc. At this juncture, banks need to take a relook at their own applications, reengineer their software architecture requirements and upgrade their technology infrastructure accordingly.

The core issues faced by banks today are on the fronts of customer’s service expectations, cutting operational costs and managing competition. For this, banks are exploring new financial products and services options that would help them to grow without losing existing customers. And any new financial product or service that a bank offers will be intrinsically related to technology. Only technology can help banks in meeting these objectives. That’s why Information technology has just moved from being a business enabler to being business driver.

1.1.2 Evolution of Information Technology (IT)

IT came into picture as early as in the 1980s in Banking Industry through the Rangarajan Committee recommendations and the Banks who have given utmost importance to the technology since the last 25 years have occupied the top slot in performance. The Reserve Bank of India is constantly pursuing the Banks from 1980s

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to introduce computerization at branch level and to improve the quality of customer service through Technology.

During the first phase of development, the Banks were focusing on automating the laborious accounting process and back office functions like maintenance of deposits accounts, calculation of interest and maintenance of general ledgers. The Advanced Ledger Posting Machines (ALPM) was used for this purpose. This was just the beginning but demonstrated the advantages of introducing the technology in a bigger way.

The second phase of development took place in the late 1980s when the banks gave serious thought to automate the front-office as well as the back office functions to improve the level of customer service with reduction in processing time as well as to automatically synchronize the front-office and back-office functions for control purposes. The Total Branch Mechanization (TBM) was introduced during this period and the branches were able to capture the entire data/transactions related to their operations in a stand-alone mode.

Then came the third phase, which was sparked by the opening of new generation Private Sector Banks. These banks with small network and with the advantage of opening the branches under computerized environment from day one of operations aggressively introduced the networking concept and centralized operations. With substantial IT investments and lower operating costs, these banks could provide innovative financial products at a cheaper cost. The existing banks also networked their branches as well as initiated the process of centralized operations. The “Core Banking Solution (CBS)” is introduced aggressively and the Banks have already captured substantial business under CBS. The “branch-customer” concept is done away with and the “bank customer”
concept is introduced. This meant that the problems of decentralized network such as maintaining the stand-alone server, various applications, database and the related operational costs is avoided and the banks were able to take full advantage of centralization by improving the efficiency from administrative and cost perspective. The falling costs of hardware and leased lines have supplemented the aggressive centralization. This has improved the level of customer service to a great extent through operational conveniences and reducing the transaction/remittances time. The banks were able to retain and improve the customer base as well as able to lower the service cost after adoption of the centralized operations.

The centralized operations led to the fourth phase of development whereby the banks have provided options to the Customers to carry out on their own the required transactions through Automated Teller Machines (ATM), mobile banking and internet banking. This provided the option to the customers to transact in traditional way or through the tech-way. The AAA mantra of Anytime, Anywhere and Anyhow is implemented through ATMs and internet banking. Though the ATMs are operational in India for quite some time, the numbers and level of operations are far below compared to the other developed Countries. Japan with more than 1,00,000 ATMs accounts for nearly 1/3rd of the worldwide ATMs. The reasons for the low utilization in India could be attributed to the lack of aggressive marketing and low level of customer-education regarding the operational conveniences. The operational costs for transactions through ATMs are comparatively less and also provide flexible options to the Customers. The other area where there is high potential to transact most of the banking functions with low
operating cost is “Internet” banking. The indication that only 15 per cent of the “Internet” users in India registered for operations through Internet explains the untapped potential.

Now the Banking Industry is witnessing the fifth phase of development wherein the intra-bank. Connectivity is effectively extended as “inter-bank” connectivity. The paperless on-line inter-bank remittances have become possible through “Real Time Gross Settlement (RTGS)”. The concept of “bank-customer” Has further improved to “banking industry-customer”. The “Cashtree” consortium of networking the ATMs of various banks is another customer-friendly development in this direction.

The induction of technology, no doubt, is absolutely essential for the overall progress in the banking sector. Modern banking is no longer confined to the branches only. Now day’s Indian customers are being provided with multiple modes of accessing banking transactions, including Tele-banking, Mobile banking, Internet banking, PC banking and Banking through ATMs. Technology introduction by itself will have certain effects on the processes. Appropriate technology in place shall smoothen the processes of financial intermediation, develop an efficient payment system, improve customer service, handle larger volumes, generate efficient MIS etc.

1.1.4 Banking Reforms in India

The government of India, under the chairmanship of Sh. M. Narasimham, an Ex-Governor of RBI, appointed the Narasimham Committee-I (NC-I) in April 1991. The committee examined all the aspects relating to the structural organization, functions and procedures of financial system and submitted its report on November 16, 1991. The NC-I had proposed wide ranging reforms for improving the financial viability of the banks,
increasing their autonomy from government directions, restructuring unviable banks, allowing a greater entry of the private sector in banking, liberalizing the capital market, further improving the operational flexibility and competition among the financial institutions and setting up of proper supervisory system.

The NC-II was constituted on December 26, 1997 to review the banking sector reforms since 1991 and to suggest measures of further strengthening the banking sector of India. The second banking sector reforms gave much importance to the modernization and technology upgrading. The IT Act, 1999 started the speedy process of e-banking.

The race for market supremacies is compelling Banks in India to adopt the latest technology. The whole of the Banking system had undergone a transformational change as summarized.

4. Pre-nationalization era (1948-68); No Banking laws, Bank failures, Lack of socioeconomic objectives. Only big Corporate benefited.
6. Post liberalization 1991 Era (Liberalization, privatization and Globalization)- High Tech banking, Core banking, E-Banking, Internet Banking, MICR Technology, RTGS,EFT,ECS Product innovation, Marketing approach

Banks are primarily service organizations and their profitability and survival primarily depends upon their ability to widen and retain their customer base by rendering a multitude of services in a manner that meets the expectations of customers. The expectations/satisfaction of the customers may be a function of time, cost, and provided efficiency which all are related Information and Financial technologies.
1.1.6 Trends in Banking Technology:

Reserve Bank of India has played an important role in implementation of information technology in banking sector. Over the years, a number of committees have been constituted for development of information technology infrastructure and significant developments have taken place in the banking sector. Taking into consideration the recommendations by various committees appointed by RBI and guidelines of RBI, banks have started using IT to automate banking transactions and processes.

The trends in the technology has brought about a significant change in many aspects in the form of computerization of transactions and new delivery channels such as internet banking, phone banking ATMs, EFT, ECS and EDI etc. With migration of traditional paper based funds movements to quicker and more efficient electronic mode, funds transfers have become easy and efficient to perform. All these developments are lead to facilities to customers delight as well as operational efficiency of banks and reducing operational expenses of banking services. Some of the developments are as follows.

