



## Technological advancement in banking Sector of India

Dr. Pankaj Vaya<sup>1</sup>, Preeti Kanwar Rajput<sup>2</sup>

<sup>1,2</sup> Assistant Professor, Department of Business Administration, MVSC (Udaipur), JRNRV (Deemed to-be-University), Udaipur, Rajasthan, India

### Abstract

Indian banking system is growing with a very fast speed and witnessing various challenges like innovations in technologies, new banking regulatory reforms, changing needs of customers, increased competition from other banks etc. All these challenges have enforced the banks to adopt newer ways of conducting business operations. Therefore, the banking sector in India is heading towards the modern banking system with numerous technological advancements. As conventional banking, system depends more upon human resources but modern banking system involves machine and technology-based banking practices. All these advancements are enhancing customers ease and increasing the operational efficiency of banks while decreasing the operational expenses of business practices. This research paper highlights that how this technological advancement has transformed the face of Indian Banking Practices.

**Keywords:** Indian banking system, technological advancement, financial innovations, e-banking

### Introduction

Indian banking industry has been through a long voyage starting from the traditional banking services to the period of banking sector reforms, then nationalization, then privatization and now increasing number of foreign banks in Indian economy. In this journey, the banking sector has faced many challenges and undergone a big transformation since Independence particularly in the 1990s and 2000s where there was much focus on technological innovation and modernization. The Technological advancement helped banks in giving better quality of services to geographically diverse regions with higher pace.

### Innovations in Banking Sector

Revolution in Information Technology in our economy has brought many changes in the way banking practices takes place with computerization of banking transactions, new banking services with new interactive communication channels like Mobile Banking, Internet Banking, Electronic Fund Transfer, ATMs, EDI, MICR clearing etc. The whole banking system has become more convenient by such technological innovations. Financial innovations in the banking services have changed the banking philosophy completely and have become an empirical key to survival in such a competitive banking environment. Financial innovation is a kind of process by which Finance Managers, Financial Intermediaries, Financial Institutions add value to the existing financial instruments in the financial market to satisfy the need of customers.

### Mobile Banking and SMS Banking

People do not have to visit any bank for any banking transaction as they can now avail mobile banking facilities without any charges. The services provide opportunities to receive money, send money, Bill payment, check account balance etc. These services are available in different ways like Mobile Banking over Wireless Application Protocol (WAP),

Mobile Banking over SMS (SMS Banking), and Mobile Banking over Unstructured Supplementary Service Data (USSD).

### Telephone Banking

It is a kind of banking service, which allows customers to carry out variety of financial transactions over the telephone, which does not involve any financial instrument or cash, and there is no need to visit ATMs or bank branch. Here the customer register with the bank, it assigns a customer number and set up its own password for further customer verification. Now customer can make a call on that special phone number and will authenticate his/her identity via customer number and a password or by answering security questions asked by a live representative. An automated system provides these services through voice recognition capability or live customer service representatives attend their calls. In India, telephone-banking using missed call numbers, assigned to specified task is offered by many banks.

### Internet Banking

Nowadays, the trend of internet banking is on peak, almost each bank active in the country have their personal online banking portals to serve the customers. Internet banking allows the customers to access various banking services through online medium, they can open account, track account, transfer money online, pay bills online, request for new cheque book, receive account statement, fill loan application, update contact details etc.

### BANK-NET

RBI had established this payment network during 1991 that functions within India and facilitates transfer of inter-bank and inter-branch messages of Public Sector Banks that are members of this network. It involves internet-based communication and provides speed in financial transactions.

### **Credit Card and Debit Card**

A credit card is a card issued by a financial institution that allows the cardholder to borrow funds from that institution. Here the cardholder agrees to pay back the borrowed fund with certain interest on specified terms and conditions of institutions. The cardholder can get cash, discounts, travel points and many other benefits of the reward cards. A debit card is a payment card, which makes payment by deducting money directly from the customer's account. This card enables bank customers to use money by drawing on funds they have deposited at the bank.

### **EFT**

An EFT is a transfer that occurs over a computerized network among accounts in the same bank or to different accounts in separate financial institution; hosted and operated by the RBI. Transactions under this process are processed by Automated Clearing House (ACH) Network i.e. a Federal Reserve's secure transfer system. It is a fast and secured transaction guaranteeing an integrated transfer of funds within financial institution or across banking networks.

