

Evolution of ICT use in Indian banking Domain

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Abstract:

The banks are the important organizations in society which require faith of customers to keep their assets. The banks have to follow strict policies in terms of asset and liabilities management. The Indian banks have glorious history, bright future and pleasant present which is proved by sustaining the recession period from last few years. There has been massive use of technology across many areas of banking business in India. Various wholesale and retail payment and settlement systems have enabled faster means of moving the money to settle funds among banks and customers. The RBI has played a key role in the process of transformation of the banking sector with the use of ICT. Being an important institution in the financial sector, it too has undergone the process of technological change. Starting from back office automation which was aimed largely at processing of voluminous data and automation of cheque clearing operations, technology moved to the front desk in the form of total branch automation. The Indian banks are now offering attractive technology based services & products such as e-banking and core banking. The present paper discusses the development and evolution of ICT use in Indian banking domain.

Keywords: *ICT, payment system, e-banking, core banking.*

Introduction

Technological sophistication in the banks is aimed at not only providing better services to customers but also to attain competitive advantages among them. Development of a sound and adequate ICT has become a necessity to meet the challenges of growth and diversification of banking industry. It has given the banks an opportunity to offer a wide range of services to their customers. Service sectors have witnessed rapid shift in case of technology which is creating new products, services market opportunities and developing more information & system oriented business management process [1]

In the banking sector, developments in ICT have had large effect in development of more flexible payment methods & more efficient banking services. New banking delivery channels have made banking

services convenient to customers and bank customers may now perform their banking transactions at the place and time of their choice.

Indian banking & financial sector have seen several transformations over the last decade. Implementation & use of ICT began from back office automation, which was aimed largely at processing of voluminous data & automation of cheque clearing operations, technology moved to the front desk in the form of total branch automation.

Methodology

This study is descriptive in nature. Data used in this study are collected basically from secondary sources. Secondary data is collected from various sources like annual report of Reserve Bank of India, journals, books and speeches.

Mechanization in Indian banking Sector

The mechanization in banking industry is closely related to the considerable growth of the industry. The most fundamental way in which technology has changed the face of the Indian banking sector has been through ICT.

Actual mechanization in Indian banks started in 1962 with the introduction of unit record machine at the RBI, But in sense LIC of India was the first to install a computer in 1963. Subsequently, in 1967 both RBI & SBI installed computer system the former to process statistical data and for research purpose & the later to settle inter branch transactions [2]

In 1970's

In 1970's various committees & working groups appointed by RBI, NIBM, and IBA recommended that computerization is required in selected areas of

operations only[2].Following the IBA's settlement with all India bank Employees' association in 1966, LPMs at branches and Unit Record Machine at head offices were allowed[3].

In 1980's

The decision of the national industrial tribunal (Dighe award) in 1981 is said to be the turning point in the history of computerization in banking in India. The Indian bank association (IBA) entered into an agreement with All Indian Bank Employees Association (AIBEA), the National confederation of Bank Employee (NCBF), on 8-Sept-1983.This was the first industry level settlement on computerization and mechanization and covered the way for the use of Electronic Legal posting/Accounting Machines, Microprocessor/ Minicomputer and Mainframe systems to support specific functional area at branch/zonal and head offices of banks. Accounting machines with attached memory modules were to be utilized in banks for the purpose of current accounts, deposit accounts, general ledger accounts, cash, and credit and loan accounts in urban and metropolitan centers. Computers were allowed for clearing operations, inter-branch reconciliation, remittances, foreign exchange dealings, investment management, personal inventory, payrolls, provident funds account, merchant banking and management information systems. But rural and semi-urban branches having fifteen or less staffs are excluded. This agreement was valid for a period of three years from date of agreement [4].

Until 1983, there was no major breakthrough in mechanization and computerization in the banking industry. In September 1983 , an agreement was made between the Indian banks association and the all India bank employee association on the installation of electric/electronic machines (other than computers),microprocessor and mainframe computers to support specified functional areas in branches, zonal offices and head offices in July 1983, The RBI head appointed a committee on mechanization in banking industry.

It covers various aspects of mechanization, for instance, the areas of banking operation to be mechanized and the types of machine to be installed at branch, regional and head offices in first phases (1985-87) the head office of the bank were to be equipped with mainframe computer system.

The zonal offices should be equipped with microprocessor system. About 2500 branches were to be equipped with machines (ELPM) and microprocessor system in the first stage 10000 EIPM, 200 microprocessors and 25 mainframes were to be processed and installed.

