



## A STUDY ON BANKING AFTER INTRODUCTION OF NEW TECHNOLOGIES

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### **Abstract**

*Banking is one of the most important pillars of an economy. Introduction of technology in banking industry made a lot of changes in Indian banking scenario. In traditional banking system customer had to visit the banks for making transactions. Development and application of technology in Banking industry caused for various innovations such as Automated Teller Machine, Cash Deposit Machine, Internet Banking, Mobile Banking, Point of Sales, Debit Cards, Credit Cards, Electronic Funds Transfers Electronic Clearing Service, etc. With the help of these facilities a customer can enjoy most of the banking services without visiting the branch physically. This paper is mainly focused on impact of application of technology in banking.*

**Key Words:** *Automated Teller Machine, Cash Deposit Machine, Internet Banking, Mobile Banking, Point of Sales, Debit Cards, Credit Cards, Electronic Funds Transfers Electronic Clearing Service.*

### **Introduction**

Banking Regulation Act of India, 1949 defines banking as “accepting for the purpose of lending or of investment of deposits of money from public, repayable on demand or otherwise or withdrawable by cheque, draft, order or otherwise”. In India Banking operations are based on The Reserve Bank of India Act, 1934 and the Banking Regulation Act, 1949.

Development of economy of any country depends upon the existence of a well organized financial system. An economy can not function without banks. The performance of the banking industry is one of the strongest drivers for the Indian economy and vice versa. The Indian banking sector has seen unprecedented changes and growth in its quality of assets and efficiency since economic liberalization started in the early 1990s.

The developments in information technology and communication technology have helped banks to provide better quality services more efficiently. As a result of innovations in information and communication technology the banks could introduce different facilities which provide wide range of options to the customer for accessing financial services without visiting a branch. It is also known as E-Banking, High-Tech Banking and Virtual Banking.

E-Banking helps the banks for reducing cost, improving competitiveness, improving quality of services, retaining existing customers, attracting new customers, increase reach of services, etc. E-Banking makes the banking services more convenient to the customers. They are getting banking services at their door steps. In addition to these e-banking helps for time saving, cost reduction, instant transmission of financial and non financial information between the customers and banks, improvement in efficiency, etc.

Main challenges faced in e-banking are various risks such as financial risk, operational risks, legal risks, etc. in banking industry., lacking of face to face contact with customers, Computer and IT literacy of customers, updating staff knowledge and skill, etc.

### **Objective of this paper**

This paper is mainly focused on the study about the facilities introduced in banking industry as a result of application of information and communication technology. The main technology based facilities which elevated the practice of banking from the traditional banking are detailed below.

#### **1. Core Banking Solution (CBS)**

Core Banking Solution is a network of branches which facilitates central shared database support located at the data centre. The data of all branches of the bank is getting updated in a central server located at data centre, which gives consolidated information of the bank's operation. It enables customers to operate their accounts and avail banking services from any branch of the bank on CBS network regardless of where they maintain their account. The customer is treated as the customer of the bank and not a customer of any particular branch where he maintains his account.

#### **2. Automated Teller Machine (ATM)**

Automated Teller Machines are data terminals for convenient money transactions. ATMs are actually kiosk computers with a keypad and screen. The user is prompted with instructions and given a choice of transactions. An optional receipt can be printed after the transaction completed. Using an ATM Card, a debit card a customer can electronically access their accounts and withdraw funds, make payments or check the account balance.



ATMs have eliminated the need to visit a bank for basic transactions and allow access to accounts at machine. The customers need not wait in long queues for withdrawal funds and it helps them to save time and increases the convenience of the customers. They can withdraw cash at any time, day or night.

ATMs offer convenience of multiple locations. Customers can withdraw cash at any bank ATM that is part of the system to which the ATM card is linked. For withdrawal of the cash no need to fill up any withdrawal form as is required at the branch of the bank. By using international cards the customers can withdraw money even in foreign countries.

