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Technological Innovation in Indian Banking Sector-Use of it Products and Challenges

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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. The banks like other business organizations are deploying innovative sales techniques and advanced marketing tools to gain supremacy. The main driver of this change is changing customer needs and expectations. 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.*

Keywords: *CRM, ECS, Skimming, Spoofing, ATMs*

1. INTRODUCTION

The study presents a broad overview of the current state of the banking industry in India. The banks are looking for new ways not only to attract but also to retain the customers and gain competitive advantage over their competitors. It then goes on to identify some important forces for change and some important forces resisting change. Attention is paid finally to growth path of banking sector with technological advancement. It is depicted that banking is going to be intensely competitive and complex. The best idea would be for the domestic banks to enhance mutual co-operation in order to create a healthier market order and raise the overall competitiveness of the industry as a whole. Incorporation of advanced technology and utilization of modern management techniques are other crucial aspects at which domestic banks should pay keen interest.

The banks like other business organizations are deploying innovative sales techniques and advanced marketing tools to gain supremacy. The main driver of this change is changing customer needs and expectations.With the emergence of universal banking, banks aim to provide all banking product and service offering under one roof and their endeavour is to be customer centric. While banks are striving to strengthen customer relationship and move towards 'relationship banking,' customers are increasingly moving away from the confines of traditional branch banking and seeking the convenience of remote electronic banking. Information technology and the communications networking systems have revolutionaries the working of banks and financial entities all over the world.

2. OBJECTIVES

- To study on Indian banking transformation
- The main objective of this paper way transformation is affecting the banking sector and the way use of IT products

3. INDIAN BANKING TRANSFORMATION

Since independence Indian banks have undergone through four major shifts which can categorized as pre reform (before 1991) and post reform period (after 1991): Pre-Reform period:

- A period of consolidation of banks up to 1966
- A period of historic expansion in both geographical and functional terms from1966 to mid- 1980s
- These changes were policy induced but not driven by market forces.

4. POST- REFORM PERIOD

Entry of technology in the Indian banking sector can be traced back to the Rangarajan Committee report, way back in the

1980s but during nineties, the banking sector witnessed various liberalization measures. New private sector and foreign banks emerged - equipped with the latest technology. These changes were market driven, having the influence especially of globalization. The crux is Indian banks have no control over developments abroad but are subjected to their effects. Hence these changes were not the outcome of internal changes but of external changes. Deregulation has opened up new opportunities for banks to increase revenues by diversifying into investment banking, insurance, credit cards, mortgage financing, depository services, securitization, etc. Now all the banks have started with the concept of multi-channels, like ATMs, credit cards, debit cards, telephone/mobile banking, internet banking, call centres, etc. The role of banking is redefined from a mere financial intermediary to service provider of various financial services under one roof acting like a financial supermarket.

5. FORCES FOR CHANGE IN INDIAN BANKING

Underlying forces for change

Developments in communication systems, coupled with blurring of differences between banks and non - banks and globalization have aggravated the competitive environment. Technology became a key differentiator for the new private sector banks. The technological superiority helped these private sector banks to have upper edge over public sector banks. The traditional source of income (Net Interest margin = Interest Earned – Interest Expended) was compressed due to the pressure of competition. As a result commercial banks had to face the challenge of finding out new sources of income and curtailing overhead expenses. To meet customer expectations, banks will have to offer a broad range of deposit, investment and credit products through diverse distribution channels including upgraded branches, ATMs.

6. 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 Arrival of card- based payments- debit card, credit card- late 1980"s and early 1990"s. Introduction of Electronic Clearing Service (ECS) in late 1990"s Introduction of Electronic Funds Transfer/ Special EFT (EFT/SEFT) in the early 2000"s Real Time Gross Settlement (RTGS) was introduced in March 2004 Introduction of NEFT (National Electronic Funds Transfer)as a replacement for EFT/SEFT in 2005/06 Plan for implementation of cheque truncation system as a pilot program in New Delhi in 2007. The Indian banking sector is faced with multiple and concurrent challenges such as increased competition, rising customer expectations, and diminishing customer loyalty. The banking industry is also changing at a phenomenal speed. Maintaining transparency and market disclosure of critical information such as risk profile, capital adequacy, and liquidity management have made banking institutions more accountable and responsive to the well-informed customers, investors, and public at large. 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.

7. 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.

<u>ECS- CREDIT</u>

- Advantages of ECS to ultimate beneficiary are:

No need to make frequent visits to bank for depositing physical paper instruments.

- No possibility of loss of instrument and fraudulent encashment
- No chance of delay or return in realization of proceeds as in the case of paper instruments.
- Benefits to Corporate bodies of ECS
- Save on administrative machinery for printing, dispatch and reconciliation.

8. ECS DEBIT

It is a scheme under which an account holder with a bank can authorize an ECS user to recover an amount at a prescribed frequency by raising a debit in his account. Utility service providers such as telephone companies, electricity boards, credit card collections, collection of loan instalments by bank and financial institutions, and investment schemes such as mutual funds are eligible to participate in the ECS debit scheme.

Advantages of ECS debit scheme A. To the ultimate beneficiary is:

- Eliminates the need of physical visit and the trouble of standing in long queues for making payment
- There is no need to track down payments by last dates.

