

Role of Information Technology in Indian Banking Sector

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Abstract: *The article presents a study which aims to analyze the role of Information Technology (IT) in the banking industry. After Liberalization the IT and communications networking system is set to change the operating environment of banks drastically. Technology has already enabled some of the banks to introduce innovative products to their customers in the form of ATM facility, mobile banking, home banks etc. With the use of technology there had been an increase in penetration, productivity and efficiency. It has not only increased the cost effectiveness but also has helped in making small value transactions viable. The changing brought about by IT, new products, more sophisticated customers, high-end services, changing cost structures, and enhanced competitive pressures have all combined to transform the structure of the banking industry.*

Further development of new technologies the industry will likely continue to evolve allows banks to create what looks like a branch in a business building's lobby without having to hire manpower for manual operations. The branches are running on the concept of 24 X 7 working, made possible by the use of Tele banking, ATMs, Internet banking, Mobile banking and E - banking.

This technology driven delivery channels are being used to reach out to maximum number of customers at lower cost and in most efficient manner. Customers of banks have felt the position impact of technological solutions implemented by banks. The customer of banks today has a virtual menu of options as far as delivery channels are concerned and all these are benefits of technology.

Keywords: *liberalization, mobile banking, ATMs, internet banking and E – banking.*

I. Introduction

There is a long history of banking services in India. The history of banking is as old as human history. More particularly in the area of Information Technology (IT), where India has definitely an edge over its competitors, remaining away or uniformity of the world trends is untenable. Financial sector in general and banking industry in particular is the largest spender and beneficiary from information technology. This endeavors to relate the international trends in it with the Indian banking industry.

Today, most of the transactions can be done from the home and customers need not visit the bank branch for anything. Technology is no longer an enabler, but a business driver. The growth of the internet, mobiles and communication technology has added a different dimension to banking.

IT enables sophisticated product development, better market infrastructure, implementation of reliable techniques for control of risks and helps the financial intermediaries to reach geographically distant and diversified markets. Internet has significantly influenced delivery channels of the banks. Internet has emerged as an important medium for delivery of banking products and services.

Moving from a manual, scale-constrained environment to a global presence with automated systems and processes, it is difficult to envisage the adverse scenario; the sector was in the era before the reforms, when a simple deposit or withdrawal of cash would require a day. ATMs, mobile banking and online bill payments Facilities to vendors and utility service providers have almost obviated the need for customers to visit a branch. Branches are also transforming from operating as transaction processing points into relationship management hubs. The change has been very productive for banks bringing in an increase in productivity and operational efficiency to be more competitive. With most of the banks being technology-enabled, the focus is shifting to computerizing regional rural banks (RRBs). In addition, banks are moving toward decision making and business intelligence software and trying to optimize the IT infrastructure created Better risk management due to centralization of information and real time availability of critical data for decision making.

We need to anticipate where technology is going in today's rapidly changing environment and quickly adopt those solutions that best fit our industry and consumers. Customers have become accustomed to having technology at their fingertips, so we have to be more nimble in adopting and introducing emerging technologies. In commercial banking, for example, developments in portal technologies that offer enhanced data analysis and reporting are major areas of investment. Anticipating where the market is heading, how technology is evolving, and innovating ahead of our competition—both other banks and non-traditional competitors—while meeting growing security, regulatory and compliance requirements present challenges.

Banks need to focus on a structure that is scalable yet nimble and able to support future growth and increasing needs of the business. At Capital One, we've moved to an architecture that supports our "always on" approach to enable our customers to bank whenever and wherever. We have to deliver with increased speed and efficiency while defining the role of big data and cloud computing in our solutions. Talent acquisition continues to be important. Candidates don't often think of a bank as a place for great IT talent – but banking is essentially an IT-lead industry and software development will become a huge need in banking. At Capital One, we have a huge appetite for the best technology minds. Banks need to show that they have the environment where tech talent will thrive and where they can get to work on the very best, latest technology.

