



E-BANKING SERVICE: THE SOFTWARE CHALLENGES AND OPPORTUNITIES TO IMPLEMENTATION OF TOTAL QUALITY MANAGEMENT IN INDIAN BANKING SECTOR

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ABSTRACT

India is still in the early stages of E Banking growth and development. Banking sector has already accepted and mostly depend on e-banking service. Competition and changes in technology and lifestyle in the last 10 years have big changed the face of Banking sectors. The changes that have taken place impose on banks tough standards of competition and compliance. The issue here is in the scheme of E-Banking. E Banking is likely to bring a host opportunity as well as unprecedented risks to the fundamental nature of Banking system in India. The concept of Scope of E Banking is still evolving several initiatives taken by Government of India as well as Country's Central Bank, the Reserve Bank of India have facilitated the development of E-Banking in India. This paper aims to present the E-Banking challenges and opportunities for improve the service quality in India. Now a days banking sector is totally depends on Software services. There are total quality management to improve the e-banking services in Indian Banking Sector.

Keywords: *E. Banking, Reserve of Bank of India, NEFT, State Bank of India, TQM*

I. INTRODUCTION

Initially, the Indian banking system was domestically oriented at the time of nationalization in 1969 by Indian Constitution. National policy objectives where the guiding force and banks were primarily involved in mobilizing domestic savings, lending funds to specific sectors of the economy and raising resources for financing public deficits to improve the economy. Technology in Indian banking has evolved substantially from the days of back office automation to today's online, centralized and integrated solutions by core banking service [1]. One cannot think of ATM, Internet, e-banking, mobile and phone banking or call centre services without the help of technology? However, the irony is that most of those products have more of technology and less of banking services. Let us look how banking has vital changed as a business over the last one decade [2]. The rigorous use of IT & Technology in the banking sector started immediately after the recommendations of the Committee on Financial System (Narasimham Committee, 1991) were implemented in 1991. The recommendations of the committee include, among others, free entry of private sector/ foreign banks. The private and foreign banks brought new technologies and rendered technology based world class quality services



to customers through ATMs, credit cards, debit cards and internet banking, which PSU banks, hitherto, were not even dreamed about. By offering world class quality services, these banks started snatching customers from PSU (Public Sector Undertaking) banks and they felt the heat and realized that if they do not follow the path of these banks, they would be thrown out from.

The banking scene within no time. The PSU banks also followed suit. Thus the use of technology in banking has resulted in availability of multiple delivery channels like ATMs, telebanking, internet banking, mobile banking, anywhere and anytime banking etc.: Technology adoption in banks has shifted banking more of a capital intensive, fixed cost industry from a labour intensive, variable cost industry. For the implementation of IT in Banking sector, there is the need of various kind of software for different services. Current position of banking sectors is only on behalf of software technology. Software's are playing big the role of current banking sectors. We are focusing to improve the efficiency of software services. For the service quality improve, Total quality management service is applying for software service quality. Software in banking sector services to improve the performance of services.

II. E-BANKING: THE CONCEPT

Delivery of banking services to customers at their office or home with the help of electronic technology is termed as e-banking. Daniel (1999) defines electronic banking as the delivery of bank's information and services by banks to customers via different delivery platforms that can be used with different terminal devices such as a personal computer and a mobile phone with browser or desktop software, telephone or digital television [3]. E-banking is a brew of services that embody Internet banking, Mobile banking, ATM kiosks, Fund Transfer System, Real Time Gross Settlement (payment & allotment system), Credit/ Debit/Smart/Kisan Cards, Cash government services, as well as Data warehousing, Operational interpretation for MIS as well as Customer Relationship Management (E tools 4 all) [4]. E-based banking is also known as Cyber banking, internet banking or core banking, home banking, and virtual banking and includes various banking activities that can be conducted from anywhere (Dheenadhyayalan 2010) [5]. A perusal of the concept of e-banking as described in the literature reveals that the term e-banking, is an upper construct that encompasses an array of banking services delivered through electronic media, be it through phone, PC, TV, ATM or internet. Thus the term E-banking includes RTGS, NEFT, ECS, Credit cards and debit cards, Cheque truncation, ATM, Tele banking, Internet banking and Mobile banking.