Debit Card and Credit Card: A debit card is an electronic card issued by a bank which allows bank clients access to their account to withdraw cash or pay for goods and services.

9. 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

Immediate advantages of CBS are:

- Faster and efficient customer service.
- Reducing the operational costs, through manpower saving and space saving.
- Centralizing the back end processes and reporting.

10. 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. ATM can be interior (i. e., located in the branch premises) or exterior (located anywhere outside the branch premises). Banks need not obtain permission of the RBI for installation of ATMs at branches and extension counters for which they hold licences issued by the Reserve Bank. They can also install offsite ATMs without RBI approval. 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)
- SBI, HDFC Bank, UTI Bank, Indian Bank and Andhra Bank
- 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).

11. 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.

12. 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. Consumers are embracing the many benefits of Internet banking like improved customer access which facilitates the offering of more services, attract new customers and reduce customer attrition.

Advantages of Internet Banking

A) Advantages to customers

- Banking from your desk: - with e-banking services, one can actually carry out a number of transactions sitting on one's seat with just a few click. Net banking customers view their account balance and also open fixed deposits, transfer funds, pay electricity, telephone or mobile phones bills and much more.
- Instant information: The accounts of the customers are updated as soon as the transaction takes place i.e., the accounts show the information updated to the last second.

B) Advantages to the banks

- Lesser personnel required: online banking has encouraged a chunk of people, though a smaller one to carry out most of their transactions from a distance. This has resulted in lesser pressure on the employees in terms of entertaining customers. Easy publicity: banks can easily pass on the information about their new avenues/schemes without any wastage of time. Customers interested in the schemes would revert back and can be attended to later.

13. 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. Computer depredations have by some been classified as:

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. Banks have been working very hard to wean customers from paper cheques. Cheques are expensive to print, mail and process. Other problems associated with cheques are inherent manual – handling process, high costs for banks, and high transportation costs between parties.

Concept and Magnitude of Cheque Frauds

There are a variety of ways to categorize cheque frauds. One broad distinction is "internal" and "external". *Internal cheque* fraud refers to schemes devised by insiders – employees responsible for creating, authorizing, or processing cheques. *External cheque* fraud refers to schemes created by independent operators or by organized gangs. The most common forms of external fraud involve:

a. Alteration of cheque details
b. Creation of counterfeit cheques
C. Forgery of cheques
Physical Security Controls used are watermarks, high resolution micro printing, reflective holograms, and security inks.

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. A dishonest clerk makes an extra imprint from credit card or charge card for his or her personal use. In addition, E – mail and Internet – related fraud schemes are being perpetrated with increasing frequency, creativity, and intensity. With the help of latest technology, fraudsters dupe innocent customers through ATM and Internet.

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.

Challenges Ahead

Developing or acquiring the right technology, deploying it optimally and then leveraging it to the maximum extent is essential to achieve and maintain high service and efficiency standards while remaining cost effective and delivering sustainable return to shareholders. Early adopters of technology acquire significant competitive advances. Managing technology is therefore, a key challenge for the Indian banking sector. The nationalize banks and commercial banks have the competition from foreign and new private sector banks. Competition in banking sector brings various challenges before the banks such as product positioning, innovative ideas and channels, new market trends, cross selling at managerial and organizational part. Banks are restricting their administrative folio by converting manpower into machine power i.e. banks are decreasing manual powers and getting maximum work done through machine power. Skilled and specialized man power is to be utilized and result oriented targeted staff will be appointed. Retention of customers is going to be a major challenge. Banks need to emphasis on retaining customers and increasing market share. Information technology poses both opportunities and challenges. Besides, there are network management challenges, whereby keeping these complex, distributed networks and applications operating properly in support of business objectives becomes essential. Specific challenges include ensuring that account transaction applications run efficiently between the branch offices and data centers. Banks in India will now have to work towards a vision to have an enhanced retail delivery system. Such a system would include transformed branches, enhanced telephone services, and leading-edge internet banking functions that provide a consistently positive multi-channel experience for the customer. Some of the challenges that the banks are facing today are:

- Changing needs of customers.
- Coping with regulatory reforms.

14. CONCLUSIONS, RECOMMENDATIONS AND IMPLICATIONS

India is one of the top 10 economies in the world, where the banking sector has tremendous potential to grow. The number of ATMs has doubled over the past few years, with more than 100,000 in the country at present (70 per cent in urban areas). They are estimated to further double by 2016, with over 50 per cent expected to be set up in small towns.

The banking sector in India has undergone significant transformation in the past few years. A conducive macro-economic environment, the landmark foreclosure law, falling interest rates, ample liquidity in the system, the fast spreading technological revolution, and huge potential in the retail segment augur well for Indian banks. However, the numerous challenges faced by banks such as increasing competition, pressure on spreads, and systemic changes to align with international standards have necessitated a re-evaluation of strategies and processes in order to remain competitive in this dynamic environment.

15. SUGGESTIONS REGARDING ATM FRAUDS

1. Remember not to leave your card at the ATM.
2. Protect the secrecy of the PIN number as you protect hard cash.
3. Neither lend your ATM card to anyone nor reveal PIN to another person.
4. Do memorize the PIN.

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