Source of information

Primary & Secondary Sources

Since the objective of the present study requires an understanding of various dimensions of IT role, the investigator seeks to gather both qualitative as well as quantitative data with regard to IT role in the banks. The information search, takes into account both primary and secondary data.

The primary data for the present research has been collected through sample survey of bank's customers and staff.

The secondary sources of data collection in the form of fathering published resources such as extracts form relevant books, magazines, journals, periodicals, and fields' websites etc.

The primary data, which is the base of research work, has been collected through sample survey of 120 customers and 60 front-line bank personnel from three banks (SBI, AXIS, ICICI) To collect the primary data the investigator administered two different sets of structured questionnaire one set for the bank- customer and the other for the banks staff designed for the purpose.

II. Review of literature

In the field of banking, information technology implies the transaction processing and the integration of information system with communication technology and of innovative.

Shastri R.V., (March, 2003) "Recent trends in Banking Industry" IT emergence, Chartered Financial Analyst, (pp 45-56) in this article stated that liberalization policy and intense competition keeps every banker on his toes. Implementation of Information Technology (IT) helps for maintaining proper accounts especially in decision making process. He also stated that facilities like ATM, anywhere banking, Internet and mobile banking have imported customer service which in turn helps for better customer relations management. He also explained the challenges faced by banks because of IT implementation like employment problem and security concerns. He suggested that the customer delight is the primary goal of all future IT initiatives.

Prabhakar Rao Ch. (Jan, 2004). "Indian banking in 2010" IBA Bulletin Special Issues, (pp 170-173) in this study discussed about the revolutionary changes that witnessed in the financial sector around the world. He stated that net worked branches. ATMs, technology based payment and settlement system, technology vision of RBI, floating rate of interest have changed the Indian banking sector. He concluded that brick and mortar bank branches will disappear and customers will be able to operation their accounts through electronic devices.

Role of IT in banking sector

Banking environment has become highly competitive today. To be able to survive and grow in the changing market environment banks are going for the latest technologies, which is being perceived as an 'enabling resource' that can help in developing learner and more flexible structure that can respond quickly to the dynamics of a fast changing market scenario. It is also viewed as an instrument of cost reduction and effective communication with people and institutions associated with the banking business.

The Software Packages for banking applications in India had their beginnings in the middle of 80s, when the Banks started computerizing the branches in a limited manner. The early 90s saw the plummeting hardware prices and advent of cheap and inexpensive but high powered PC's and Services and banks went in for what was called Total Branch Automation (TBA) packages. The middle and late 90s witnessed the tornado of financial reforms, deregulation globalization coupled with rapid revolution in communication technologies and evolution of novel concept of convergence of communication technologies, like internet, mobile/cell phones etc. Technology has continuously played on important role in the working of banking institutions and the services provided by them. Safekeeping of public money, transfer of money, issuing drafts, exploring investment opportunities and lending drafts, exploring investment being provided.

IT enables sophisticated product development, better market infrastructure, implementation of reliable techniques for control of risks and helps the financial intermediaries to reach geographically distant and diversified markets. Internet has significantly influenced delivery channels of the banks. Internet has emerged as an important medium for delivery of banking products and services.

The customers can view the accounts get account statements, transfer funds and purchase drafts by just punching on few keys. The smart cards i.e., cards with micro processor chip have added new dimension to the

scenario. An introduction of 'Cyber cash' the exchange of cash takes place entirely through 'Cyber-books'. Collection of Electricity bills and telephone bills has become easy. The upgradeability and flexibility of internet technology after unprecedented opportunities for the banks to reach out to its customers. No doubt banking services have undergone drastic changes and so also the expectation of customers from the banks has increased greater.

IT is increasingly moving from a back office function to a prime assistant in increasing the value of a bank over time. IT does so by maximizing banks of pro-active measures such as strengthening and standardizing banks infrastructure in respect of security, communication and networking, achieving inter branch connectivity, moving towards Real Time Gross Settlement (RTGS) environment the forecasting of liquidity by building real time databases, use of Magnetic Ink Character Recognition and Imaging technology for cheque clearing to name a few. Indian banks are going for the retail banking in a big way.