III. REVIEW OF LITERATURE

Raghavan (2006) opined that at present, over 85% of the finished payment transactions are electronic and traditional way of doing banking at the branch level has relatively little importance to electronic banking users[5]. Many banks, including PSU banks, would have online ATMs, phone banking, virtual banking, e-banking, Internet banking, etc. by 2020. Mohan (2006) remarked that Indian banking is at the threshold of a paradigm shift and a significant development has been achieved by banks in offering a variety of new and innovative e-banking services to customers today, which was not thought of before [6]. However, public sector banks have not been able to harness the benefits of computerization system or ICT based system. Kamakodi et

al (2008) found that a wide gap exists in human service in Indian banking while technology based services are exceeding expectations [7]. Uppal and Chawla (2009) found that the customers of public sector, private sector and foreign banks in Ludhiana district of Punjab are interested in e-banking services, but at the same time are facing problems like inadequate knowledge, poor network, lack of infrastructure, unsuitable location, misuse of ATM cards and difficulty to open an account [8]. Indian customers' perception in the context of e-banking has been examined by Reeti Agarwal et al (2009) and found that people in the age group of 31-45 years using e-banking most frequently. Respondents opined that using e-banking for balance inquiry to be the most useful, closely followed by inter-account transfer of funds and they found e-banking least useful for lodging complaints [9]. Slow transaction speed was found to be the most frequent problem faced, closely followed by non-availability of the server while using e-banking. Sharma (2009) opined that the trend towards electronic delivery of banking products and services is occurring partly as a result of consumer demand, and partly because of the increasing competitive environment in the global context [10]. Kumar and Sinha (2009) cited various instances of hacking and phishing attacks reported throughout India. They remarked that cyber crimes prove that e-banking has several loopholes that can be easily exploited and users need to be extra cautious while making online transactions [11]. Srinivas (2009) discussed various e-banking channels and suggested security tips for customers which include changing password frequently, abstaining from revealing PIN either via mails or phone, avoiding cyber cafes for net banking etc [12]. In a study conducted by Mohammed and Shariq (2011) in the city of Lucknow, U.P to examine the adoption of e-banking channels, particularly ATM, it was found that ATM was the most adopted technology by banks [13]. Shukla and Shukla (2011) stated that E-banking offers a higher level of convenience for managing one's finances even from one's bedroom, service fast, safe and reliable for user. However, it continues to present challenges to the financial security and personal privacy [14]. Customers are advised not to share personal information like PIN numbers, passwords etc with anyone, including employees of the bank; change ATM PIN and online login and transaction passwords on a regular basis; ensure that the logged in session is properly signed out. Mishra (2011) provided useful tips to ensure safety of IB transactions. IB users are advised not to reply to any mail, phone call or letter, asking for the IB information like login id or password, and not to click on any link provided in any mail, claiming to be the link for the bank's website are the important tips, among others. There is some questioning about software implementation [15]. Sometime Software quality or efficiency of software services haven't justified those roles. Total quality management system has been implemented to improving the efficiency of software services. For improving the quality of service, we should be identified the problems on behalf of rural area. Rural area banking sectors are still face of problems to improve the quality of services. A review of existing literature reveals that though there is plethora of studies that examined customer's perception about e-banking including its popularity and problems, studies that examined the growth of e-banking in India in volume and value terms are not found.

IV. OBJECTIVES OF THE STUDY

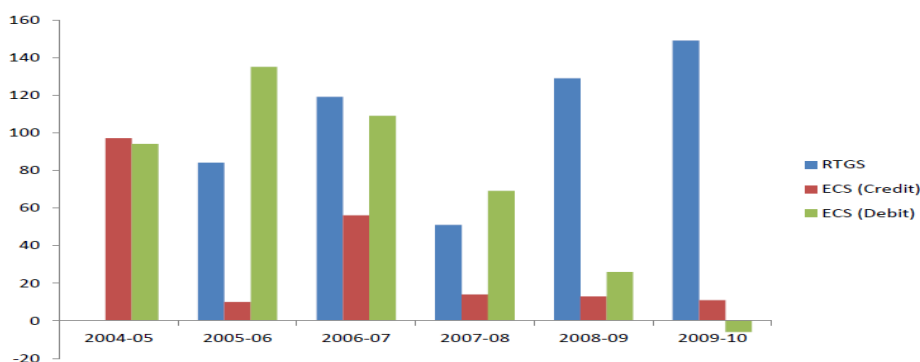
Objectives of this paper is to understand the experience in offering banking transactions through electronic delivery channels and functions of E-Banking in India. The role of software services to improving the quality of services. How we can improve the efficiency or quality of software's in banking sectors. Delay service, slow

server response are mostly identified problems in rural area. A lot reasons are behind this kind of problems like internet availability, slow network, network failed, etc

