Research Paper

Volume : 3 | Issue : 4 | April 2014 • ISSN No 2277 - 8179

# Recent Technological Development in Indian Banking Sectors

Management

**KEYWORDS :** Indian Economy, Technology, Effective channels, Customers.

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## ABSTRACT

*Banking sector plays a significant role in development of Indian economy. So banks need to optionally leverage technology to increase penetration, improve their productivity and efficiency, deliver cost-effective products and services, provide faster, efficient customer service and thereby, contribute to the overall growth and development of the country.Effective use of technology has a multiplier effect on growth and development.Banking technology as a several disparate disciplines such as finance, information technology, computer science, communication technology, and marketing science.The present evolution of banking, the tremendous influence of information and communication technologies on banking and its products. It also highlights the use of advanced statistics and computer science tomeasure, mitigate, and manage various risks associated with bank business with its customers and other banks. The chapter concludes by saying that the recent banking technology discipline is all set for rapid growth in future.*

**INTRODUCTION:-**

Banking in India in the modern sense originated in the last decades of the 18th century. The first banks were Bank of Hindustan (1770-1829) and The General Bank of India, established 1786 and since defunct. The largest bank, and the oldest still in existence, is the State Bank of India, which originated in the Bank of Calcutta in June 1806, which almost immediately became the Bank of Bengal. This was one of the three presidency banks, the other two being the Bank of Bombay and the Bank of Madras, all three of which were established under charters from the British East India Company. The three banks merged in 1921 to form the Imperial Bank of India, which, upon India's independence, became the State Bank of India in 1955. For many years the presidency banks acted as quasi-central banks, as did their successors, until the Reserve Bank of India was established in 1935. In 1969 the Indian government nationalized all the major banks that it did not already own and these have remained under government ownership. They are run under a structure know as 'profit-making public sector undertaking' (PSU) and are allowed to compete and operate as commercial banks. The Indian banking sector is made up of four types of banks, as well as the PSUs and the state banks, they have been joined since the 1990s by new private commercial banks and a number of foreign banks.

Banking in India was generally fairly mature in terms of supply, product range and reach-even though reach in rural India and to the poor still remains a challenge. The government has developed initiatives to address this through the State bank of India expanding its branch network and through the National Bank for Agriculture and Rural Development with things like microfinance. Developments in the field of information technology (IT) strongly supports the growth and inclusiveness of the banking sector by facilitating inclusive economic growth .ITimproves the front end operations with back end and helps in bringing down the transaction costs for the customers.

**RECENT TECHNOLOGICAL DEVELOPMENT IN BANKING SECTOR**

1. Arrival of card-based payments- Debit, Credit card late 1980s and 1990s
2. Introduction of Electronic Clearing Services (ECS) in late 1990s
3. Introduction of Electronic Fund Transfer (EFT) in early 2000s
4. Introduction of RTGS in March 2004
5. Introduction of National Electronic Fund Transfer(NEFT) as a replacement to Electronic Fund Transfer/Special Electronic Fund Transfer in 2005/2006
6. CTS in 2007.

❖ **Computerization in Banks:**

Technology has charged the face of the Indian banking sector through computation while new private sector banks and foreign banks have an edge in this regard. Among the total number of public sector bank branches, 98.8 percent are fully computerized at end – March 2012 whereas all branches of SBI are fully computerized.

❖ **Automated clearing House (ACH):**

In clearing house, computers are employed tohandle cheques. The nature of work involved in clearingoperations in voluminous, repetitive, routine in nature. It iscomplex to clear, exchange and settle the transactions amongseveral banks. Computers are deployed in clearing house tospeed up the process and clearing the operations quickly andefficiently which is voluminous work. Automated clearinghouse (ACH) is an electronic network for financialtransaction. ACH processes large number of debit and credittransaction in batches.

❖ **National Automated clearing house Association(NACHA):**

It helps to debit transfers for point-of-purchase(POP) check conversion. Both government and thecommercial sectors use ACH payment. Business are alsoincreasing using ACH to collect payment online fromcustomers, rather than accepting credit or debit cards. Rulesand regulations governing the ACH network are establishedby NACHA and Federal Reserve. The Federal Reserve banksare collectively the nation's largest automated clearing houseoperator. FEDACH is the Federal Reserve's centralizedapplication software used to process ACH transactions.

❖ **Electronic Clearing Services (ECS):**

ECS is a mode of electronic funds transfer from one bankaccount to another bank account using the services of aclearing house. This is used for bulk transfers from oneaccount to many accounts or vice-versa.

**Types of ECS:-**

There are two types of ECS called ECS (credit) and ECS(debit).

1. **ECS (credit)-** is used for affording credit to a largenumber of beneficiaries by raising a single debit to anaccount, such as dividend, interest, salary payment pensionetc.

2. **ECS (Debit)**- is used for raising debits to a numberof account of consumers/account holders for crediting aparticular institution e.g. payment to utility companies liketelephone, electricity or charges such as house tax, water tax etc.

❖ **National Electronic fund Transfer (NEFT):**

National Electronic Fund Transfer (NEFT) is an onlinesystem for transferring funds of Indian Financial Institution(especially loans). This facility is used mainly to transferfunds below Rs.