The key driver to charge has largely been the increasing sophistication in technology and the growing popularity of the internet. The shift from traditional banking to e-banking is changing customer's expectations.

Online banking

A system allowing individuals to perform banking activities at home, via the internet. Some online banks are traditional banks which also offer online banking, while others are online only and have no physical presence. Online banking through traditional banks enable customers to perform all routine transactions, such as account transfers, balance inquiries, bill payments, and stop-payment requests, and some even offer online loan and credit card applications. Account information can be accessed anytime, day or night, and can be done from anywhere. A few online banks update information in real-time, while others do it daily. Once information has been entered, it doesn't need to be re-entered for similar subsequent checks, and future payments can be scheduled to occur automatically. Many bank allow file transfer between their program and popular accounting software packages, to simplify record keeping. Despite the advantages, there are a few drawbacks. It does take some time to set up and get used to an online account. Also, some banks only offer online banking in a limited area. In addition, when an account holder pays online, he/she may have to put in a check request as much as two weeks before the payment is due, but the bank may withdraw the money from the account the day that request is received, meaning the person has lost up to two weeks of interest on that payment. Online-only banks have a few additional drawbacks: an account holder has to mail in deposits (other than direct deposits), and some services that traditional banks offer are difficult or impossible for online-only banks to offer, such as traveler's checks and cashier's checks.

Role of e- banking system in the development of the financial system in India.

E-banking made its debut in UK and USA 1920s. It becomes prominently popular during 1960, through electronic funds transfer and credit cards. The concept of web-based banking came into existence in Europe and USA in the beginning of 1980. In India e-banking is of recent origin. Technology will bring fundamental shift in the functioning of banks. It would not only help them bring improvements in their internal functioning but also enable them to provide better customer service. Technology will break all boundaries and encourage cross border banking business. Banks would have to undertake extensive Business Process Re-Engineering and tackle issues like a) how best to deliver products and services to customers b) designing an appropriate organizational model to fully capture the benefits of technology and business process changes brought about. c) how to exploit technology for deriving economies of scale and how to create cost efficiencies, and d) how to create a customer - centric operation model.

Entry of ATMs has changed the profile of front offices in bank branches. Customers no longer need to visit branches for their day to day banking transactions like cash deposits, withdrawals, cheque collection, balance enquiry etc. E-banking and Internet banking have opened new avenues in "convenience banking". Internet banking has also led to reduction in transaction costs for banks to about a tenth of branch banking.

Technology solutions would make flow of information much faster, more accurate and enable quicker analysis of data received. This would make the decision making process faster and more efficient. For the Banks, this would also enable development of appraisal and monitoring tools which would make credit management much more effective. The result would be a definite reduction in transaction costs, the benefits of which would be shared between banks and customers.

While application of technology would help banks reduce their operating costs in the long run, the initial investments would be sizeable. IT spent by banking and financial services industry in USA is approximately 7% of the revenue as against around 1% by Indian Banks. With greater use of technology solutions, we expect IT spending of Indian banking system to go up significantly.

One area where the banking system can reduce the investment costs in technology applications is by sharing of facilities. We are already seeing banks coming together to share ATM Networks. Similarly, in the coming years, we expect to see banks and FIs coming together to share facilities in the area of payment and

settlement, back office processing, data warehousing, etc. While dealing with technology, banks will have to deal with attendant operational risks. This would be a critical area the Bank management will have to deal with in future.

The e-banks, which may call as easy bank offers the following services to its customers

- Credit Cards – Debit Cards
- ATM
- E-Cheques
- EFT (Electronic Funds Transfer)
- D-MAT Accounts
- Mobile Banking
- Telephone Banking
- Internet Banking
- EDI (Electronic Data Interchange)

Mobile is the magic word-2013

For financial institutions, the magic word in 2013 will be mobile. Bank customers are turning to the ease and convenience of their smart phones and tablets for mobile banking, payments and check deposit. Managing this seismic financial shift will prove challenging for bank IT departments, but those with a dynamic mobile strategy will enjoy a significant competitive advantage from those without.