V. RTGS, ECS (CREDIT), ECS (DEBIT)

Real Time Gross Settlement System (RTGS) is a mechanism of services which are transferring funds from one bank to another one, one account to another account, a 'real time' and on 'gross' basis. Under RTGS, the minimum amount of fund transfer is depend on diffren different individual policy but few of them in Rupees Two Lakhs (3100 US \$) and there is no limit to the maximum amount after few terms and condition. RTGS transactions are inter bank as well as between customers through bank accounts (same bank and different branch). RTGS volumes registered a remarkable 72 fold increase in volumes from 2005-06 to 2009-10 with an Average Annual Growth Rate (AAGR) of 146.34 per cent. The highest growth rate was recorded in 2005-06 both in volumes and value terms and lowest growth rate in 2007-08 in volumes and in 2008-09 in value terms.

Figure 1: Growth of RTGS, ECS (Credit) and ECS (Debit) in Volumes



Source: compiled from RBI annual reports -various years

Note: RTGS system was started in 2004 and data for RTGS in 2004-05 not available.

However, RTGS transactions in value terms registered 9.7 fold increase with an AAGR of 66.43 per cent during the said period. The fast growth in volumes indicates the increasing popularity of RTGS as a payment system, secure and fast service among the banks and the customers as well. Electronic Clearing Service (ECS) is a mode of electronic fund transfer from one bank account to another bank account through the clearing houses of Reserve Bank of India.

This is normally for bulk transfers from one account to many accounts or vice-versa in the form of ECS-credit and ECS-debit. ECS (Credit) is used when an institution is required to make bulk or repetitive payments in the form of dividend to shareholders investors, fund transfer from abroad, interest to investors, salary/pension to employees etc. ECS (debit) is used when an institution is required to collect an amount, by raising a debit, at a prescribed frequency from many customers in the form of telephone or electricity charges, house tax, water tax, loan instalments etc.

Note: ECS (credit) for 2007-15 include transactions for refunds of oversubscribed IPOs by various companies as mandated by the stock exchange.

ECS (Credit) recorded an increase of around 5 times in volumes with AAGR of 33.6 per cent and 12 times in value terms with AAGR of 181.3 per cent during the study period. Similarly, ECS (Debit) recorded an increase



of 19 times in volumes with AAGR of 71.11 percent and around 31 times in value terms with AAGR of 99.88 per cent during the study period. The year-wise growth of ECS (Credit) and ECS (debit) in volumes is depicted in figure. Since ECS is for making bulk payments, it is quite natural that the growth in value terms is much higher than the growth in volumes. However, it is evident that institutions are using ECS more for collecting amounts from customers than paying amounts to clients as the growth in ECS (debit) is faster than ECS (Credit). Banks are charging some amount for providing this kind of services.

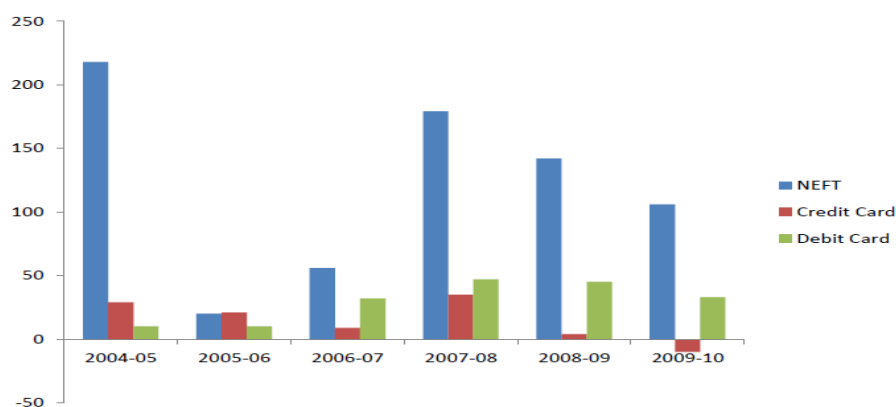
VI. NEFT, CREDIT CARD AND DEBIT CARD

National Electronic Fund Transfer (NEFT), introduced in October 2005, is a nation-wide electronic payment system that uses a secure mode of transferring funds from one bank branch to another bank branch. There is no limit either minimum or maximum on the amount of funds that could be transferred using NEFT. The fund transfer takes place in hourly batches - there are eleven settlements from 9 am to 7 pm on week days and five settlements from 9 am to 1 pm on Saturdays. Credit card is a mechanism by which the card holder can make purchases without immediate cash payments. It enables the card holders to avail credit facilities from the issuing banks for a specified period of time without any security. A debit card can be used to withdraw cash from a bank like an ATM card and it can also be used at stores to pay for goods and services in place of a cheque. Debit card allows the holder to spend only what is in his account.