1.1.6.1 Computerization Banking

The reserve bank of India installed its first computer in 1968. Computer, being a number cruncher, brings tremendous speed in handling of transactions helps in decreasing operational costs, checking various types of frauds, saving of time, etc. There are many facilities, which may be offered by banks after computerisation\(^3\) i.e. Internet banking.

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\(^3\) Narender Kumar and Mohan Kumar, “Employees’ Response to Computerisation in Banks”, Banking Finance, March, 2005.
Any time banking, ATM, Tele-bank, Mobile banking, etc. The main types of the bank computer applications – back office application, total branch automation, core banking solutions. After the turn of back office application and total branch automation the next term is core banking applications. Core Banking Applications provide anywhere any time 24x7 nonstop services, which is not possible with traditional localized branch automation systems.

1.1.6.2 E-Banking

E-banking is a process of delivery of banking services and products through electronic channels such as telephone, internet, mobile phone etc. RBI has made considerable progress in consolidating the issues of i-banking with a view to establishing an efficient, integrated and secure system functioning in a real-time environment, which has further helped the development of E-banking in India. The successful implementation of e-banking depends upon awareness of customer about e-banking facility.

1.1.6.3 Internet banking or Online Banking

Internet is a network of networks. It is not a single network, but a global interconnected network of networks providing free exchange of information. At the basic level, internet banking can mean the setting up of a web-page by a bank to give information about its products and services. At an advance level, it involves provision of facilities

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such as accessing accounts, fund transfer, and buying financial products or services online. This is called “Transactional Online Banking”.

ICICI Bank is the first one to have introduced internet banking for a limited range of services. After ICICI, citibank, Indus Indi Bank and HDFC Bank were the early ones to adopt the technology in 1999.

The **Online Banking** service allows customers to manage their money from any type of browser device including mobile phones, internet enabled T.V and even small hand electronic organizers. Using a PC to access account, transfer funds, pay creditor and check if payment has been made etc is called online banking. It allows customer to have constant access to accounts at any time of day or night.

### 1.1.6.4 Mobile Banking

In October 2008, the RBI came out with guidelines for mobile payments in India for regulating mobile banking to ensure appropriate safeguards and security of financial transactions. Banks that have already started offering mobile payment services are required to review their position and comply with the guidelines within three months of the notification of the guidelines. Union Bank of India, the first state-owned bank which introduced mobile based banking services in the market. The M-banking services can be broadly categorized as – account information, payments & transfers, investments, support, content services.

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1.1.6.5 Phone Banking

Tele banking is another innovative form of electronic banking introduced by banks through which banking services or products are rendered through telephone to its customers. Phone Banking is also called Tele Banking. A customer can access his/her account through the telephone at anytime or at any place throughout the country with the same Tele banking PIN they desire. Tele banking is offered by the banks through a technology known as Interactive Voice Response Service (IVRS). Basically this system, accept only ‘tone’ dialed input from callers telephones instruments and provides suitable voice response messages and information to the caller. Tele banking provides “round the clock banking. Under phone banking, the bank can provide the information of balance in account, status enquiry, request for cheque books, request of statement of account, cash withdrawal etc.

1.1.6.6 SWIFT (The Society for Worldwide Inter-bank Financial Tele-communication):

The Society for Worldwide Inter-bank Financial Telecommunication (SWIFT) provides reliable, cost effective, secured and expeditious telecommunication facilities for exchange of financial messages all over the world. The foreign exchange business which the Banks are conducting today would not have been possible without SWIFT. SWIFT, as a co-operative society was formed in May 1973 and started functioning in Mat 1977.

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1.1.6.7 Indian Financial Network - INFINET

The 'INFINET' - Indian Financial Network is a satellite based wide area network using VSAT (Very Small Aperture Terminal) technology set up by the RBI in June 1999. Among the major applications identified for porting on the INFINET in the initial phase are e-mail, Electronic Clearing Service - Credit and Debit, Electronic Funds Transfer and transmission of Inter-city Cheque Realization advices. Later, other payment system related applications as well as Management Information System (MIS) applications are proposed to be operationalized.

1.1.6.8 Electronic Funds Transfer (EFT)

EFT provides the transfer of funds from any account at any branch of any member bank in any city to any other account at any bank at any branch of any member bank in any other city. EFT operations introduced on February 1996. EFT permits transfer of funds, unto Rs. 5 lakh. Centralized fund management system (CFMS) and centralized funds enquiry system (CFMS) conducted by clearing houses of the RBI using INFINET facilitates EFT. A Special EFT (SEFT) was introduced in April 2003. This has facilitated same day transfer of funds across accounts of constituents at all these branches.

1.1.6.9 National Electronic Fund Transfer (NEFT):

National Electronic Fund Transfer (NEFT) is an online system for transferring funds of Indian Financial Institution (especially loans). This facility is used mainly to transfer funds below Rs. 2,00,000/- . Among the major applications identified for porting on the INFINET in the initial phase are e-mail, Electronic Clearing Service - Credit and Debit, Electronic Funds Transfer and transmission of Inter-city Cheque Realisation advices.
1.1.6.10 Real Time Gross Settlement System (RTGS)

RTGS is the next extension of EFT. It is also an electronic remittance. “RTGS is funds transfer system where transfer of money or securities takes place from one bank to another on a “real time” and on “gross basis”. Once processed, payment are final and irrevocable. It provides immediate finality of transactions. In short, with RTGS, anyone can make any types of currency payments to any one he likes, by paying few rupees as service charge/transaction fee.

1.1.6.11 Electronic Clearings/Settlement (ECS)

ECS Scheme operated by the RBI since 1996-97, it helps to make payment from a single account at a bank branch to any number of accounts maintained with the branches of the same or other banks. ECS facility is largely utilized by the public and private limited companies and Government departments, which makes bulk and recurring payments. Electronic Clearing Service consists of Electronic Credit Clearing Service and Electronic Debit Clearing Service. RBI introduced the electronic Credit clearing Services in April 1995. Electronic Credit Clearing Service is a reliable device used for bulk and repetitive credit-push payments such as salary, pension, dividend, commission, IPO refunds, interest etc. Electronic Debit Clearing facility was initially introduced by the RBI at Chennai in August 1994. ECS (Debit Clearing) Scheme helps utility institutions, insurance companies, credit card companies and finance companies to collect the proceeds of telephone/electricity bills, insurance premia or periodical installments etc.

