

DEVELOPMENT OF INFORMATION TECHNOLOGY IN INDIAN BANKING INDUSTRY

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ABSTRACT

Indian banking is at the heart of the 'IT' revolution. One such force is the information technology revolution. In this globalized era, technological support is very important for the successful functioning of the banking sector. This research paper focuses on the impact of technology in the Indian banking sector. Without information technology and communication, we cannot think about the success of the banking sector, it has expanded the role of the banking sector in the Indian economy. Information technology refers to the acquisition, processing, storage and communication of all types of information using computer technology and telecommunication systems. Information technology is an integrated framework for acquiring and developing IT to achieve a positive strategic goal. Technology plays a key role in creating an efficient banking system that can adequately respond to the needs of a growing economy. Over the last one and a half decades, banks in India have invested heavily in technologies such as telebanking, mobile banking, internet banking, automated teller machines (ATMs), credit cards, debit cards, smart cards, customer relationship management (CRM) software, electronic payment systems and solutions for data warehouses and data mining, bringing improvements in the quality of customer service and fast processing of banking operations. Banks have invested heavily in IT in anticipation of improving their performance. However, performance improvement depends on differences in "IT" deployment, usage, and effectiveness.

Keywords: *IT (Information Technology), Banking, CRM, ATM.*

Introduction

Information technology in the "banking sector" refers to the use of sophisticated information and communication technologies organized with computer science that enable banks to offer better services to their customers in a safe, reliable and affordable manner and maintain a cost-effective advantage over other banks. Banks are no longer limited to traditional banking activities but are exploring newer ways to increase business and capture new market by implementing new technology. The importance of technology is strongly felt in the financial sector with regard to the competitive advantage for banks that leads to effective customer service. The banking sector plays a very important and fundamental role in the development of the Indian economy. With the use of technology, there has been an increase in penetration, productivity and efficiency. It not only increased cost efficiency but also helped to realize small value transactions. It also improves choice, creates new markets and improves productivity and efficiency. The banking sector is always at the forefront of the economy and innovations have a primary interest in the application of modern technical equipment. Electronic delivery channels, ATMs, various cards, internet banking and mobile banking are the names of a few outcomes of the process of automation and computerization in the Indian banking sector. With the I.T revolution, banks are increasingly connecting their computer systems not only across city branches but also to other geographical locations, whose high-speed network infrastructure and local area and network setups are

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now exposed to increasing numbers. Customers have high expectations and are more demanding now as they are also more tech-savvy compared to their counterparts of yesteryears. They demand instant, anything, anywhere banking services. Although the Reserve Bank of India has formulated many policies to implement I.T. in the overall functioning of commercial banks in India, yet there is an urgent need to address related issues in this regard to compete with banks internationally.

Transformation of Indian Banking

Indian banking has undergone a complete transformation in the last decade. The smooth transition from a manual environment with limited scale to a technology leadership position was a miracle. Such a transformation takes place in such a short period of time at such low cost. Since independence, Indian banks have gone through various phases which can be classified as pre-reform period.

The entry of technology into Indian banking can be traced back to the Rangrajan Committee Report in the 1980s, but the banking sector witnessed various liberalization measures during the 1990s. One of the main objectives of the Indian banking sector reforms was to promote operational self-sufficiency, flexibility and competition in the system and raise banking standards in India to international best practices. The second phase of reforms started in 1997 with the objective of reorganization measures, human capital development, technological modernization, operational development, which helped them achieve universal benchmarks in terms of prudential standards and best practices.

Literature Review

KPMG, “Technology enabled transformation in Banking”: The Economic Times Banking Technology, Conclave 2011, this article has concluded that banking will be transformed by new technology by 2015. customer friendly products, delivery channel, easy and accessible services and competitive pricing would be driving forces-and technology shall play a dominant role in all these. Models using mobile devices and efficient payment systems will make banking services more widely available 24 x 7.

Narasimhan Committee (1998): The committee dealt with the issues on technology up gradation and observed that the most of the technology that could be considered suitable for India in some form or the other has been introduced in some diluted form or as a pilot project, but the desired success has not been achieved because of the reasons inter-alia lack of clarity and certainty on legal issues.

Sobol and Cron (2006) “Impact of Information Technology on Indian Banks”: This article has conducted the study to find the relationship between computerization and several measures of overall firm performance. Three performance comparisons are presented: users versus non-users of computers, three levels of usage, and class of computer usage. Results indicate that computerization is related to overall performance. Non-users tend to be small firms with about average overall performance.

Objective

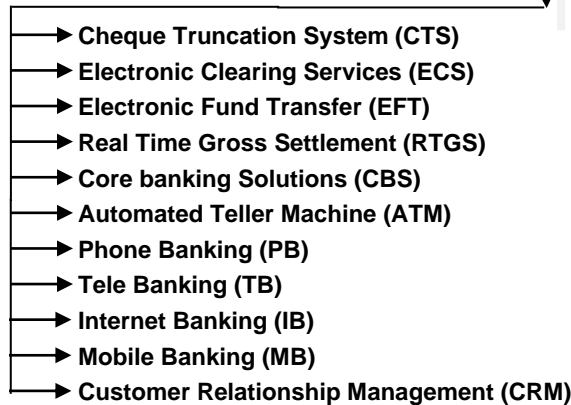
- To analyze the role of 'IT' in 'Indian' banking.
- To examine the extent of service utilization especially IT services in Indian banking.
- To assess the various aspects of IT services provided by Indian banks.
- To review IT implementation in 'Indian' banking.