Figure 3 portrays the year-wise growth of NEFT, Credit cards and debit card transactions in volumes and figure 4 in value terms. NEFT transactions in volumes registered around 83 times increase with AAGR of 120.15 per cent and in value terms the increase is 24 times with AAGR of 80.23 per cent. Being a one to one fund transfer mechanism, the magnificent increase in volumes indicates that more and more customers prefer NEFT to transfer funds from one place to another.

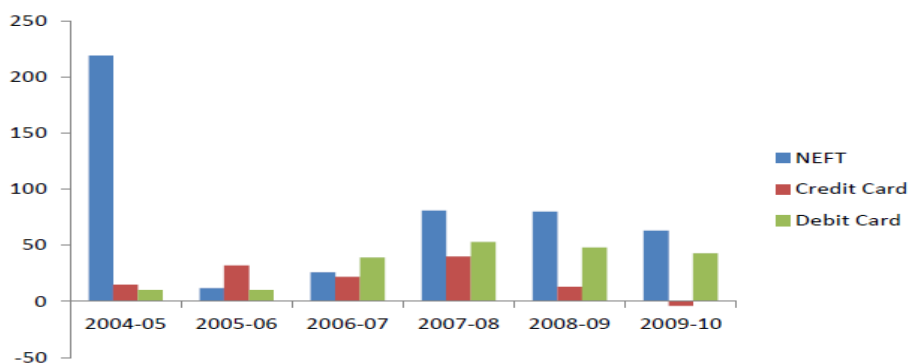
The volume of credit card transactions has only doubled during the 6 year period with an AAGR of 16.17 per cent and in value terms it increased nearly 4 times with an AAGR of 24.77 per cent. On the other hand the volume of debit card transactions has shown an increase of nearly 5 times with AAGR of 29.39 per cent and in value terms it has shown a 5 fold increase registering an AAGR of 26.65 per cent. The figures indicate-that debit card is more popular than credit cards among the customers.

Figure 2: Growth Rates of NEFT, Credit and Debit cards in Volumes



Source: compiled from RBI annual reports -various years

Figure 3: Growth Rates of NEFT, Credit and Debit Cards in Value Terms



Source: compiled from RBI annual reports -various years

VII. AUTOMATED TELLER MACHINE (ATM)

A major technological development, which has revolutionized the delivery channel in the banking sector, has been the Automated Teller Machines (ATMs). HSBC was the first bank to introduce ATM in India in 1987. Later new private sector banks have taken the lead in introducing ATMs in a big way and the public sector banks also pursued the installation of ATMs all over the country.

ATMs saw a period of inaction before they were accepted by Indian masses. For instance, in 1998 India had just 500 ATMs but now as per the data provided by the Ministry of Finance, Public Sector Banks in India alone opened 28,039 ATMS between April 2006 and March 2010.

The number of ATMs of Scheduled Commercial Banks in India is given in Table 1. There are 60,153 ATMs in India of which 40,680 are owned by public sector banks.

Table 1: Number of Atms of Scheduled Commercial Banks in India at the End of March 2010

Bank Group		On-Site ATMs	Off-Site ATMS	Total ATMs	Off-site ATM as percentage of total ATM
Public	Sector	23797	16883	40680	41.5
Banks					
Private	Sector	8603	9844	18447	53.4
Banks					
Foreign	Banks	279	747	1026	72.8
Total of all Banks		32679	27474	60153	45.7

Source: Report on Trend and Progress of banking in India, 2009-10. The percentage of ATMs located in rural areas accounted for 32.7 per cent of the total ATMs in the country at the end of March 2010. The growth in the number of ATMs in India can be understood from the fact that the population per ATM declined from 43,000 persons in 2007 to 19,700 persons in 2010. In rural areas it declined from 1,25,600 persons in 2007 to 43,500 persons in 2010 and in urban areas it was 15,900 persons in 2007 and in 2010 it was 8,100 persons.