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1.1.6.12 Magnetic Ink Character Recognition (MICR)

MICR (Magnetic Ink Character Recognition) is a character recognition technology adopted mainly by the banking industry to facilitate the processing of cheques. MICR is also known as Automated Clearing System (ACS). In India, MICR technology is used in clearing of cheques. MICR characters are printed with a magnetic ink or toner. Magnetic printing is used so that the characters can be reliably read into a system. MICR cheques contain a lot of information, which are in the code line and are printed in magnetic ink enabling the machine to read it instantly. These cheques are processed in a high-speed machine and have to withstand the stress and strains of operations. MICR cheques clearing facility was introduced by RBI initially in Mumbai, 1986.

1.1.6.13 Debit Card

The debit cards gained attention during late 70s and early 80s. However the growth during the 90s have been phenomenal. The debit card is a plastic card used at the point of sales to make payments generally for smaller amounts and also for obtaining cash. By using a credit card the cardholder access his line of credit, whereas in case of debit card the cardholder access his deposit account. The term ‘debit’ is generally associated with the deposit account-personal accounts. A debit card purchase transfers money fairly quickly from customers’ bank account to the store’s account. After use of the debit card the transaction appears on the cardholder’s account statement. Most of the Debit cards issued by the banks are also ATM cards. Hence they are also sometimes called as ‘ATM

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375 Mr. Kumbhar V. M., ALTERNATIVE BANKING: AN MODERN PRACTICE IN INDIA, SSRN-id1473898pdf.
– cum-Debit Cards. All cards issuers are affiliated to two major issuers – VISA and Master Card.\textsuperscript{376} These are also accepted at all the locations.

\textbf{1.1.6.14 Credit card}

Credit cards represent a step in the direction of an electronic fund transfer system. It is a card, which provides right to its holder to use it from making the payment against purchases. Customer needs not to make immediate cash payment\textsuperscript{377}. In India, the Central Bank of India was the first bank to introduce the credit card known as ‘Central Card’ in the middle of 1981. Credit card facility became immensely popular among customers in India 1990. Credit Card enables the cardholder to use borrowed funds upto a specified ceiling of amount on the principle of ‘Use First and Pay Later’ or it is a prepaid service.\textsuperscript{378}

\textbf{1.1.6.15 Automated Teller Machines (ATM)}

Banking service available 24 hours a day and 365 days a year\textsuperscript{379}. Such facility is made available to the customers through the Automated Teller Machines (ATMs). With advent of ATM, banks are able to serve customers outside the banking hall. ATM is designed to perform the most important function of bank. It is operated by plastic card with its special features. The first bank to introduce the ATM concept in India was the Hong Kong and Shanghai Banking Corporation (HSBC) in the year 1987. Now every

\textsuperscript{377} Shiwani Gupta and Neetu Khanna, “E-banking in India, Dream Vs. Reality”, E-banking in India, Challenges and opportunities, First Published, 2007.
commercial bank gives ATM facilities to its customers. ATM allows a number of banking functions – fast cash withdrawal, balance enquiry, mini statement of account, transfer transactions.

1.1.6.16 Cheque Truncation System

Cheque Truncation means that the physical cheque is scanned at the bank of first deposit (Presenting Bank), and thereafter the electronic image of the cheque, rather than the paper cheque itself, is sent to the Clearing House for sorting and then routing onwards to the Drawee/Paying Bank. This system will replace the physical cheques with the electronic images throughout the clearing cycles. Customers will be the biggest beneficiaries of Cheque Truncation because of reduction in time for clearing. On October, 2002, Reserve Bank of India conducted a Working Group under the Chairman: Dr. R.D.Burman, Executive Director on Cheque Truncation System. Cheque Truncation System is to be implemented in New Delhi and NCR region as a pilot project by June, 2006 and then replicated to other major clearing centres across India.

1.1.6.17 BANKNET

BANKNET is an internet based communication network. It provides speed of financial transaction. BANKNET is set up in 1991 by the RBI, this backbone is meant to facilitate transfer of inter-bank (and inter-branch) messages within India by Public Sector banks who are members of this network. It is a first national level communication network in India established by RBI. Through BANKNET, the bank can be transferred the message of banking transaction in the form of codes from the city to other. It is a quick settlement

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of transactions and advices and useful in foreign exchange dealings. Access to SWIFT through Bank net is easily possible.

All these developments in Indian banking are saying that, the Indian banks are moving towards modern banking changing a face of traditional banking of Indian economy. It is a great change of banking industry. They having a installing an information technology for banking business and they trying to provide technology based banking products and services to their customers. Indian banking sector is undergoing radical transformation owing to liberalization, privatization and globalizations.

The introduction of IT into the banking sector has revolutionized its operations and has prompted public sector commercial banks to deliver world class customer services to meet the growing customer needs. The emergence of new private sector and foreign banks is creating tremendous preserves on the public sector banks. They have to redesign their administrative systems to keep face with the unprecedented changes that one is taking place. Indian banks also trying to universalisation of banking products and services to one stop banking shop for customer delight, but comparatively private and foreign banks existing in Indian economy are having a higher level of modernization and those providing numbers of modern services to their customers.

8.2 NEED FOR THE STUDY
The Indian banking industry is going through a period of intense change, where liberalized business environment has affected the banking business by way of increasing competition, rising customer expectations, shrinking spreads and increasing disintermediation.
There are different types of banks starting from public sector banks to private sector banks and co-operative banks. These Banks cater to the needs of various sections of Indian society. A number of the public sector banks focus and work in rural areas while others are mainly available in urban areas.

Opening gates to Private sector banks in India led to various liberal financial reforms and modernization of Indian banking sector. ICICI, HDFC, Axis bank are a few nicely-identified private sector banks. Private sector banks usually function in the cities and upcoming towns. With introduction to superior and better technology, user-friendly policies. Banking has turn out to be simpler and speedy. Their customer friendly policies and straightforward accessibility have made them in style and trusted amongst people. With private banks and superior technology, the banking sector has progressed to turn into faster, exact and easier.

Public sector banks largely dominate the Indian Banking industry; however, their share has been declining. Their inefficiencies came into picture only when the market competition and new glares started eating up their share. The setting up of a new companies environment has resulted in new changes for the public sector banks to retain their share. Ongoing changes in the structure of Indian banking are clearly visible. While the share of public sector banks in the total assets of the banking sector has shown a steady decline, the new private sector banks and foreign banks have succeeded in enhancing their position.