At the beginning standardized hardware and system software specifications were prescribed for regional/zonal systems. They were finalized with the help of CMC limited. Initially VME bus, MC68000 family chop, Unix O.S, UNIFY Database, Micro focus COBOL etc. were prescribed and vendors expanded on that basic. CMC limited was also requested to develop standard software package for the applications listed in the committees report. Banks had the option to acquire them from CMC or developed it in-home. CMC limited came out with the following seven packages: on credit information system and weekly returns to RBI, performance budgeting, cash management, provident funds, Accounting and Pay roll. Most banks have operationalised these packages and a few of them have developed in-house, several packages such as Investment management, outstanding entry in suspect accounts, Compilation of annual closing Returns, Agricultural credit monitoring, share Applications and pension payments etc. In order to accomplish the massive task of computerization, immediate establishment of Electronic Data Processing (EDP) cells were recommended.

The second Rangarajan committee (1989) suggested full automation of 2000 to 2500 branches by the end of 1994. It also suggested installation of additional mini computers at the regional/Zonal level or to take total 900 mini computers.

In 1990's

In the current decades computerization in India is governed by second Rangarajan committee (1989) report and the third Bi-partite settlement of 1993. This agreement was made between the Indian Banks Association and All India Bank Employee Association (AIBEA). This agreement does not put any restriction on individual banks for higher degree of computerization.

As per the agreement 1993 each bank may fully or partly computerize branches every year on the following basis:-

1. Bank with branches not exceeding 500, a minimum of 3 branches every year.
2. Banks with total number of branches exceeding 500, a minimum of 5 branches every year.

The banks may also installed ATMs on similar lines as in 1 & 2 above. The provisions for Signature verification equipment, Note counting machine, Pass Book Printers and demand draft printers have also been made. The committee also realized the urgent need for training, research & development activities in the banking technology area. Banks and financial institutions started setting up technology based training centers and colleges.

The committee recommended a variety of payment applications which can be implemented with appropriate technology up gradation and development of a variable communication network. The suggestion of setting up of an IT institute for the purpose of up R & D was given by committee IDRBT (Institute for Development & Research in Banking Technology) was established by RBI in 1996 as an autonomous center for development of research in banking technology at Hyderabad.

Computerization During 2000s

In July 2001, Govt. of India and NABARD advised the RRBs to initiate immediate steps so that head

office, area office & minimum of 50 % of the branches are computerized in a phased manner in the next 5 years.

NABARD extended support to select RRBs by providing PCs peripherals standard software packages & training inputs under its Swiss agency for development & co-operation (SDC) programmers.

At the end of March 2010, the total no of public sector bank 97.8 % were fully computerized.

E-banking in India – Role of RBI.

The use of technology in expanding banking has been a key focus area of the RBI. The RBI has taken several initiatives to popularize usage of technology by banks in India. Almost once in five year since the early 1980s, the RBI appointed committees & working groups to deliberate on and recommended the appropriate use of technology by banks given the circumstances and need [5].

Technology was seen by RBI as a key business enable in six vital areas of banking augmenting profit pool, operational efficiency, customer management, distribution and reach, production innovation and efficient payment & settlement. RBI expected that these developments will improve the customer service levels and productivity, ultimately resulting in better profitability[6]. In 1998, RBI awaited the technical assistance project of department for international development (DFID)

For mechanization of banking industry as a whole RBI it has made massive investment in various tools and equipments if banking based IT. After following the recommendations of the Saraf committee, the RBI initiated action on setting up of VAST network to provide a reliable communication backbone for the exclusive use of banking and financial sector.

Products & services of E-banking in India

Banking Industry is one of the intensive industry. Technology has created 'paradigm shift' in the client services and has leading to reengineering of banking

operations and processes. The financial reforms that were initiated in the early 1990's and the globalization & liberalization measures brought in a completely new operation environment to the Indian banks.

The bankers in India are now offering innovative & attractive technology based services and products such as:

Internet banking

The internet banking is changing the banking industry & is having the major efforts on banking relationships in India (ICICI)

RBI issued a guideline in June 2001 which followed the recommendations of the committee on technology up gradation in the banking sector, under M.R Srinivasan chairmanship which focused on three major area of Internet banking i.e.

- 1) Technology and security issues
- 2) Legal issues
- 3) Regulatory, Supervisory issues.

The group recommended certain guidelines for the smooth & proper working of internet banking.

According to this guideline virtual banks, which have no offices and functions only online are not permitted to offer E-banking services in India. Banks are required to report to the RBI about problems in security systems and procedures in Internet banking, while the RBI may decide special audit/inspection of such banks [7].

