

Technological Innovation in Indian Banking Sector

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ABSTRACT

Transformation is taking in Indian banks from all verticals, and subtle and not so subtle makeovers in banking products are dynamically altering the face of banking. The research paper focuses on the way transformation is affecting the banking sector and the way use of IT products have changed the face of banking in India. It reveals current environment of the banking industry; the factors that have brought changes in the industry; and the way these changes have contributed to the development of banking. This paper concludes that financial market has turned into a buyer's market. Banks are have now bloomed into one-stop Supermarkets. Their focus is shifting from mass Banking to Class banking with introduction of value added and customized products. Technology now allows banks to create what looks like a branch in a business building's lobby without having to hire manpower for manual operations. These branches are working on the concept of 24 X 7 working made possible due to Tele banking, ATMs, Internet Banking, Mobile Banking and E - banking. This technology driven delivery channels are used to reach maximum customers at lower cost and in most efficient manner. The beauty of these banking innovations is that it puts both

banker and customer in a win-win situation. The need of an hour is to design a system to promote marginal efficiency of investment in technology and widen the gap between marginal benefits and marginal cost involved in Banking transformation with special reference to technological up gradation.

INTRODUCTION

The Banking sector has been immensely benefited from the implementation of superior technology during the recent past, almost in every nation in the world. Productivity enhancement, innovative products, speedy transactions seamless transfer of funds, real time information system, and efficient risk management are some of the advantage derived through the technology. Information technology has also improved the efficiency and robustness of business processes across banking sector. India's banking sector has made rapid strides in reforming itself to the new competitive business environment. Indian banking industry is the midst of an IT revolution. Technological infrastructure has become an indispensable part of the reforms process in the banking system, with the gradual development of sophisticated instruments and innovations in market practices.

BANKING INNOVATIONS

Today we have electronic payment system along with currency notes. India's financial sector is moving towards a scenario, where it can have new instruments along with liquidity and safety. Important events in the evolution of new age payment systems in India

1. Arrival of card- based payments- debit card, credit card- late 1980" s and early 1990" s.
2. Introduction of Electronic Clearing Service (ECS) in late 1990" s
3. Introduction of Electronic Funds Transfer/ Special EFT (EFT/SEFT) in the early 2000" s
4. Real Time Gross Settlement (RTGS) was introduced in March 2004
5. Introduction of NEFT (National Electronic Funds Transfer) as a replacement for EFT/SEFT in 2005/06
6. Plan for implementation of cheque truncation system as a pilot program in New Delhi in 2007.
7. Migration from cash and cheque based payment system; it has become a necessity to electronic fund transfer system on account of the following reasons:
 1. Large volumes of transaction,
 2. High cost of physical handling and storage of paper instruments.
 3. Delay in realization is a common feature.

4. Finality of payment takes time because the physical movement of instruments in large volumes from branches to and from clearing house, and sorting them according to each bank branch at the centre creates problems.

RBI has taken two major steps to tackle this problem:

Use of Magnetic Ink Character Recognition

(MICR) technology was resorted to facilitate and expedite physical sorting of instruments using high-speed MICR sorters. There are about 40 MICR centres in India today.

Introduction of Electronic Clearing Service.

The ECS was the first version of „Electronic Payments“ in India. It is a mode of electronic funds transfer from one bank account to another bank account using the mechanism of clearing house. It is very useful in case of bulk transfers from one account to many accounts or vice- versa. There are two types of ECS (Electronic Clearing Service)

1. ECS – credit
2. ECS- debit

ECS facility is available at more than 60 centers in India. The beneficiary has to maintain an account with one of the banks at ECS center in order to avail benefits of ECS.

EFT Electronic Fund transfer

EFT scheme targeted one to one payments as an alternative to the use of cheques and drafts for remitting funds between bank accounts located at different centers. EFT

encountered the problem of low level of computerization and connectivity in the Indian banking industry. **Core Banking Solution** CBS is a centralized platform, which creates environment where the entire bank's operations can be controlled, and run from a centralized hub. This creates a centralized customer database, which makes anytime, anywhere, anyway banking possible. Immediate advantages of CBS are:

1. Faster and efficient customer service.
2. Offering multiple delivery channels, like ATMs, Cards, mobile/Telephone Banking, internet Banking, Call centres, etc.

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3. Reducing the operational costs, through manpower saving and space saving.
4. Centralizing the back end processes and reporting.

ATMs

ATMs are an issue of survival for the banks and are becoming just another part of everyday life. Falling costs of machines and connectivity is a key factor contributing to the growth of ATM

network. Banks have also been cutting costs and gaining synergies through ATM sharing agreements amongst themselves, for example:

Cash Tree (Bank of India, Union Bank of India, Indian Bank, Dena Bank and Syndicate Bank)

1. SBI, HDFC Bank, UTI Bank, Indian Bank and Andhra Bank
2. ICICI Bank, Andhra Bank and Federal Bank

Banks are now using ATMs for product promotion as banks market broader financial services to their captive audience of ATM users. But these facilities come with added problems when huge amount of money is withdrawn by large number of consumers in a market period (very short period of time).

CRM

Customer Relationship Management Solution is the set of methodologies and tools that help an enterprise manage customer relationships in an organized way - finding, getting, and retaining customers. It helps to provide better customer service, increase customer revenues, discover new customers and sell products more effectively.