No doubt, PSBs have strong distribution network all over the country. But the strength of the earlier periods has now become a concern for these banks. As compare to
the tech-equipped distribution network of the new private sector banks and foreign banks, PSBs banks have found it difficult to upgrade them on the technology front. PSBs have started embracing technology to improve customer service and design innovative products to increase sales opportunities.

In the face of growing competition, the policy changes and the operational environment in respect of the Indian banking system, there has been an increased focus on Technology is to be important on banking operations. In this regard, it is required to focus on Technology on Banking operations of public and private sector banks.

An analysis of the review of literature available on Technology in banks reveals that the work done by the research in the subject area of Technology on banking operations of public sector and private sector banks has been scant in India. Most of the research studies focused on Human resources training and development, Retail Banking, Internal Marketing on Banking, Customer satisfaction, Organizational effectiveness, Quality of work like and appraisal system in various public and private sector banks. Comprehensive comparative study on technology practices in Andhra Bank and ICICI Bank, which are public sector and private sector bank in the post liberalization period, has not been attempted by any researcher so far. This thesis analyses the banking growth vis-à-vis technological growth in the banking industry. Therefore, Technology in Banking – An impact study in the operations of public and private sector banks with reference to Andhra Bank and ICICI Bank – Vizag city made this reference.
1.3 OBJECTIVES OF THE STUDY

The main objective of the study is to study the impact of technology on banking sector. In the post liberalisation era all the sectors of the economy experienced heavy competition on account of opening up of the different sectors to international competition. Reliance on technology has become imperative to face the competition, in order to not only reduce the cost of production but also deliver quality goods and services. Banking sector has also followed this trend. The opening up of the sector to foreign banks has unleashed competition on a massive scale. It is in this background that the present study aims to bring out the developments in technology during the last two decades. Further the study also highlights the differences in deployment of the technology by public and private sector banks. It is often perceived that private sector banks have scored over the public sector banks in the deployment of technology. With this background the following objectives have been framed for the study:

6. To trace the developments and the deployment of the technology in banking sector.

7. To examine the growth of e-transactions in general.

8. To compare the impact of technology on the financial performance of Andhra Bank and ICICI Bank in pre and post e-banking period.

9. To study the relation between technology and quality of the service with respect to Andhra Bank & ICICI Bank and to understand the preferences of the customers.

10. To analyze the perceptions of the customers and employees on the technology deployment in Andhra Bank & ICICI Bank.
1.4 Limitations of the Study:

Though the study is schematically designed. It is not without limitations. Few of the limitations are:

e) Approximating the percentages and averages to the nearest decimal point defeats the objective of the exactness.

f) Confining the study to only two banks one from public sector and another from private sector, that to in the Vizag city makes the observations not applicable universally.

g) As the study is based on the perceptions of the customers and employees human bias may creep in.

h) As the sources of secondary data vary descriptions in data reporting exist.

1.5 METHODOLOGY OF STUDY

1.5.1 Collection of data:

The type of research methodology is descriptive and analytical. The data collected for the study includes both primary and secondary data.

1.5.2 Secondary data:

The secondary data was collected from the following:

❖ Reserve Bank of India: Bulletin, Statistical Tables Relating to Banks in India, Reports on Trend and Progress of Banking in India.

❖ Indian Banks Association: IBA Bulletins, IBA Publications.
ICICI bank Annual reports, publications, Andhra bank Annual Reports, Andhra bank bulletins.


Collection of data in Reserve Bank of India (Hyderabad) – Library, RBI reports & employees of Hyderabad.


Various books, publications, articles, magazines.


1.5.3 Primary Data:

The data has been collected through a well structured questionnaire and having discussion with sample respondents. In order to eclipse the customer and employee perceptions towards “Technology in Banking – An Impact Study in the operations of Public and Private Sector Banks with reference to Andhra Bank and ICICI Bank – Vizag
City. Then, a comparison will be made on how the opinions of the customers and employees are connected with the evaluation of the technological services between Andhra bank and ICICI Banks.

1.5.4 Study population and Area:

The primary data was collected in Vizag city only because it is not feasible to collect the data universally. Vizag is a cost important city, fast growing in population, industrial development, service sector and financial sectors. Therefore, Vizag city is selected for the focus study as it is the representative of cross section of the society.

1.5.5 Sample Size Determination:

Selecting an appropriate sample size is a critical aspect in research with particular reference to this study. Since the banking customers and employees are so many, a sample of 500 and 200 is convincing enough for both customers and employees as a true representative and this was considered for the purpose of this study. The convincing sample method has been used for both customers and employee study.

1.5.6 Questionnaire Design

The questions in questionnaire were identified through the analysis of recent writings and publications from various sources of information relevant to the research topic analysed in review of literature. The questionnaire was in English. Participants were asked to express the level of their satisfaction. A five point Likert scale was used to measure all the statements (1 = Extremely Satisfied to 5 = Extremely Dissatisfied and 1= Strongly Agree to 5= Strongly Disagree).

The questionnaire has been designed for customers to determine the customer satisfaction level in terms of technology and service quality in the banking sector, has
collected through SERVQUAL dimensions concept and to analyze the customers perceptions on usage & problems of the major technological services and with a sample size of 500. For employees, a separate questionnaire has prepared to collect their opinion on Traditional Banking and E-banking services, the acceptance of different factors in E-banking and the benefits, difficulties, complaints from customers and customer orientation of IT facilities with E-Banking services, and with a sample size of 200.

1.5.8 Analysis of Data

Two types of data analysis is done.

**Secondary Data:** The data has been analysed with the help of annual growth rates, compound Annual Growth Rate (CAGR) and Average Annual Growth Rate using simple percentages.

**Primary data:** The data were entered using the software called SPSS (Statistical Package for Social Sciences) and after processing of data the required tables were generated. Chi square test, f-test and t-test were performed to test the results.

Analysis of Data means studying the tabulated material in order to determine inherent facts or meanings. So, the acquired data was given simple statistical treatment and presented in the form of tables. The interpretations of tables are given under each table with Chi square value, f-value and t-value and their significant level. The succeeding chapters of the study contain the tabulations of data, analysis and their interpretation.
1.6 PRESENTATION OF THE STUDY

The study is presented in VIII Chapters.

**Chapter I** is the introductory chapter which provides an insight into the adoption of technology in banks, the e-banking process, need for undertaking the present study, objectives, limitations and methodology.

**Chapter II** presents the comprehensive review of the literature on Impact of technology on banking operations, the paradigm shift in Indian Banking – changes, trends, challenges, Service quality concept, Customer satisfaction and Employee satisfaction on technological services etc.