VIII. INTERNET BANKING (IB)

Internet Banking (IB) is a radical technological innovation with potential to change the structure and nature of banking. To sustain business competitiveness, more and more banks are transforming from their traditional approach of “bricks and mortar” into a “clicks and mortar” one under the recent emergence of electronic commerce and business (Chau, et al 2003). IB is the latest in the series of technological wonders of the recent past. ATMs, Tele-Banking, Internet Banking, Credit Cards and Debit Cards have emerged as effective delivery channels for traditional banking products. Banks know that the interest opens up new horizons for them and moves them from local of global frontiers (Mavri.M et al 2006) [16].

Internet is gaining popularity as a delivery channel in the banking sector. Internet banking includes the system that enables financial institution, customers, individuals or business to access accounts, transact business or obtain information on financial products and services through a public or private network, including the internet. (Prakash and Malik, 2008). In India, ICICI bank was the pioneer to introduce IB. It is the first bank in India to launch a web site, and then follow it up with internet banking [17]. After ICICI bank, IndusInd Bank and HDFC Bank were the early ones to embrace the technology in 1999. Currently almost services are depending on internet, network and computerization. Before net banking services in banking sectors depend on ICT for data handling, data recording, and transaction record handling.

A study on the Internet users, conducted by Internet and Mobile Association of India (IAMAI), found that about 23% of the online users prefer IB as the banking channel in India, second to ATM which is preferred by 53%. Out of the 6356 Internet user sampled, 35% use on line banking channels in India. This shows that a significant number of online users do not use IB, and hence there is a need to understand the reasons for not using it (Geetika et al, 2008). Until the advent of ATMs, people were unaware and / or not directly affected by the technological revolutions happening in the banking sector. ATMs become the major revolution for customers, since it offered the facility to avoid long queues in front of the ashiers in banks. It also provided them the flexibility of withdrawing money - anytime, anywhere (Sharma, 2009). In the study by IAMAI, it was found that the people are not doing financial transactions on the bank Internet sites in India because of reasons such as security concerns (43%), preference for face-to-face transactions (39%), lack of knowledge about transferring online (22%), lack of user friendliness (10%), or lack of facility in the current bank (2%) (Phan.D, 2003) [18].

IX. MOBILE BANKING

Mobile banking or M-Banking is an extension of IB. Mobile banking is defined as the "type of execution of financial services which the customer uses mobile communication techniques in conjunction with mobile devices" (Pousttchi and Schurig, 2004). In other words, it means the usage of mobile telecommunication devices for carrying out banking and financial transactions. Since the penetration rate of Mobile phones in India is much higher than the penetration rate of internet, mobile phones is an excellent delivery channel to reach banking customers. In India, only 200 million people have access to a bank account while 811 million have a mobile phone. For a population of 1.2 billion people, this translates into 68 per cent having a mobile phone and only 17 per cent having a bank account. The numbers speak for themselves. When it comes to reaching the 'un-banked'



and extending financial inclusion for the larger population, mobile phone is the Key (The Hindu, July 11, 2011) [19].

Table 2: Mobile Banking Transactions in India in Volumes and Value Terms

Month / Year	Value (Rs. in thousands)	Volume
May -09	48542	52538
Oct - 09	69430	111623
Mar -10	236246	271920
Oct - 10	517689	556003
Feb -11	616191	707496
Average Growth rate	120	

Source: Compiled from Reserve Bank of India, Mobile Banking Transactions statistics – www.rbi.org.in

Table 2 reveals that mobile banking is now emerging as a popular e-banking channel in India. Over a period of nearly 2 years, mobile banking transactions in India have increased by 13 times in volumes and value terms. This shows the growing interest of Indian customers in mobile banking.

IX. TOP 10 BANKS THAT PROVIDE BEST INTERNET BANKING FACILITIES IN INDIA ([HTTP://OMGTOPTENS.COM](http://OMGTOPTENS.COM)) CITI BANK: RANKED NO. 10

Citibank of India is one the top bank which offers best net banking schemes and services. The Online Banking, Online Bill Payments, Online Fraud Protection, Mobile Banking, Tablet Banking, Text Banking, Overdraft Protection, and many other services are provided to the customers to increase their customer ratio. All these services along with the products such as ATM card, Credit card, and other such facilities make in one of the best banks of India.

Union Bank of India: Ranked No. 9

UBI is listed among the largest government banks of India. Indian Government holds above 50% of the share capital of this bank The Internet banking system is in the form of Online Telebanking facility which is used by all the customer individuals as well as the corporate. The bank has its offices in countries other than India like United Arab Emirates, Peoples Republic of China, Shanghai, and Hong Kong. The customers of the bank are convinced that they are 'Good People To Bank With.