CORPORATE INTERNET BANKING

The Internet has initiated an electronic revolution in the global banking sector. Its dynamic and flexible nature as well as its ubiquitous reach has helped in leveraging a variety of banking activities. The Internet has emerged as one of the major distribution channels of banking products and services for banks in the U.S and in European countries.

PAYMENT SYSTEMS BY RBI:

- Inter-bank Clearing System
- High Value Clearing System
- MICR Clearing System
- Government Securities Clearing System and
- Real Time Gross Settlement System

Banks not only deal with corporate and individual but also they need to make payments to each other to settle the accounts arising of the transactions carried out for their customers, and also for borrowing or repayment, investments, sale and purchase of various assets. These payments have to be effected through their accounts maintained with the Reserve Bank of India.

Real Time Gross Settlement System

The inter Bank Payments handle large amounts of money. The RTGS system is one in which payment instructions between banks are processed and settled individually and continuously throughout the day. In India currently it covers more than 28,000 branches of banks. The attraction of RTGS is that the payee banks and their customers receive funds with certainty and finality during the same day enabling them to use the funds immediately without exposing themselves to risk. RTGS system, do not create credit risk for the receiving participant because they settle the each payment individually , as soon as it is accepted , liquidity risks

remains, as well as the possibility of the risks being shifted outside the system .The security has to ensure that hacking is not possible at the site.

RISK FACTORS

The latest fraud which is considered as the safest method of crime without making physical injury is the Computer Frauds in Banks.

Computerization of banks had started since 1994 in India. Reserve Bank of India has evolved working pattern for Local area Network and wide area Network by instituting different microwave stations so that money transactions could be carried out quickly and safely. The main banking tasks which computers perform are maintaining debit-credit records of accounts, operating automated teller machines, and carry out electronic fund transfer, print out statements of accounts create periodic balance sheets etc. Internet facilities of computer have revolutionized international banking for fund transfer and for exchanging data of interest relating to banking and to carry out other banking functions and provides certain security to the customers by assigning different pin numbers and passwords

1. Computer frauds; and
2. Computer crimes

Computer frauds are those involve embezzlement or defalcations achieved by tampering with computer data record or programme, etc. whereas computer crimes are those committed with a computer that is where a computer acts as a medium. The difference is however academic only..

The three most common are:

1. Cheque Frauds

The resolute growth of paper cheques coupled with the ready availability of latest printing technology has resulted in an alarming rise in cheque frauds in Indian banks. Cheques are widely used instruments across the globe. It is interesting to note that cheques as a payment mechanism are still having a dominant position, both in developed and developing countries.

2. ATM Frauds

- Automated teller Machines or ATMs are electronic machines linked to the accounts and records of a banking institution. It enables customers to carry out banking transactions without visiting bank premises. ATMs are virtual banks which allow the user to withdraw cash, pay bills, balance inquiries, cash deposits etc. The machine is operated with the help of an access device, which is a card, code (Personal Identification Number), or through other means of access to a customer's account, or any combination thereof. **Fraud Related to ATMs** Frauds may be committed by both outsiders and insiders. It is understandable that as the number of transactions rise, the number of fraud occurrences will rise as well. Frauds can occur due to the negligence on part of the cardholder or on the part of bank. If the

cardholder does not follow the precautionary measures, he is exposed to risk.

1. A cheat may go through discarded receipts or carbons to illegally find out the card number.
2. A dishonest clerk makes an extra imprint from credit card or charge card for his or her personal use.

A few of the methods adopted by fraudsters are:

1. PHISHING

It is in the centre stage of Internet Scams. It is the practice of sending emails at random, purporting to come from a genuine company operating on the Internet. In an attempt to trick the customers „fraudsters“ request disclosing information at a bogus website operated by them. Any information entered on the bogus website is captured by the criminals for their own fraudulent purposes.

2. SKIMMING

Fraudsters make counterfeit ATM cards using a skimmer, which is a card – swipe device that reads the information on a consumer's ATM card. Scammers insert onto an ATM, ready to swipe information from unsuspecting customers. They take a blank card and encode all the information from an ATM card when they swipe. The skimmer catches the PIN through a small camera mounted on the ATM.

3. SPOOFING

The attacker creates a misleading context to trick you into making an inappropriate

security – relevant decision. For example, bogus ATM machines have been set up. Once they have the PIN number they have enough information to steal from the account.

3. Credit Card Frauds

Credit card fraud is widespread as a means of stealing from banks, merchants and clients. A credit card is made of three plastic sheet of polyvinyl chloride. The central sheet of the card is known as the core stock. These cards are of a particular size and many data are embossed over it. But credit cards fraud manifest in a number of ways. They are:

- Genuine cards are manipulated
- Genuine cards are altered
- Counterfeit cards are created
- Fraudulent telemarketing is done with credit cards.
- Genuine cards are obtained on fraudulent applications in the names/addresses of other persons and used.
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It is feared that with the expansion of E-Commerce, M-Commerce and Internet facilities being available on massive scale the fraudulent fund freaking via credit cards will increase tremendously.

CONCLUSION

1. Keep an eye on the card when you use it.
2. Never give your credit card information when you receive a phone call.
3. Never respond to „phishing“ mails.
4. Never use a website that is not secure.

5. Sign your credit card as soon as you receive it.

In the dawn of the new technological era of the domain of specific technology in the Banks, technology is one which has undergone and is all poised to spin-off radical changes within the Banking Industry as a whole. In today“ s business the environment is characterized by the powerful forces of change – far reaching and continuing developments in technology, a flurry of new products and services in the services in Banks, the banks are facing intense competition amidst themselves.