**Chapter III** provides a comprehensive discussion of the theoretical background that pertains to the premise of the study impact of technology on banking operations.

**Chapter IV** gives a brief overview of the profile and IT services of Andhra Bank and ICICI Bank.

**Chapter V** compares the financial performance of Andhra Bank & ICICI Bank in pre and post e-banking period.

**Chapter VI** deals with the perceptions of the Customers regarding the technological operations of banks service quality in Andhra Bank and ICICI Bank.

**Chapter VII** deals with the perceptions of the employees regarding the technological operations in Andhra Bank and ICICI Bank.

**Chapter VIII** presents the summary & suggestions of the study.
Conclusions:

Competition and Profitability have become key words for banks in India. Though these are mutually contradictory, banks have to balance the severity of the competition and continue to be in the reckoning by improving their profits. Technology has become very important for banks to carve a plane for themselves and become leaders in their respective fields; to achieve this; banks have to improve their margins and profits by conducting transactions at low costs besides being lean in size. Towards this direction, recently, many PSBs have shed their excess staff through a Voluntary Retirement Scheme. Capital base and resources are crucial for adopting fast technology changes this can be noticed with the advent of e-banking and core banking services being offered by various banks. Computerization of operations and networking would also aid reduction in transaction cost.

Liberalization of banking sector have put public sector banks on the race, because of the increasing competition and awareness, the public banks are trying hard to satisfy their customers and employees by providing virtual banking services through better IT infrastructure. On the other hand private sector banks though technologically upgraded they are new to Indian market culture. Thus both public sector banks and private sector banks are striving to take their respective places in the market with the help of technology.

This thesis is a survey of public and private bank customers and employee’s responses towards technological services of banking. The objective of this analysis is to measure the customers and employees’ awareness, perceptions, and the level of
satisfaction with regard to Technological Services offered by the branches of the Andhra Bank and ICICI Banks in the Vizag city.

A review of the literature on the subject indicates that the introduction of IT, Liberalisation and globalization is very vital for the present banking system. A comprehensive review of the literature reveals, in the era of Liberalisation and globalization, a paradigm shift is taking place in ownership, co-operate governance, business, IT and performance of various bank groups. There is a paradigm shift in the performance. Hence, there is a need to examine the impact of information technology on the performance of bank on one hand and on the other hand, it is equally important to assess the satisfaction levels of the customers in the banks, and that of the bank employees. Therefore this study is concerned with mainly with the impact of technology on banking operations, the performance of banks in pre e-banking and post e-banking period, the perceptions of customers and employees on technological services of banking.

Technology Trends In Banking Operations Information technology has resulted in a major attitudinal change by revolutionizing the treatment of customers of the banks. Inspite of geographical distances, the customer can be treated as a customer of the bank and not as a customer of the branch. This is only possible due to usage of IT on a large scale where database are possible in a bank with decentralized access. Banks need to constantly look for innovative services which offer the convenience of transacting from anywhere and at anytime by using suitable delivery channels for them.\footnote{Dawood Musba, “Impact of Emerging Technology in Indian Banking Sector”, \url{www.scribd.com}, published on 01/16/2010.}
Information technology is the frontier which would add value to the services of which increases the customer base- a strong foundation to the super structure

Managing customers is one of the main issues faced by banks. The demands and expectations of the customers grow at a much faster rate than the banks can equip themselves to be with them. If the service levels or the product levels are not up to the customer satisfaction, there is always a danger that the customer might shift his transactions elsewhere. In banking, as the products can be copied very fast, it is the customer service levels that really matter. The latest techno-savvy products coupled with excellent customer relationship will increase the level of customer satisfaction. The CRM has to updated and upgraded. Techno savvy products will only benefit and respond to the ever changing demands of the customers. The major challenges stirring the banker in India relate to the need to introduce innovative, customer – friendly products and services for which newer technologies are needed to be brought in multiple areas to reduce the overall transaction cost for the benefits of the customers.

Technology has been one of the most important factors for the development of mankind. Information and communication technology is the major advent in the field of technology which is used for access, process, storage and dissemination of information electronically. Banking industry is fast growing with the use of technology in the form of ATMs. On-line banking, Telephone banking, Mobile banking etc., plastic card is one of the banking products that cater to the needs of retail segment whose drastic growth is observed in the geometric progression of recent years. This growth has been strongly supported by the development of in the field of technology, without which this could not
have been possible. Thus, the technological advancement has transfigured the banking sector the world over with changing lifestyle of customers.

**The Profile of the selected Banks** it is observed that Andhra Bank introduced many innovative products for the convenience of the customers. It was the first bank to introduce credit card system in the country. Besides it has introduced many innovative schemes like the ATM facility, mobile top-up through ATMs, E-seva, which facilitates payment of bills through ATMs, the first of its kind in the country instant fund transfer credit card bill payments, E-Hundi, which acts as donation to TTD, Any branch banking, Real Time Gross Settlement, Multi city cheque facility, western union money transfer mobile banks, mobile ATM and Biometric ATMs with fingertips.

ICICI Bank achieved competitive advantage by enabling rapid roll out of new products, faster customer service and reduced time-to-market, to cater to the ever-growing needs of customers. Its open architecture and flexibility has enabled easy integration with multiple systems. ICICI Bank positioned itself as technology-savvy, customer-friendly bank.

Thus, both Andhra Bank and ICICI Bank accords utmost concern to customer satisfaction by offering innovative and need based financial products and services using state-of-the art technology.

**The financial performance of Andhra Bank and ICICI Bank in Pre and Post E-banking Era** is concluded that as regards to spread ratios in interest earned, interest paid on total assets, there is an increase from pre e-banking period due to decline in interest rates. Here the Andhra bank is more efficient than ICICI Bank. With regards to
burden ratios on non interest expenses, non interest income, burden on total assets, the efficiency of post e-banking period is higher than pre e-banking period in ICICI Bank when compared to Andhra Bank. With regards to profitability ratios there is a huge improvement in net profit on total income in Andhra Bank and ICICI Bank. Here the Andhra bank is more efficient than ICICI Bank. The efficiency of post e-banking period in net profit on total deposits is increases horizontally in Andhra Bank and ICICI Bank. The efficiency of Andhra Bank in net profit on total assets has been increasing in post e-banking period than ICICI Bank.

A paradigm shift in the profitability of both banks in pre and post e-banking period exhibits that the parameters like I/E, I/P, Spread on total assets, Net profit as % of - total income, total deposits, (except total assets) have the mean gap on the top in Andhra Bank. The mean gap in burden ratios on total assets is the highest in ICICI Bank.