Definitely ATMs have benefits as mentioned above, but it has some challenges also. Sometimes ATM may be off-line (system down) and the customers may not be able to withdraw money in case of need. Customers may forget the PIN of ATM card. There is a chance for frauds and robbery at ATMs. In recent survey of 4000 ATMs done by RBI, it is revealed that in India about a third of the ATMs are non-functional.

### **3.Cash Deposit Machine (CDM)**

Cash Deposit Machine (CDM) is a self service terminal that lets the customers make deposits and payment transactions by cash. All successful transactions are immediately credited and customers will be issued an advice slip confirming the transaction.

Traditionally, depositing cash into the bank account was a tedious affair as it had to be done within the banking hours and the depositor had to fill up a deposit slip and stand in a queue. To make the cash deposit process more flexible and convenient , banks have introduced cash deposit machines and are expanding their availability across different locations to encourage electronic cash deposit without the assistance of banking personnel. A cash deposit machine is capable of accepting more cash deposit transactions in comparison to an over-the –counter cash depository service.

As far as CDM is concerned there is no any time limit for transaction. Usually banks stop their business transactions by 4.00 pm. Using CDM, customers can deposit cash during different times of the day and anywhere. Facilities like balance enquiry and mini statements are also available on a cash deposit machine.

Even if CDM is very convenient it has some limitations also. Just like ATMs CDM also may be off-line (system down) and the customers may not be able to deposit money in case of need. In India CDM is not popular like ATM. The availability of CDM is very less in comparison to ATM.

### **4.Internet Banking**

In simple words Internet banking can be defined as the use of internet facility for making banking transactions or for availing banking facilities. Most of the banking services can be availed through internet banking.

#### **Services available on Internet Banking**

Banks designed their internet banking portal by integrating a number of services that a customer can access ‘anytime and anywhere’. Internet banking is a very convenient mode of banking for customers. Internet banking provides better visibility about the customers’ bank account and other details. It allow the customer to check and update the account details, It helps to download e-statement of the account. The main services available on internet banking are:

**Fund Transfers:** A customer can transfer funds to other account through NEFT or RTGS.

**Paying Bills :** Keeping track of different bills and making sure that these payments are made on time can be a bit tedious when done separately. To make it easier, banks have tie-ups with multiple service providers which allows the customers to make payments towards utility and other bills form the internet portal.

**Online Purchases :** The customers can make online shopping through internet banking.

**Booking Air or Train Tickets:** The customers can book airline ticket, train ticket ,cinema ticket by using internet banking.

**Request for cheque books :** The customers can give cheque book request through internet banking.

**Opening and closing of fixed deposits:** The customers can open and close fixed deposit using internet banking.

Though there are many benefits of internet banking it has some disadvantages also. They are:

- **Necessity of computer literacy:** The use of internet banking may difficult for a beginner who does not have that much knowledge about internet.
- **Requirement of internet connection:** For accessing internet banking internet connection is necessary. Without internet it is not useful.
- **Security risk :** The account information and account may be accessed through hacking by others over internet.
- **Technical Risk:** Due to some technical errors internet banking may not work.

## 5.Mobile Banking

Mobile banking refers to the system that allows customers to conduct banking transactions through a mobile device such as a mobile phone or tablet. Now smart phones and tablets have become an integral part of our daily life. Nowadays, almost all banks provide mobile banking services so that their customers can avail the bank's services through an application on their phones. Mobile banking is a very convenient way of banking for those customers who use smart phones facility.

Using mobile banking, customers access their accounts and make almost all banking transactions wherever they have a mobile network.

The facilities of mobile banking are:

- **Checking account balance:** It helps for checking account balance.
- **Fund Transfer:** Mobile banking helps for transfer of funds between accounts.
- **Bill Payments:** Mobile banking helps to make payments of various bills such as utility bills.
- **Cheque book requests :** The request for cheque book also can be given using mobile banking
- **E-Commerce:** Mobile banking helps for e-commerce

Mobile banking has evolved from mere sms- based support service where in the customer get updates about his transactions to a full fledged banking service. Mobile banking is cost-effective way of banking. The benefits of mobile banking are undeniable, but it has some disadvantages also. They are:

- **Security Risk:** Mobile banking customers may receive false text message asking for bank account details from hackers poisoning a financial institution. This is called "smishing".  
Mobile banking is not available on every device and most of the mobile banking applications are working only in smart phones.
- **Risk of Hacking :** The risk of hacking passwords of mobile banking is another disadvantage of mobile banking.