Research Methodology

This study is based on secondary data collected from various journals, magazines, sites and published data from various publications of RBI and various public sector banks. Various studies on this topic were also presented in this study. Technological Development of 'IT' in the Indian Banking Industry The technological development of the Indian banking industry has been largely driven by various committees set up by the RBI and the Government of India to review the implementation of technological changes. Until the early 1980s, the industry did not make any major breakthroughs in technology implementation, although some task forces and committees made stray references to the need to systematize some banking processes. The early 1980s were crucial for the introduction of modernization and computerization in Indian banks. It was a period when both the banks and the RBI went very slowly with mechanization and carefully avoided the use of "computers" to avoid opposition from the employee unions. However, this was a critical period that acted as an icebreaker, leading to a slow and steady shift to large-scale adoption of the technology.

Recent 'IT' Trends of Indian Banks

Electronic Payment and Settlement System: Important innovation in payment & settlement system introduced by RBI are below.



Recent 'IT' Trends of Indian Banks

Some of the recent 'IT' devices described as below:-

- Electronic Payment and Settlement System:** The most common means of receipts and payments through banks are negotiable instruments such as cheques. Interbank checks could be implemented through clearinghouse systems. Initially, there was a manual clearing system, but the growing volume of banking transactions necessitated automating the clearing process. In order to strengthen the institutional framework of the electricity and settlement system, the RBI in 2005 set up the Committee on Regulation and Supervision of the Payment and Settlement System (BPSS). payment and settlement system and provide a legal basis for multilateral netting and settlement. Important innovations in payment and settlement system introduced by RBI are mentioned below-
- Check Truncation System (CTS):** CTS was piloted in New Delhi in 2008 with the participation of 10 banks. Truncation means stopping the flow of physical checks issued by a drawer to a check branch. The physical tool is truncated at some point on its way to the slider. Branch and the electronic image of the check is sent to the drawer's branch along with relevant information such as MICR fields, date of presentment, presenting bank etc. This would eliminate the need to move physical instruments across branches, except in exceptional circumstances, effectively reducing the time required to cash the cheques, associated transit costs and processing delays, etc., thereby speeding up the process of collection or realization of the cheques. All bank clients are expected to receive the new check books from their banks as soon as possible, preferably by the end of December 2012. All bank clients should only use "CTS 2010" checks which have more security features effective January 1, 2013.
- Electronic Clearing Services (ECS):** ECS introduced by the RBI in 1995, which are similar to the Automatic Clearing Houses that operate in other countries such as the US. ECS was the first version of "electronic payments" in India. This is a method of electronic transfer of funds from one bank account to another bank account using the clearing center mechanism. It is very useful in case of bulk transfers from one account to multiple accounts or vice versa. ECS facility is available in more than 74 centers in India. Beneficiary must have an account with the bank at the "ECS" center. There are two types of ECS (Electronic Clearing Service)
- Electronic Funds Transfer (EFT):** The EFT system was implemented in 1995 and covered 15 centers where the Reserve Bank operated clearing centers. The Special EFT (SEFT) scheme, a variant of the EFT system, was introduced with effect from 1 April 2003 to increase the coverage of the scheme and ensure faster transfers of funds. SEFT was made available across bank

branches that were computerized and networked to allow direct transmission of electronic messages to the receiving branch (STP processing). In the case of EFT, all bank branches in 15 locations, whether networked or not, were part of the scheme. It was decided to implement a new variant of EFT called National EFT (NEFT) (November 2005) to expand the capabilities of EFT. It was a nationwide retail electronic mechanism for the transfer of funds between networked bank branches. NEFT has provided integration with the Structured Financial Reporting Solution (SFMS) of the Indian Financial Network (INFINET). NEFT uses SFMS to create EFT messages and transfer them from the branch to the bank's gateway and to the NEFT Center, thereby significantly increasing the security of funds transfer. The introduction of NEFT led to the discontinuation of SEFT and EFT is now only available for government payments.