From the employee productivity, the deposit per employee efficiency of ICICI Bank is more than Andhra Bank. Compared to Andhra Bank the credit per employee of ICICI Bank is very high in pre e-banking period, it is almost equal in post e-banking period. And the total expenditure per employee is high in ICICI Bank than Andhra Bank. The total earnings per employee between two banks, ICICI Bank is more efficient in post e-banking period than pre e-banking period. Employee productivity in parameters like D/E, C/E is higher in Andhra Bank, but in TEXP/E, TE/E is high in ICICI Bank.

After analyzing the branch productivity, the efficiency in deposit per employee, credit per employee, total expenditure per employee, total earning per employee D/B, C/B, TEXP/B, TE/B is very high in ICICI Bank than Andhra Bank. The mean gap in operational productivity on total assets is the highest in Andhra Bank (except NII on TA).
The analysis concluded that transformation is taking place almost in all categories of the banks. This transformation will be helpful to cope with new economic and financial policies of the banks. IT is playing a crucial role to create the drastic changes in the banking industry particularly in the new private sector and foreign banks. The private banks take a big share of cake; public sector banks are still lagging behind due to various financial parameters. The immense opportunities are also available for the public sector banks if they change / modify and adapt to new policies to combat the recent challenges. It can be concluded that mere introduction of IT alone is not sufficient to bring necessary performance improvement and to get the competitive edge. Efficient people are required to use new technological tools. Thus, IT management is a challenge in future banking scenario.

Most customers are of the view that liberalization has played a crucial role in the development of the Indian banking industry by making banking more efficient and customer friendly. Private Banks are tech savvy and have compelled nationalized banks to think of new schemes and innovative ideas to retain their loyal customers. Youngsters who began banking in the flexible – hour ATM (All Time Money) era, find the bouquet of services, particularly convenient banking options more appealing which are being offered by private banks. To attract young generation public sector banks are also catching up fast.\textsuperscript{383}

The recent global financial crisis has taught several lessons to the world banking system. The worst suffers are the so called more developed/industry like India,\textsuperscript{383} Tripti Nath, “Nationalised banks Fare Well with Third Generation customers” in “Banking Sector in India”, Yojana A Development Monthly, February, 2010.
has least impact of the financial crisis. This is a blessing in disguise. The Indian banking system has never deviated from the fundamental principles of banking according to Dr. Y.V. Reddy, the Former Governor, Reserve Bank of India. However, the performances of Indian banks whether private or public have to respond to the globalization process and rise to the international standards. To achieve this Indian banking system must introduce technology enabled services to the customers (both individuals as well as firms).

The Perceptions of Customers is that today Indian banking industry is in the midst of an IT revolution. Nowadays nearly all nationalized banks have implemented IT based solutions for their day to day transactions. The applications of IT in banks have reduced the scope of traditional or conventional banking with manual operations. The Banks are using new tools and techniques to find out the needs of the customer and accordingly offering tailor made products and services. IT has enabled the banking industry to not only come out with new products and services but also enhanced the turnaround time by bringing efficacies in the backend processes.

Thus it can be summed up that Customer service is the primary end of any bank. Banks are relying heavily on IT in conducting their businesses and spend huge amounts of money on technology to reduce operation costs and gain competitive advantage over their rivals by offering customers better services through ATMs machines, telephone banking, Mobile banking and internet banking.

Under SERVQUAL Dimensions it can be concluded that Andhra Bank customers with a mean of 38.65 have a better opinion about satisfaction level of tangibility by their
respective organizations when compared with ICICI Bank customers mean of 36.16. The
t-value is 5.53** found significant at .01 level. Andhra Bank customers with a mean of
30.51 have a better opinion about satisfaction level of reliability offered by the bank
institutions when compared with ICICI Bank customers mean of 28.64. The t-value is
4.42 not significant. Andhra Bank customers with a mean of 49.68 have a better opinion
about responsiveness offered by the bank when compared with ICICI Bank customers
mean of 47.53. The t-value is 3.47** found significant at .01 level,

Andhra Bank customers with a mean of 15.39 have a better opinion about
satisfaction level of assurance when compared with ICICI Bank customers mean of
14.18. The t-value is 5.09* found significant at .05 level. Andhra Bank customers with a
mean of 15.62 have a better opinion about empathy offered by the bank institutions
when compared with ICICI Bank customers mean of 14.18. The t-value is 5.94**
found significant at .01 level. Andhra Bank customers with mean of 18.82 have a better
opinion about satisfaction level of efficiency offered by the bank institutions when
compared with ICICI Bank customers mean of 17.42. The t-value is 4.78** found
significant at .01 level.

Andhra Bank customers with a mean of 11.74 have a better opinion about
Accuracy offered by the bank when compared with ICICI Bank customers mean of
11.32. The t-value is 2.63** found significant at .01 level. Andhra Bank customers with
a mean of 15.34 have a better opinion about security offered by the bank when compared
with ICICI Bank customers mean of 14.83. The t-value is 4.24** found significant at
.01 level. Andhra Bank customers with a mean of 11.63 have a better opinion about Easy
and convenient banking offered by the bank when compared with ICICI bank customers mean of 10.96. The t-value is 2.05* found significant at .05 level. Andhra Bank customers with a mean of 14.82 have a better opinion about Customer Service offered by the bank when compared with ICICI Bank customers mean of 13.94 The t-value is 3.03** found significant at .01 level.

Thus it can be concluded that both Andhra Bank and ICICI bank have attained customer satisfaction based on the SERVQUAL model with respective technological operations.

Under Technological services it can be concluded that Andhra Bank customers with a mean of 31.50 have a better opinion about satisfaction level of ATMs usage by their respective organizations when compared with ICICI Bank customers mean of 29.90. The generated t-values for different bank customers 4.45**, found significant at .01 level. Andhra Bank customers with a mean of 27.39 have a better opinion about internet banking services offered by the bank institutions when compared with ICICI Bank customers mean of 26.05. The generated t-value for different bank customers 3.88**, found significant at .01 level.

Andhra Bank customers with a mean of 22.82 have a better opinion about telephone banking services offered by the bank when compared with ICICI Bank customers mean of 21.69 and The generated t-value for telephone banking is 3.22** found significant at .01 level. Andhra Bank customers with a mean of 23.48 have a better opinion about mobile banking services offered by the bank institutions when compared with ICICI Bank customers mean of 22.15. the t-values is 4.18** found significant at .01 level.
Under **Technological problems** it can be concluded that in **ATM problems**, ICICI Bank customers have a mean of 14.81 whereas Andhra Bank customers have a mean of 13.80, shows that Andhra Bank customers are facing less problems compared to ICICI Bank customers. The t-value is 4.09 not significant. In **Internet banking problems**, ICICI Bank customers have a mean of 22.36 whereas Andhra Bank customers have a mean of 21.56, shows that Andhra Bank customers are facing less problems compared to ICICI Bank customers. The t-value is 2.01 not significant.