## 6.Point of Sales (POS)

Point of Sales (POS) or swipe machine as it is popularly known is a technological instrument provided to a merchant establishment to carry out the sale of goods or services to customers in a cashless environment. All the customer has to do is swipe the debit, credit or prepaid card. The online payments are enabled through own payment gateways or third party service providers called intermediaries.

### Advantages of POS

- POS helps to solve the problem of carrying cash. Customers no need to carry cash for making payments.
- It decreases cash management cost for financial institutions.
- POS accepts all types of cards such as debit card, credit card, gift card, etc.
- POS gives card holders certainty about their payments and the burden of moving with cash will also be avoided and it gives freedom and decreases the risk of fraud.
- Service providers such as hotels and supermarket also benefit. POS helps to minimize the process involved in serving customers and enables service providers to focus on important activities other than cash management .

### Disadvantages of POS

The main disadvantages of POS are:

- **Connection reliability :** A reliable internet connection is required to maintain a POS. If there is any internet connectivity failure this system can not work.
- **Costly software updation :** The up gradation of software causes for high cost.
- **Charges :** There will be some charges deducted by the bank as commission for using POS.
- **Hardware Problems:** If there is any problem with the hardware it may require a costly, time consuming visit from a service tech to fix the problem.
- **Security risk:** The customers who use their debit or credit card for making payments face the problem of exposing their card PIN to other individuals some of who may not be that honest.

## 7.Debit Card and Credit Card

A debit card is a plastic bank card which can be used at an ATM machine or at Point of Sales terminal. Debit card can be used for online shopping and online ticket booking also. Almost all banks are issuing debit cards to their account holders and the system of using cards for withdrawal and payments is getting popularized in India. When the card is used for making transactions the customer's account is debited.A credit card is a credit system using plastic cards. Credit card gives the customer an option to borrow funds from bank or service provider. Mostly credit cards are used for shopping on booking of tickets. The banks or financial companies charge interest and it is mainly used as a short term financing. Each and every customer is provided with a maximum credit limit and beyond the same he can not use the card.



The main difference between debit card and credit card is where the cards pull the money. A debit card takes money from the bank account and a credit card charges it to the line of credit.

**Advantages of Debit Card:** The main advantages of debit card are:

- **Convenience:** No need to carry cash always
- **Availability:** Almost all banks are providing debit cards to account holders.
- **Control over expenses:** Since the usage of debit card is limited to the balance in customer's account, the customer spends within the budget only.
- **Security:** Debit cards are protected by PIN.

**Disadvantages of Debit Card:** There are some limitations of debit card. They are:

- **Limited to the balance in account:** It may not be helpful in an emergency situation if the account does not have sufficient balance.
- **Charges:** There are some charges applied when it is used at different ATMs.
- **Chance to forget PIN :** If the PIN is forgotten the card can not be used.

**Advantages of Credit Card :**

The main advantages of credit card are:

- **Useful in case of emergency :** Credit cards are really useful in emergency situations.
- **Interest free period :** Most of the credit cards give an interest free facility. The duration may differ from each service providers.
- **Convenience:** Credit card can be used anywhere – any time.
- Credit cards helps for getting some other benefits such as discounts at particular stores or companies, airline travel discount, special insurance like travel insurance, etc.

**Disadvantages of Credit Card :** There are some limitations of credit card. They are:

- **No control over expenses:** Using credit card some customers may spend without any limitation. It blows the budget of the customers.
- **High rate of charges:** If the repayment is not made on or before due date the bank or service provider charges a very high rate of interest and charges.

### **8. Electronic Funds Transfers (EFT)**

Electronic Funds Transfers help the customers to exchange funds between individuals as well as organizations using electronic gateways which can be accessed using internet, computers and smart phones. Funds can be transferred instantly from one account to another, either within the same bank or to different bank network at any given time.