### **RTGS**

RTGS as a system of continuous and real-time settlement of fund-transfer, on transaction by transaction basis; operated and maintained by RBI. Real time means the processing of instructions at the time they are received and Gross Settlement means settlement of funds transfer instructions takes place individually. RTGS is safe and secure system having no amount cap.

### **ECS**

It is an electronic mode of funds transfer from one bank account to another. This scheme involves bulk payment transactions for example periodic payments of dividend or interest or commission or salary or refund by Banks or Govt. Departments or companies or corporations where transactions takes place from a single user source to a huge number of destination account holders i.e. customers or investors. This scheme can be used for both credit and debit purposes and can be used for payment of bills of electricity, telephone, water or making EMI payments on loan.

### **ATM**

ATMs are very convenient form of electronic banking, allow customers to carry out fast and self-serve banking transactions like withdrawals and deposits and many complex transactions like bill payments and fund transfers etc. All public sector banks are giving much stress over installing ATMs to cover more and more geographical areas by either setting up their own new ATM centers or by getting merge with other banks.

### **MICR Clearing**

MICR is an encoding at the bottom of the cheques or vouchers used by banking industry to carry out the processing and clearance of cheques and other documents. MICR characters are printed through a magnetic ink and are easily readable by computers and individuals. At present, there are total 66 MICR centers across India that manages clearing and settlement in their respective local geographical region.

### **Automated Clearing House**

It is an electronic fund transfer system which is operated by National Clearing House Association. This network acts like a financial hub and aids public and all organizations in moving funds from one bank account to another and serve financial institutions to ease financial transactions in U.S. The transactions under this involve direct deposits, direct payments of B2B transactions, consumer transactions and govt. transactions. This system batches both debit and credit transactions and processes at specific time intervals throughout the day, therefore making online transactions very quick and easy.

### **EDI**

Electronic Data Interchange is a computer-to-computer exchange of details of administrative or commercial transactions through a standard protocol and standard data structure. The common documents exchanged between businesses are commercial invoices, purchase orders, inventory documents, advance ship notices, shipping status documents and payment documents, transport bookings etc.

### **Electronic Authentication and E-sign**

Electronic Authentication is a process to establish confidence in identities of user which is electronically appears on an information system. In this time of technological innovations, banking industry is also making use of latest technology in the identification process of customers' identity. As the conventional paper-based and in-person identity authentication process was hindering the pace and efficiency of e-transactions, the banking sector has adopted newer authentication techniques. The e-banking platform is using electronic signatures for proper identification of users' signature.

### **Indian Banks and SWIFT**

All the public sector banks in India are member of SWIFT. It is a huge messaging network used by financial institutions and banks for accurate, secure and quick exchange or transmission of instructions and information about financial transactions all over the world by a standardized system of codes.

### **INFINET- Indian Financial Network**

It was established by the RBI through the institute for Development and Research in Banking and technology (IDRBI) Hyderabad in 1999. It is a Closed User Group Network for the member banks and financial institutions for their exclusive use. This service enables many applications like simple messaging, EFT, ECS, online transactions and trading in government securities, Anywhere or Anytime banking, Inter-branch Reconciliation, transmission of Inter-city cheque realization advices, Currency Chest Accounting etc.

### **Core Banking**

Core Banking System is a software application-based platform which is very user-friendly and efficient that processes banking transactions across various bank branches including processing deposits and withdrawals loan and credit processing, opening new accounts, calculating interests, CRM activities. Core banking system is simplifying banking processes, making it easier for customers, keeping pace with evolving market and

enhancing the coverage of the banks to remote areas.

### **Electronic Bill Payment**

It is one of the features of mobile, telephone and online banking enabling a customer of financial institution to transfer fund from his/her credit card account to a creditor which may be any individual, a public utility, a developmental store. This payment system attracts its users because of more efficient and faster bill payment mechanism of the banks. Through this mechanism users can easily access their financial information and a bank can promote and deliver its online products and services to customers and can make and maintain close relationship with them for longer period of time. Various banks are strategically planning to employ Internet services for utility bill payment and are giving concern on entering into tie-ups with big utilities for example Airtel, Idea, Vodafone, Reliance etc.

### **Conclusion**

With all new technological advancements, the Indian Banking System is heading towards modern banking services and indulging new IT inventions into banking business practices to provide innovative banking products and services with faster speed and better efficiency. Although banks in India are trying to globalize their services but facing competition from private sector banks and foreign banks situated in India; having more modern services to offer their customers.

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