Canara Bank: Ranked No. 8

Canara Bank is basically a bank of Kamataka state in Indi which was established in the year 1906 and is spread in India having 3.057 branches and around 400 ATMs. Not only in India, but the bank has got branches and offices in other countries like Hong Kong. London, Dubai, Moscow. Shanghai, and Doha. Banking services offered by the bank are Internet Banking, Mutual Funds, Loans and. Advances, Savings and Deposits, Consultancy services and Depository services.

Bank of Baroda: Ranked No. 7

This Bank was founded in 1908 by Sir Sayajirao Gaekwad III who was the Maharajah of Baroda, Baroda, Gujarat. There are many customer friendly products like credit cards, Pre-Paid Gift cards ATM/Debit cards, etc and services provided by the bank which include Internet Banking, Mobile Banking, SME Banking, Retail



Banking, Rural / Agriculture Banking, Wealth Management, Non Resident Indian Remittance and many others. It has 3,778 branches all over the country and about 1,657 ATMs spread-' everywhere.

Punjab National Bank: Ranked No. 6

PNB is ranked #6 when it comes to Internet Banking facility. But when talked about the government commercial bank in India it is the 3rd best. This bank was founded in 1895 and till today it has around 5000 branches in about 764 cities in our country. This bank is one of the few govt, banks of India which offers various services and schemes for senior citizens, army personnel, students, and women .

Bank of India: Ranked No. 5

The 5th best bank of India, when seen in reference to Internet Banking facilities, is Bank of India. This bank was founded on 7th September, 1906. Like all others banks, this bank also provides number of services like Internet Banking, Online Tax Payment, Mobile Banking and Payments Pay Bills, share-trading Online, Booking Ticket, and many such services for customer ease. It has a count of 3140 branches spread across the country and around 27 branches in other countries.

HDFC Bank: Ranked No. 4

This banking services was initiated in 1994 and is providing great service till date. This makes it the 4th largest bank of India and in terms of market capitalization it is the 2nd best bank of India. It provides a customer with all sorts of services like Net Banking, Online remittances, Personal Banking, NRI Services, and many such services. In the year 2008, this bank was awarded many prizes tor being the best bank for Retail bank category, best to adopt information technology in services. With 1,5000 branches in India, the bank is counted among best banks of the country.

Axis Bank: Ranked No. 3

The Axis Bank ranks #1 when talked about private banks. Initially, this bank was known as Unit Trust of India - UTI which is the name of the organization who promoted this bank since 1994 as government allowed private banks those days having 729 branch offices and 3171 ATMs, the internet banking provided by this bank is customer satisfactory.

ICICI Bank: Ranked No. 2

The 2nd largest bank in India is ICICI bank. There are in all 1,419 branches of this individual bank This bank offers high-end facilities like internet banking, Mobile banking, etc. The bank not only serves in India but has branches over 18 different countries in the world which includes Canada, Russia, UK and more but yet has the main headquarters in Mumbai, India. Along with being the 2nd ' best bank to provide internet banking, it also provides investment banking, life-insurance, non insurance, assets management and so much more [20].

State Bank of India: Ranked No. 1

The highest ranked bank of India is State Bank of India. This bank is the oldest as well as ranked #1 in the iist of banks with best internet banking facilities. Not only that, it has the largest votes in every parameter be it profit, assets, revenues, etc. this government bank was founded in 1806 and is the 2nd biggest bank in the whole world. With a score of 16,000 branches and 8500 ATMs, this is also accountable, for 20% portion of loans by Indian Bankers.



XI. COMPUTERIZATION OF BANKS IN INDIA

E-commerce and e-banking are the buzz words in the global commercial activities today. E-banking or Electronic banking refers to conducting banking activities with the help of information technology (IT) and computers. Computerization of banking functions in India was resisted by labour unions for fear of loss of job opportunities. Secondly, computerization needs IT savvy personnel which require intensive technical training. Thirdly, computerization needs heavy capital outlay for purchase of machines [21]. Fourthly, to have effective computerization of banks a large number of bank branches situated in rural areas need to be connected. Telecommunication facility at rural areas is slow to reach. For the reasons mentioned above, computerization made a slow entry in Indian banks.