#### **Types of EFTs**

Different types of methods are used for EFT. Main types of EFT are:

#### **National Electronic Funds Transfer (NEFT)**

This is a nationwide money transfer system which allows customers with facility to electronically transfer funds from their bank accounts to any other accounts of the same bank or of any other bank network. All kind of customers such as individuals, firms, corporate organizations, etc. may use the NEFT system to transfer funds. There is no cap on the minimum value that can be transferred through NEFT.

#### **Real Time Gross Settlement (RTGS)**

Real Time Gross Settlement as the name suggests is a real time fund transfer system which facilitates the customers to transfer funds from one bank to another in real time or on a gross basis. The transaction is not put on a waiting list and cleared out instantly. RTGS payment gateway, maintained by the Reserve Bank of India makes transactions between banks electronically. The minimum value that can be transferred using RTGS is Rs.2.00 Lakhs.

#### **Immediate Payment Service (IMPS)**

Majority of the EFTs are done through NEFT or RTGS. But as the funds could only be cleared in batches using these transfer gateways, The National Payments Corporation of India introduced a pilot mobile payment project also known as Immediate Payment Service. IMPS offers instant electronic transfer service using mobile phones.



### Advantages of EFTs

The main advantages of IMPS are:

- **More Convenient** : The customers can make use of EFT anywhere using integrated banking tools such as internet banking and mobile banking.
- **Safe and Secured** : EFTs are safe and more secured in comparison with other modes.
- **Time Saving** : It helps for saving the time of the customers.
- **Less Effort** : EFTs are effortless.

### Disadvantages of EFTs

The main disadvantages of EFTs are as under:

- **Necessity of internet access**: If the internet connection fails the amount can not be transferred electronically.
- **Need of computer knowledge** : The customers must have minimum idea to use the computer for transferring funds electronically.
- **Risk of hacking** : There is chance for being hacked.
- In general the advantages of EFT system outweigh its disadvantages and they have bigger opportunities comparing with traditional means of fund transfer.

### 9. Electronic Clearing Service (ECS)

ECS is an electronic mode of funds transfer from one bank account to another. It can be used by institutions for making payments such as distribution of dividend, interest, salary, pension among others. It can also be used to pay bills and other charges such as telephone, electricity, water or for making equated monthly installments on loans as well as SIP investments. ECS can be used for both debit and credit purposes. For ECS the customer has to inform his bank and provide a mandate that authorize the institution, who can then debit or credit the payment through the bank. The mandate contains details of the bank, branch and account detail. The customer gets the details of the debited amount through sms from the bank.

**Advantages of ECS** : The advantages of ECS are

- **Time Saving**: ECS helps to save the time of customers.
- **Control over Expenses**: It helps to have a control over expenses.
- **Reduces risk of loss** : ECS reduces the risk of fraud.
- **Low commission and cost**: This facility helps to reduce the cost of transactions
- **Use-friendly and convenient**: It is very convenient and user friendly.
- Even if this system is more beneficial to the customers, some disadvantages are also there.

**Disadvantages of ECS**

- **Maintaining balance in account**: The customer has to maintain sufficient balance in his account for clearing. Otherwise the ECS will be returned.
- **Additional charges**: If the ECS is returned banks debit additional charges.

### 10. Cheque Truncation system (CTS)

In order to improve efficiency, reduce operational risk and time taken for cheque processing, Reserve Bank of India has introduced Cheque Truncation System. By using this facility the cheque is getting scanned and only the scanned image of the cheque is sent electronically to Clearing Cell of the bank for clearing.

### Conclusion

In India, technological developments caused for a lot of improvements in banking industry. It has changed the face of banking service. It enhanced the scope and reach of banking services. Though it has many advantages it is not used by majority of people due to some limitations. E-banking is at a developing stage. Now the banks and governments are introducing new methods to reduce the limitations faced by the customers. The main aim of e-banking is to make banking services more easy and convenient to customers and to make sure that the customer and banks get maximum benefit. In India the governments and banks are trying to make E-Banking more popular and beneficial.