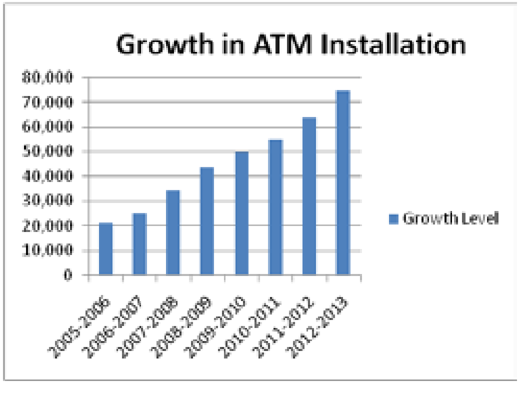
2,00,000/- The NEFT system in India liveswith effect from 21 November 2005. NEFT was sent to coverall banks which were participating in the special electronicfunds transfer (NEFT) clearing. NEFT was made on thestructured financial messaging solution (SFMS) platform.Public key infrastructure (PKI) technique used in NEFT formaintaining security.

❖ **Electronic Funds Transfer (EFT):**
Electronic Funds Transfer (EFT) is the electronic exchangeor transfer of money from one account to another. RBIintroduced EFT system presentlycovers all the branches of the 27 public sector banks and 55scheduled commercial banks at the 15 centers.

❖ **Cards Transaction:**
Debit card is a plastic card which provides an alternativepayment method for cash when making transaction. Usingdebit card cardholder can see balance available on account.Bank provides debit card freeof cost at the time of opening account.From 1st Jan 2011, RBI declared that for every transactionwith debit card on ATM user has to enter password for everytransaction.

❖ **Automated Teller Machine (ATM):**
Even through ATM originally developed for cash dispenses,now it includes many other bank related functions such as-Cash withdraw, Paying routing bills fees and taxes., Printingbank statement., Funds transfer., Purchasing online products,Train tickets reservations, Products from shopping mall,Donating to charities, Claque processing module, Addingpre-paid cell phone/mobile phone credit, Advertisingchannels for own or third party products and services, Paypremium.ATMs installed In the country at end-March 2009, newprivate sector banks had the largest share in off-site ATMs,while nationalized banks has the largest share in on-siteATMs.The use of electronic payment has witnessed manifoldincrease, partly reflecting increased adoption of technology.The growth of volume of ATMs indicates that customer mostprefer ATMs for transactions. ATMs provide different kindsof services per customer.

| Year | Growth Level |
|---|---|
| 2005-2006 | 21,110 |
| 2006-2007 | 25,247 |
| 2007-2008 | 34,547 |
| 2008-2009 | 43,651 |
| 2009-2010 | 49,857 |
| 2010-2011 | 54,693 |
| 2011-2012 | 63,721 |
| 2012-2013 | 74,391 |




❖ **Real time gross settlement (RTGS):**
Real time means payment transaction is not subjected to any-waiting period. In RTGS the transaction are settled as theyare processed. Gross settlement means the transaction issettled on one to one basis without bunching or netting withany other transaction."RTGS is funds transfer system where transfer of money orsecurities takes place from one bank to another on a "realtime" and on "gross basis". Once processed, payment arefinal and irrevocable.

❖ **Banknet:**
BANKNET is a internet based communication network. Itprovides speed of financial transaction. BANKNET is set upin 1991 by the RBI, this backbone is meant to facilitatetransfer of inter-bank (and inter-branch) messages withinIndia by Public Sector banks who are members of thisnetwork.

❖ **Society for Worldwide Inter-bank FinancialTelecommunication (S.W.I.F.T):**
The S.W.I.F.T provides reliable and expeditioustelecommunication facilities for exchange of financialmessage all over the world. The gateway is in Mumbai andefforts are on to other cities through leased lines/public datanetwork. The majority of international interbank messagesuse the SWIFT network. As of SeptemberInstitute for Development and Research in BankingTechnology (IDRBT):The main purpose of IDRBT is to adopt research anddevelopment as well as consultancy in the application oftechnology to the banking and financial sector in the country.Reserve Bank of India (RBI) established IDRBT in 1996. Structured Financial Messaging Solution (SFMS):Structured Financial Messaging Solution (SFMS) is helpfulfor inter-bank and intra-bank messaging. This messaging isuseful for applications like Electronic Funds Transfer (EFT),Real Time Gross Settlement (RTGS), Delivery versesPayment (DVP), Centralized Funds Management System(CFMS). The SFMS was launched in India on December 14,2001 by RBI.

❖ **Mobile Banking:**
Mobile banking (also known as M-Banking, mbanking,SMS Banking etc.) is a term used for performing balancechecks, account transactions, payments, credit applicationsetc. via a mobile device such as a or PersonalDigital Assistant (PDA).

❖ **Demat Card:**
The demat account has to be treated virtually like a accountwith the difference being that instead of actual cash there areshares in the account. A beneficiary account is an accountopened by the investors or broker with a DepositoryParticipants (DP) of his choice, to hold shares indematerialized (demat) form and undertake scrip lesstrading. The investors must open a demat account with a DP.Opening a demat account.

**CONCLUSION:**
Use of technology in expanding banking is one of the keyfocus areas of banks. The banks in India are usingInformation Technology (IT) not only to improve their owninternal processes but also to increase facilities and servicesto their customers. Efficient use of technology has facilitatedaccurate and timely management of the increased transactionvolume of banks of that comes with larger customer base. Bydesigning and offering simple, safe and secure technology, banks reach at doorstep of customer with delight customer satisfaction.

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