Indian banks on the other hand have been using IT more out of compulsion and primarily for transaction processing. They now need to adopt IT to reposition banks into the integrated financial services market. The need for providing improved customer service, reducing transaction costs and increasing productivity, shall be the main drivers for banking sector to adopt IT. These considerations are particularly important for public sector banks in India, who are facing immense competition from private and foreign banks. With growing competition faced by foreign banks and financial institutions, the public sector banks in co-operation with the Indian IT industry would need to equip themselves for the next phase of introducing the benefits of IT to their customers by providing a centralized banking solution [22]. When we are using the Data base handling or net banking service, all of them are managed by various number of software. We are using the number of software's to handle the database, service requirement for internet banking sectors. TQM is only the service is using to find out the easily accessibility of errors in system. To improving the service quality of software, efficiency improve, improving the service-quality of service & /performance of software system.

XII. OPPORTUNITY FOR INDIAN BANKING SECTOR IN BRANCH COMPUTERIZATION

1. IT Networking
2. System Integration and Management
3. Customer Relationship Management (CRM) Applications
4. Back Office processing and Call Centres
5. Data warehousing/ Data mining

XIII. MCKINSEY INDIA PERSONAL FINANCIAL SERVICE SURVEY 2011 (BUSINESS STANDARD, 2011)

As many as 7% of account holders in India, are using the Internet for banking transactions, while branch banking has fallen by a full 15 percentage points, according to a report by global management consultancy McKinsey & Company.

"Use of the Internet for banking has seen a massive rise in the 2010-11 survey, taking the overall number of bank consumers who use the Net to close 7% of the total bank account holders a seven-fold jump since 2007



even as for the first time in the past 13 years, branch banking has come down by a full 15 percentage points during the same period”, McKinsey & Company India. The survey is the result of one-on-ones with nearly 20,000 Asians covering the mass, mass-affluent and the affluent consumers across 13 markets, of which the largest survey pool was from India at 5,000 because of the sheer diversity of this market. The survey is based on the number of times in a week respondents visited bank branches or used Internet for carrying out transactions. In 2007, the number of times Indian respondents visited bank branch for doing transactions was 0.58 while the same in 2011 was 0.49, showing a fall of 15 percentage points.

Branch usage has dropped by 27% on an average across Asia between 2007 and 2011, while usage of the Internet across the Asia-Pacific region. When it comes to digital banking, the survey said. "India leads growth in Asia in mobile and Internet usage for banking. While there was a 15% decline in branch usage here, the growth in usage of the Internet and mobile" The average number of banking relationship across the country rose 19% from 1.4 in 2007 to 1.7 in 2011, while the average percentage of people willing to shop around rose 15%, marking a greater willingness of consumers to vote with their feet and engage with a broader variety of financial institutions, the McKinsey survey said.

XIV. CONCLUSION

E-banking is becoming immensely popular in India. The declining internet and mobile charges, falling prices of PCs and mobile phones, broadband with access through cable and digital subscriber lines etc. would definitely encourage the boom in E-banking in India. On the basis of the analysis, it can be concluded that the emerging payment system in India for large value transactions is RTGS, ECS for bulk payments and NEFT for one to one fund transfer. Among the card based payment systems debit card is more popular than credit cards. The number of ATMs in India, particularly in rural areas, is on the rise and customers irrespective of their profile started accepting ATM as a channel for banking transactions, both internet and mobile banking is gaining popularity but considering the rapid penetration of mobile phones in India, the potential for delivering banking services through mobile phones is immense compared to internet as a delivery channel. However, it has been hounded by negative issues like identity theft and phishing attacks which are the reason why there are still some customers who are wary of using electronic channels for conducting banking transactions.

Legal and cross border risks can be avoided through proper customer identification devices, information screening techniques, periodic reviews on compliance with various laws and gaining knowledge of various national laws (applicable) and guide the customers through their cross-border dealings. Information technology has played a vital role in the advancement of banking system. The reach of Indian banking to every individual is possible because of the computerization process adopted by banking sector. Information technology has not only simplified the operation but it has also given a great comfort an individual who does not have a good knowledge of IT but need to access banking in an optimum manner. It can be concluded that more introduction of IT alone will not be sufficient to bring necessary performance improvement and get the competitive edge but intelligent people are required to use such intelligent tools. They even though IT management is a challenge flow in future banking scenario, marketing mix technology is going to be the challenge in India.

The main point to focus in banking system in net banking/internet banking depend on Internet system. In rural area condition is very hard for providing the Internet services. Still rural area customers are facing the problems.



Banking sectors are still failed to remove these problems. Before e-banking services generally database handling of customer, customer transaction handling and auditing the services. In core banking service all information is handled by main server. Local branches directly connected to database handling with main server.