In 2013, a more heterogeneous and extended infrastructure to support mobile will become a top priority for bank IT. Mobile will spark IT challenges for banks to meet their customers’ shifting needs, and banks must develop a winning IT strategy to manage the new mobile ecosystem. A new revolution in the realm of e-banking is the emergence of mobile banking. On-line banking is now moving to the mobile world, giving everybody with a mobile phone access to real-time banking services, regardless of their location. The Wireless Application Protocol (WAP) technology, which will allow user to surf the net on their mobiles to access anything and everything. This is a very flexible way of transacting banking business.

Already ICICI and HDFC banks have tied up cellular service providers such as Airtel, Orange, Sky Cell, etc. in Delhi and Mumbai to offer these mobile banking services to their customers.

An Analysis On Socio- Economic Profile Of Sample Customers

Respondents by usage of ATM facility.

The discussion given below provides the number of sample respondents who have an ATM facility.

Table 1. Distribution of respondents by usage of ATM facility

Sl.No.	Nature	No. of Samples	Percentage
1	Yes	76	63.33
2	No	44	36.67
	Total	120	100.00

Source: Computed from Primary Data.

As it could be seen in Table 1 of the 120 respondents only 63.33 percent use the ATM facility while the remaining 36.67 percent do not have.

Thus from the analysis it can be concluded that a majority of the respondents have ATM facility.

Respondents by usage of e-banking facility

The preceding paragraph provides the usage of e-banking facility by the sample customers.

Table 2. Distribution of respondents by usage of e-banking facility

Sl.No.	Reason	No. of Samples	Percentage
1	Using	48	39.67
2	Not Using	72	60.33
	Total	120	100.00

Source: Computed from Primary Data.

As given in Table 2, a highest of 60.33 percent of the respondents is not using the e-banking facilities. The remaining 39.67 per cent of the respondents use the e banking facilities.

Thus from the analysis it can be concluded that a majority of the respondents are either not using the e-banking facility or it is not available.

Respondents by usage of credit card facility.

The preceding paragraph provides the usage of e banking facility by the sample customers.

Table 3. Distribution of respondents by usage of credit card facility

Sl.No.	Reason	No. of Samples	Percentage
1	Using	51	42.33
2	Not Using	69	57.67
	Total	120	100.00

Source: Computed from Primary Data.

As given in Table 3, a highest of 57.67 percent of the respondents is not using the Credit card facility. The remaining 42.33 per cent of the respondents are using the credit card facility. Thus from the analysis it can be concluded that a majority of the respondents are not using the credit card facility.

IT challenges-2013

The challenge in 2013 in banking IT will be speed. The key question is whether traditional banks can bring new technologies to market fast enough to retain and grow customers. Banking IT leaders must help drive growth agendas, in addition to providing cost effective IT services.

Continued shifts in consumer behavior, as well as emerging technologies, are changing what customers expect from banks and non-banks that provide financial services. This environment is creating challenges and game changing opportunities for institutions that can get new growth-enabling technologies to market quickly.

III. Conclusion

From enabling banking services to driving transformation in the Industry. Information Technology course do promise to change the pace of banking to the next few years. Mobile bank and internet banking are going to make indoor in the banking sector in the near future. Even though IT systems are complex and sophisticated but they are “energy guzzlers”.

Indian public sector banks that hold around 75 % of market share do have taken initiative in the field of IT. They are moving towards the centralized database and decentralize decisions making process. They possess enviable quality manpower. Awareness and appreciation of IT are very much there. What is needed is a ‘big push’ the way it was given in the post nationalization period for expansionary activities. Hence, the future for banking sector is going to make rapid straight in near future.

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