**In phone Banking problems**, ICICI Bank customers have a mean of 8.16 whereas Andhra Bank customers have a mean of 7.70, shows that Andhra Bank customers are facing less problems compared to ICICI Bank customers. The t-value is 2.89 not significant. **In mobile Banking problems**, ICICI Bank customers have a mean of 5.97 whereas Andhra Bank customers have a mean of 5.66, shows that Andhra Bank customers are facing less problems compared to ICICI Bank customers. The t-value is 2.18** found significant at .01 level.

Thus it can be concluded that the perceptions and experiences of the customers on the technology deployment in Andhra Bank and ICICI Bank was in favour of upgradation of technology. The different types of demographic customers opined that both banks are technologically upgraded. With the liberalization banks of all types are on race to increase their customer base with new innovative technological products and services. It can be said that public sector banks are at their highest level of hard work to give competition to the private sector banks. It is seen that to retain the existing customers and attracting new customers the public sector banks like Andhra Bank is providing up to
date services to its valued customers as they are primary input to the profitability of the bank.

The Employee perceptions are that whether the banks are public owned or private is not the matter of concern, the main thing is the success of every business depends upon its employees. The motivational aspects of employees of any bank assume greater significance in the present environment. Now the working culture has been totally changed from manual work to computer work where the burden of paper work and delivery time is reduced, database management is improved with lesser strain of work load. If the employees are not satisfied from their job, working conditions, work culture, management etc. they can never make the customers satisfied with better quality services.

Employee satisfaction is an important success factor for banks in this modern scenario of market. A big question to be answered for all the banks is how to manage human resources so that optimum production in terms of best services to customers can get along with the fulfillment of employee goals. Apart from attracting new customers, business organizations these days realize the importance of retaining the existence customers.

Employee opinions on Traditional and E-banking can be concluded that the employees of Andhra Bank opined that in comparative aspects like more facilities to employees, job satisfaction in employees, salary package. Top management involvement in branch level, working hours and yearly customer growth are more in e-banking when compared to traditional banking.
The employees of both Andhra Bank and ICICI Bank have opted that in differentiating strategies like More information technology, Providing better quality of service, Innovative products and services, More labour intensive techniques, Recruiting young employees, Expanding branch network and Pitching into mergers and acquisitions are better in E-banking is better than Traditional Banking. This is due to information technology giving out innovative products and services though involving labour intensive techniques the customer base is increased.

The employees of both Andhra Bank and ICICI Bank have opted that Services are far better in E-Banking compared to Traditional Banking. Overall efficiency, customer shift and more profits are far better in E-Banking compared to Traditional Banking. This can be attributed to new opportunities provided by E-banking to serve its customers more efficiently in a user friendly environment.

The Employees Satisfaction on Technological services can be concluded that the average perception of collaborative culture factors by the experiences of ICICI Bank employees with mean of 11.64 found to be highest than Andhra Bank employees with mean of 10.65. The t-value is 4.11** found significant at .01 level. The average perception of behavioral factors by the experiences of Andhra Bank employees with mean of 21.45 found to be highest than with mean of ICICI Bank employees 21.32. The t-value is 0.25 not significant.

The average perception of training and development factors by the experiences of Andhra Bank employees with mean of 19.93 found to be highest than with mean of ICICI Bank employees 19.72. The t-value is 0.44 not significant. The average perception of knowledge management factors by the experiences of ICICI
Bank employees with mean of 27.08 found to be highest than Andhra Bank employees with mean of 25.16. The t-value is 3.27** found significant at .01 level.

Thus it can be concluded that Andhra Bank has attained overall satisfaction of employees with respect to behavioural and training development factors based on employee satisfaction model in e-banking services. And ICICI bank has attained overall satisfaction with respect to collaborative culture factor and knowledge management factor based on employee satisfaction model in e-banking services.

The Employee benefits, Difficulties, complaints from customers, customer orientation of IT facilities is concluded that the benefits to the employees in E-Banking are Minimizes the cost of transactions, Saves time, Minimize inconvenience, Provided up to date information, Facilitates quick responses, Improves service quality and Minimizes the risk of carrying cash. The average perception of difficulties faced with E-banking by the experiences of ICICI bank employees with mean of 30.7 found to be better than Andhra Bank employees with mean of 27.91. The t-value is 2.49* found significant at a.05 level.

The average perception of number of complaints from customer by the experiences of Andhra bank employees with mean of 11.81 found to be better than with mean of ICICI Bank employees 11.50. The t-value is 1.00 which is not significant. The average perception of customer orientation of IT facilities by the experiences of ICICI Bank employees with mean of 38.28 found to be better than Andhra Bank employees with mean of 38.20. The t-value is 0.12 which is not significant.

Better service in E-Banking is a factor that has attributed to Customer shift. With market becoming liberalized, banks are in open race to increase their customer base with
attractive services. The perceptions of bank employees regarding their working through e-channels in this new electronic era is that though to change to new working styles is challenging but at the same time it is innovative.

It can be concluded that the **perceptions of the employees** of both ANDHRA and ICICI BANKS are in line with the banks vision of profitability with increased customers’ satisfaction in a user friendly environment. The employees are highly motivated to take up challenges of technological up gradation with the attractive incentive packages though there are stressful long hours of work. They opted that a regular training and development programmes are to be given to increase their knowledge about the upcoming new technological services that are to be offered by the respective bank so that they can educate and help the customers while transacting. Comparatively Andhra Bank a public sector bank is giving greater customer satisfaction than ICICI bank a private sector bank.

Thus it can be concluded that Technology has been one of the most important factors for the development of mankind. Information and communication technology is the major advent in the field of technology which is used for access, process, storage and dissemination of information electronically. Information technology has resulted in a major attitudinal change by revolutionizing the treatment of customers of the banks. Information technology is the frontier which would add value to the services of which increases the customer base- a strong foundation to the super structure. Banking industry is fast growing with the use of technology. Banks are relying heavily on IT in conducting their businesses and spend huge amounts of money on technology to reduce operation costs and gain competitive advantage over their rivals by offering customers better
Managing customers is one of the main issues faced by banks. The demands and expectations of the customers grow at a much faster rate than the banks can equip themselves to be with them. If the service levels or the product levels are not up to the customer satisfaction, there is always a danger that the customer might shift his transactions elsewhere. Customer service is the primary end of any bank.