REFERENCES

- [1]. Annual reports of Reserve Bank of India, www.rbi.org.in Business standard, July 20,2011, http://www.business_standard.com/article/finance/7-account-holders-in-india-usa-net-banking-study-1110720001931.html accessed on Aug 20,2013.
- [2]. Chau, P & Lai, V., "An Empirical Investigation of the Determinants of User Acceptance of Internet Banking", Journal of organizational Computing and Electronic Commerce, Vol. 13, No. 2, pp 123-145.
- [3]. Daniel, E. (1999), "Provision of electronic banking in the UK and the Republic of Ireland", International Journal of Bank Marketing, Vol. 17, No. 2, pp. 72-82.
- [4]. Dheenadhayalan, V. (2010), "Automation of Banking sector in India", Yojana, February, pp.32-40.
- [5]. E tools 4 all, E-Banking? Recent trends in India, <http://etools4all.org/e-banking-recent-trends-in-india.html> accessed on 16 August 2013.
- [6]. Mohan, K. (2006), "Information Technology on Indian banking", SCMS Journal of Indian Management, July-Sept issue, pp. 18-24.
- [7]. Kamakodi, N. and Ahmed Khan, M. B. (2008), "Customer expectations and service level in E-banking Era: An empirical study". The ICPAI university journal of Bank Management, Vol. VII, No.4, pp. 50-70.
- [8]. Uppal, R.K. and Chawla, R. (2009), "E-Delivery channel-based banking services: An empirical study". The Indian Journal of Management Research, Vol. VIII, No. 7. pp. 7-33. <http://omgtoptens.com/misc/business/top-10-banks-that-provide-best-internet-banking-facilities-india/> accessed on Aug 20,2013
- [9]. Reeti Agarwal, Sanjay Rastogi and Ankit Mehrotra (2009), "Customers' perspectives regarding e-banking in an emerging economy", Journal of Retailing and consumer services, Vol. 16, pp.340-351. Report on trend and progress of banking in India, RBI, various years Report on trend and progress of banking of India, RBI, various years. www.rbi.org.in
- [10]. Sharma, D., 2009 "India's Leapfrogging steps from Bricks-and-Mortar to Virtual Banking: Prospect and Perils", "The IUP Journal of Management Research, Vol 8, No. 3, pp 45-61.
- [11]. Kumar, R. and Sinha A. B. (2009), "An overview of E-banking in India", Professional banker, October issue, pp. 35-37.
- [12]. Srinivas, Vissapragada (2009), "No more traditional banking, only virtual", Professional banker, August issue, pp. 41-43
- [13]. Mohammed, S. and Shariq, S. (2011), "A study of A I'M usage in bnks in Lucknow ", International Journal of Engineering and Management Studies. Vol.2, No. 1, pp.47-53.
- [14]. Shukla, R. and Shukla, P. (2011). "E-banking: Problems and Prospects", International Journal of Management & Business Studies, Vol. 1, No. 1, pp.23-25.
- [15]. Mishra.A. (2011), Internet banking: knowledge is prevention", [http://www.ccaoi.inll11/links/fwnewsletter15th%20lan%20\(l%20Sivurity%20Neu'sletter.pdf](http://www.ccaoi.inll11/links/fwnewsletter15th%20lan%20(l%20Sivurity%20Neu'sletter.pdf) accessed on 20.08.2013



- [16]. Mavri, M & Ioannou, G., "Consumer's perspectives on Online Banking service", International Journal of Consumer Studies, Vol. 30, No. 6, pp 552-560.
- [17]. Prakash, A. and Malik, G. (2008). Empirical study of internet banking in India, CURIE, BITS Pilani, Vol. 1. No.3 pp 83-92
- [18]. Phan, D., 2003, "E-Business Development for Competitive Advantages. A Case study", Information & Management, Vol. 40, pp 581-590.
- [19]. The Hindu, Chennai. July 11, 2011
- [20]. Uppal. R.K (2011), "Internet banking in India: Emerging risks and new dimensions", Business administration and Management (BAM), Vol. 1, No.3, pp.77-81 accessed from www.primejournal.org/bam.
- [21]. Pousttchi, K. and Schurig, M. (2004), "Assessment of today's mobile banking applications from the view of customer requirements ", Proceedings of the 371 Hawaii International conference on System sciences, Big Island, Hawaii, January, 2008.
- [22]. Narasaimham Committee Report, I-1991-kalyan-city. blogspot.com /2010/09 narasimham committee report accessed on 16 Aug 2013.