Telephone banking

Telephone banking is specific provision of banking services over the banking use an interactive voice response (IVR). Most of banks are providing SMS alert facility to their customers in India. The RBI issued the guidelines for Mobile banking Transactions in October 2008.

The guidelines permit banks to provide mobile banking transactions & mandates that all transactions have to originate from one bank account and terminate in another bank account. The guidelines permit banks to extend this facility through their business correspondents [8].The mobile banking guidelines were relaxed in December 2009.

RBI has permitted 40 banks to do mobile banking and customer base availing of mobile banking facilities as on September 30, 2010.

Electronic Money

Implementation of electronic money requires a certifying authority and trust among customers. In Jan, 2002 the RBI constituted a working group on Electronic money.

The group identified certain areas of concern from the point of view of the central banks in the context of more widespread use of E-money.

ATM (Automated Teller Machine)

ATM is the most popular device in India, which enables the customers to withdraw their money 24 hours a day.

The first bank to introduce ATM concept in India was the Hong Kong and Shanghai banking Corporation (HSBC) in the year 1987. Now, almost every commercial bank gives ATM facilities to its customers. Since April 2009 access in any ATM machine is free of charge in India [9].

The RBI promoted Institute for Development & Research in Banking Technology (IDRBT) at Hyderabad in 1996, has set up a national switch for ATMs to hook-up ATM networks of all banks across the country. The switch is part of Indian Financial Network (INFINET), a close user group (CUG) communication backbone for the banking & financial sector.

Plastic cards

Credit and debit cards have gained greater acceptance as a medium of financial transactions. Use of plastic money/cards started in India in the form of credit card in the year 1981. Credit cards became very popular with the introduction of foreign banks in India. Credit card enables the card holder to enjoy credit from the issuing bank for a specific period after payment. During this intervening period, the card holder is allowed to use card for incurring further expenses. Some credit cards are called charge cards where the card holders enjoy credit only up to the

next billing cycle. In India most of the credit cards issued by banks are of type charge cards.

Debit card is a plastic card which provides an alternative payment method to cash when making purchase in two ways-Online or Offline. Almost all banks in India issuing debit cards. The largest shares being accounted for ICICI bank, Citibank and State Bank of India.

Electronic Payment systems in India

Payment and settlement systems constitute the backbone of any economy. Use of large number of paper based transactions in payment systems is popular in India. It has a chequered history with the earliest system being coin based which dates back to many centuries. As banking becoming a dominant economic facilitator in the mid nineteenth century, cheques also came into the scene.

Since the late eighties, The RBI has been heading reforms in the payment and settlement systems of the country using the benefits derived from ICT developments. The initiate taken by the RBI from the nineties of twentieth century was the introduction of electronic funds transfer systems. While the initial set of systems provided facilities for small value and repetitive transactions. The introduction of the Real Time Gross Settlement (RTGS) System in 2004 witnessed the infrastructure for Systemically Important Payment Systems (SIPS), which also ensured that the risks in Deferred Net Settlement (DNS) systems are taken care of (RBI, 2007). In order to strengthen the Institutional framework for the payment and settlement systems in the country, the RBI constituted in 2005, a board for Regulation and Supervision of Payment and settlement Systems(BPSS) as a committee of its central Board. A number of innovative payment instruments/Systems have been introduced by unregulated entities. The RBI and Government of India felt that there should be an explicit law to regulate the payment and settlement systems. The parliament has enacted the payment and settlement systems Act in December 2007 [10].

As part of its public policy objective of promoting a safe, secure and efficient payment system, the Reserve bank has taken many initiatives to develop and promote electronic payments infrastructure. As a result, the RBI introduced the Electronic clearing service (ECS) and the Electronic Funds Transfer (EFT) system in 1995, the Real Time Gross settlement (RTGS) system in March 2004, the National Electronic Funds Transfer system in November 2005 and Cheque Transaction System (CTS) in February 2008.

Conclusion

This study explores progress of ICT and electronic banking in India and to highlight its features, services and structure. The study also explains How Indian banking adopted new technologies for better implementation of ICT with the guidance of RBI.

This study also highlights history of computerization in Indian banking Industry and several developments have taken place in ICT. These developments helped to improve Management Information System (MIS), communication networks of banks and centralized processing.

Further, Indian banking focused more on front office automation and Customer Relationship Management (CRM) to attract and retain customers.

But, various economical and social factors are the main hurdles that prevent development of electronic banking to its advantages.

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