With the liberalization banks of all types are on race to increase their customer base with new innovative technological products and services. It can be said that public sector banks are at their highest level of hard work to give competition to the private sector banks. It is seen that to retain the existing customers and attracting new customers the public sector banks like Andhra Bank is providing up to date services to its valued customers as they are primary input to the profitability of the bank.

Suggestions
Several meetings with the customers and employees of Andhra Bank and ICICI Bank and an analytical study has given a fair idea as to the work ability of technology in banking, the pros and cons of its applicability in the day to day life, its shortcomings due to technological and human factors. The following suggestions are made

1. Security: Appropriate technologies for encryption of data for secured transactions regular and multiple backup, extensive use of password and other forms of authorization is need to adopt. To increase the security for ATMs it is advised to
share the security guards by establishing group ATMs, as one or two guards may not face the dangers.

2. Suggestion for Public sector Banks: Some of the out dated and impracticable rules and regulations of public sector banks are still testing the patience of the customers and forcing them to search for a possible alternative. Unless and until the banks discard rules that are a hindrance to the smooth functioning of routine bank work, people may be forced to knock the doors of private banks.

3. Fraud: Ultra tech cyber criminals are now a days, are daringly using their sixth sense techniques to transfer large amount of cash into some account or secretly transfer valuable and vital technical and business information causing unbearable loss to the customers, banking managements and also to the government. Therefore bank must do their best to educate and warn its customers.

4. Trust: The cyber dons must be caught and given severe punishments to deter prospective dons from doing the crimes and also to instill trust, confidence, and feeling of genuineness in the customer.

5. ATM: It is suggested that the limit of (1) number of transactions and (2) maximum withdrawal of cash in case of Andhra Bank must go to make the customers feel truly happy.

6. Credit cards: Number of complaints against credit cards is high from customers and there is high accumulation of bad debts in the bank’s balance sheet. It is suggested that the managements take a tough and appropriate decision.
7. **Lower Cost:** It is suggested that banks reduce the service charges for their products and services offered to a minimal low as large number of banking activities naturally provide a fairly larger share of income.

8. **Ease of Use:** Literates are also finding it difficult to operate internet banking and ATM machines. Banks must take the initiative to consider conducting of practical training sessions for educating customers at their branches, on the usage of internet banking interface and ATMs.

9. **Mobile ATMs and Mobile Banks:** It is becoming increasingly expensive to open new branches and new ATMs. So banks can expand their e-banking hands into towns and rural areas in the form of mobile ATMs and mobile banks.

10. It is suggested that the government assimilate modern technology of networking system, it should eliminate the blocks to a 24x7 supply of electricity which is the key element.

11. **Employee Behavior:** from this study it is crystal clear that the customers are less satisfied with the behavior of bank employees. It is suggested that every bank pay more attention to increase the communication skills of the employees.

12. **Suggestions to customers:** it is advisable to type correct URL into the browser and long off immediately after the online banking session and keep changing the passwords at regular intervals to avoid clandestine copying. The passwords must be so, that it is difficult and complex to make a duplicate and dupe the customers. Never share them with any person.
13. Preventive measures: there are some complaints that networking system of the e-bank are getting stalled due to virus, hacking and some other technical reasons. Therefore, the banks must take all the steps and precautionary measures to prevent such incidents from recurring again and again.

14. Accuracy: Bank customers must realize that accuracy in filling the requisite forms saves them from the hassles of heart burn. Double checking and verification is a must for both bankers and customers and the latter can be called on phone or via other methods.

15. Upgradation of technology: As regular upgradation of technology is very costly and hence, banks are advised to enter into partnership among themselves for reaping maximum benefits through consultations and coordination’s with reputed information technology companies.

16. Cooperation of employees: recommendation from one colleague to another regarding usefulness of a particular process, can be more powerful. Cooperation coordination

17. Cooperation among Banks: Though there is cut throat competition among banks it is recommended that a fair degree of cooperation among the employees will greatly benefit all the banks. For example an ATM placed a centralized location may be shared by many banks which will simplify operational abilities and be cost effective. Network sharing is also recommended through strategic alliance.
18. Knowledge of Employee: There is a general lack of knowledge or skill to handle sophisticated level of technology, therefore management should introduce compulsory training programs, so that there is perceptible change in their knowledge to handle more complex procedures of e-channels.

19. Educating customers: Banks must seek the financial cooperation of corporate giants to conduct road shows and occasional classes to educate customers with different educational, cultural, age, health, social and ethical backgrounds to efficiently use the banking services.

20. Priority of preference: Banks must take steps to see that veterans, sick people, Pregnant Ladies and disabled are sent home quickly by giving them first preference in the banking work, irrespective of their time of arrival.

21. Utility of internet banking: It seen that from the study that the internet usefulness has a positive influence on its use. Therefore internet banking acceptance would increase when customers find it more useful. Banks should plan marketing campaigns to increase consumer awareness would result in better acceptance of internet banking.

22. Mobile Banking: The new banking application is loaded onto the SIM card of the mobile and alters the handset menu. The customer gets a banking option on the mini browser menu with access to the basic services like Balance enquiries, change PIN, Statement, Payment, Transfer and Activate/ Register.
23. Suggestion for Private Sector Banks: it would be better for private sector banks to reduce hidden charges and higher rates of processing fees collected on various banking activities. It would also be nice if they could allow opening of accounts with zero balance or minimum Rs. 500 balance which would allow large number of customers both in urban and rural areas, this would help in increasing their customer base. Providing group insurance to all the customers would go a long way in creating goodwill and wellness atmosphere. Informing customers by phone or by e-mail about the need to operate the bank accounts periodically will exhibit their duty mindedness and concern and care.

24. Bio Metric ATMs: As India has around fifty percent of illiterates, it is advised to ICICI Bank to open biometric ATMs.

25. Recruitment: Andhra Bank is advised for recruitment so that allowing young blood into the stream will help reduce the burden on the senior employees.

Thus it can be concluded that both ANDHRA and ICICI BANKS are in line with the banks vision of profitability with increased customers’ satisfaction in a user friendly environment. The employees are highly motivated to take up challenges of technological up gradation with the attractive incentive packages though there are stressful long hours of work. They opted that a regular training and development programmes are to be given to increase their knowledge about the upcoming new technological services that are to be offered by the respective bank so that they can educate and help the customers while transacting.