- **Real Time Gross Settlement (RTGS):** RTGS was launched by RBI in 2004, which enabled real time settlement on gross basis. The RTGS system is a funds transfer mechanism where money is transferred from one bank to another on a 'real-time' and 'gross basis'. This is the fastest possible money transfer system through the banking channel. "Real-time" settlement means that the payment transaction is not subject to any waiting time. Transactions are settled as soon as they are processed. "Gross settlement" means that a transaction is settled individually without connection to another transaction. The RTGS system is used only for large value transactions and retail transactions use an alternative channel of electronic funds transfer, a minimum limit of one million rupees was prescribed on 1 January 2007 for client transactions under RTGS.
- **Core banking Solutions (CBS):** Electrification of bank branches began with the installation of simple computers to automate branch operations, especially at high-traffic branches. Core Banking Solutions (CBS) is the linking of bank branches to enable customers to operate their accounts from any bank branch, regardless of which branch they opened their account with. Networking of branches under CBS enables centralized data management and helps in the implementation of Internet and mobile banking. In addition, CBS helps unify the complete operations of banks under a single technology platform.
- **Automated Teller Machine (ATM):** ATMs were introduced to the Indian banking industry in the early 1990s at the instigation of foreign banks. It is perhaps the most revolutionary aspect of virtual banking. The possibility of using an ATM is provided through plastic cards with a magnetic strip containing information about the customer and the bank. In today's world, ATMs are the most useful tool to ensure the concept of "Any Time Banking" and "Any Where Banking".
- **Telephone Banking (PB):** Customers can now dial a phone number designated by the bank and by dialing their identification number, they will be able to connect to a computer designated by the bank. With an automated voice recorder (AVR) for simple inquiries and transactions and manned telephone terminals for complicated inquiries and transactions, the customer can truly do all of their cashless banking over the phone: anywhere, anytime.
- **Telebanking (TB):** Telebanking is another innovation that has provided the customer with the option of 24-hour banking. Telebanking is based on voice processing equipment available on bank computers. The caller is usually a customer who calls the bank at any time and may inquire about their account balance or other transaction history. Telebanking is becoming popular because inquiries at ATMs are now too long.
- **Internet Banking (IB):** Internet banking allows the customer to conduct banking transactions through the bank's website on the Internet. It is a system of accessing accounts and general information about banking products and services via a computer in the office or at home. It is also called virtual banking.
- **Mobile banking (MB):** Mobile banking is an extension of internet banking. Mobile banking services are provided to customers who have a credit card account with the bank. In mobile banking, services are provided by an association of banks and mobile service providers through mobile tools supporting SMS or WAP.
- **Customer Relationship Management (CRM):** (CRM) refers to methodologies and tools that help businesses manage customer relationships in an organized way to find, acquire and retain customers. CRM processes that help provide employees with the information they need to know their customers' wants and needs and build relationships between the company and its customers.

Conclusion

Information technology offers immense potential and various opportunities to the Indian banking sector. It provides cost-effective, fast and systematic service delivery to the customer. Effective use of technology has enabled accurate and timely management of increased bank transaction volumes that come with a larger customer base. Indian banking is greatly benefiting from I.T. revolution around the world. Another concept i.e. virtual banking or direct banking is now gaining importance worldwide. Under this concept, banks offer products, services and financial transactions only through electronic delivery channels, generally without any physical branch. This concept has already been tested in developed countries such as the US and Europe. With lower branch maintenance and manpower costs, such "banks" are able to offer competitive prices for their products and services compared to traditional banks. In India, even a tech-savvy bank will adopt this concept. To be competitive in this globalized era, Indian banks should also embrace this concept. By designing and offering simple, safe and secure technologies, banks reach customers' doorsteps with the aim of "delighting customer satisfaction". In fact, information technology has succeeded in creating a win-win situation for all concerned segments in India. Indian banks lag far behind international banks in providing online banking. In reality, this is not possible without the creation of sufficient infrastructure or the presence of a sufficient number of users. Technology will be the key to the future of banking. So, banks should try to find out the trigger for the changes. Indian banks need to focus on rapid and continuous infusion of technology. Indian banks may not be as technologically advanced as their counterparts in the developed world, but they follow most international trends on the 'IT' front.

References

1. Chang Y., (2003), "Dynamics of Banking Technology Adoption: An Application to Internet Banking", Department of Economics, University of Warwick, January 2003.
2. Kaur Rupinder (2012) "Impact of information Technology on customer services with reference to selected banks in Chandigarh" I.J.E.M.S, Vol. 3(4) 444-449
3. Kulkarni R V (2000), "Changing Face of Banking from Brick-and-Mortar Banking to E - Banking", IBA Bulletin (January)
4. Karimi, J., Somers, T. M., Gupta, Y. P. (2001), "Impact of information technology management practices on customer service", Journal of Management Information Systems, Vol. 17 (4), pp. 125-158.
5. Lockett, A., and Littler, D. (1997) "The Adoption of Direct Banking Services", Journal of Marketing Management, No. 13, pp. 791-811.
6. Megha Jain G.S. Popli "Role of Information Technology in the development of Banking Sector in India"
7. Malhotra Pooja and Singh Balwinder (2010). An analysis of Internet banking offerings and its determinants in India. Internet Research, 20(1), 87-106.
8. M.C. Sharma & Abhinav Sharma "Role of Information Technology in Indian banking Sector" SSIJMAR Vol.2 No. 1 Jan-Feb
9. Smita Jesudasan, Dr. Prakash Pinto & Renuka Prabhu (2013) "Impact of investment in information technology on performance of banks and national economy" Gian Jyoti E-journal, Volume 3, Issue 2 (Apr-Jun 2013).
10. <http://www.infosys.com/finacle/solutions/thought-papers/Documents/banking-in-India-evolution-in-technology.pdf>.

