CHAPTER - III

COMPUTERIZATION OF BANKING IN INDIA – AN OVERVIEW

3.1 Introduction

The profile of Indian Banking has undergone a metamorphosis in the post nationalization era. The change is characterized by radical transformation in its role, scope and extent of business operations and the industry has grown dramatically in size as well as complexity of operations. The banks in India have also emerged as effective catalytic agent of socio-economic change. This massive expansion and diversification of the banking system also brought its attendant strains. Housekeeping and control functions got neglected owing to exponential increase in business. The customer service tended to deteriorate and attracted criticism. Bottlenecks developed in the flow of information compromising control and monitoring on the one hand and MIS based policy formulation on the other.

This massive growth in network of branches and volume of business was achieved mostly by enlarging manpower resources. Then, this industry entered into a phase with assent on consolidation and qualitative improvement on its operations by using suitable contemporary technological tools.

3.2 Rangarajan Committee

The first blueprint for computerization in the Banking Industry was drawn up in 1983-84. A Committee was set up in 1983 under the chairmanship of Dr.C.Rangarajan, the then Deputy Governor, Reserve Bank of India, to look into the modalities of drawing a
phased plan of mechanization in the Banking Industry, covering the period 1985-89. The Committee submitted its report in 1984 and recommended introduction of computerization at Branch, Regional and Head Office levels of banks. The banking industry has since come a long way in computerizing their front and back office operations as per the guidelines of Rangarajan Committee.

Against this background and the experience gained in eighties, RBI set up in September 1988, another Committee, again the chairmanship of Dr. C. Rangarajan, Deputy Governor, to draw up a perspective plan of computerization for banking industry for the five year’s period 1990-94 and also to consider other allied issues.

3.2.1 Recommendations of Rangarajan Committee

The committee furnished its report in November, 1989 with the following recommendations:

- The branches daily average level of vouchers at and more than 750 should be computerized.
- Computerization on branch level should be achieved on any of the following basis-
  * Selected branches will have on-line terminals with micro and mini-computers which will be linked with central main-frame computer to provide counter service and other office-services.
  * Personal computers will be installed at counters which will be linked with Local area network.
  * For third option, the banks will have to depend on Telecom lines.
The banks should gradually use developed devices such as Photocopier, FAX, Duplicator, Microfilm, Signature Storage, Scanners etc.

Non-computerized branches can take the services of other local computerized branch/office in case of important task.

The customers should have the facility to route their business to any branch of the bank.

All-Bank Credit Card should be issued.

Computers should be made bilingual and proper training arrangements should be made to provide training to staff members.

The regular customers should be offered On-line facility.

BANKNET should be used for interbank and intra bank applications.

All Regional offices and Zonal offices to be computerized in a phased manner.

Banks have now come under great pressure to reduce operational costs to safeguard their bottom lines. With banking turning more and more customer-centric with every passing day; technology as an enabler has helped banks to launch a whole array of customer-centric products such as ATMs, Debt Cards, 24-hour Anywhere Banking Tele-banking, Mobile Banking, ensuring customer satisfaction leading in turn to customer delight shall be the primary goal of all future initiatives.99

Computerization in the banking sector is necessary because of massive volume of different types of transactions. Computers have been installed in branches at different counters such as, saving account, current account, cash credit account, etc; cheques are handled by the computers at clearing houses. Automatic Teller Machines have been installed in the branch premises of various banks. Different networks viz. BANKNET, SWIFT, Reserve Bank India Net is also working to expedite the customer service NICNET is

operational which is linked with currency chests. In all, banking will be handicapped without Information Technology.

### 3.3 Level of Computerization of Banks

Though the process of computerization in public sector banks commenced about 15 years ago, but it has gained momentum only during last five years or so. The Central Vigilance Commission guidelines to achieve 70 percent computerization of their branch business have played a catalytic in augmenting the pace of computerization. But in spite of huge investments made by such banks and having achieved 70 per cent branch computerization business by most of these banks, the public Sector Banks have not been able to reflect a techno savvy image to the public at large.

Though operating under the same regulatory environment, there are enormous differences in the operational environment, industrial relations scenario, productivity, efficiency and utilization of infrastructure and human resources in Public Sector Banks vis-à-vis New Generation Private Sector Banks. These differences can be mapped under the following heads:

#### 3.3.1 Products

Advanced services are routine with new banks. At the result end, new private sector banks routinely offer services such as anywhere banking, which enables a customer to access his account from any ATM or from remote channel such as a telephone, 24 hours a day a 7 days a week and 365 days a year.
In contrast, the customers of public sector banks are necessarily required to physically visit the branch to transact business, during fixed hours only on working days.

### 3.3.2 Channels

The brick-and-mortar branch continues to be the predominant channel of old generation banks. They have few online Automatic Teller Machines, which too are located at the branches. Thus the utilization level continues to be quite low. Phone banking is making a limited beginning, in a handful of branches and some banks have plans to offer E-banking in due course of time. Customer interactions of old generation banks would continue to revolve around the branch until they network all or most of their fully computerized branches.

In contrast, new generation banks have approached the market as ‘arrival of the fittest” and have started off with all branches fully networked. Some banks now operate with fully centralized databases that optimize costs compared to inter-connection of distributed databases. The new generation private sector banks have set up efficient and customer friendly new delivery channels and specific initiatives have been taken by such banks to prompt customers to use such delivery channels instead of making a customer visit the branch even for basic banking services. The customers have well adapted to the niche banking concepts as more than 60 percent of retail banking transactions in leading private sector banks are being through electronic delivery channels.
3.3.3 Locations

Strong concentrations of assets in new generation banks have already set up a significantly larger brick and mortar branch network. New generation banks tend to concentrate themselves within a smaller number of commercial or elite population group areas and may never wish to set up a significant number of branches in smaller commercially unviable centers. They will largely be present in urban centers. Even the mandated branches that they need to set up at small towns are and shall preferably be located by them at the periphery of large cities.

The large and dispersed branch network of old banks is an exaggerated advantage. Over two-third of domestic deposits are concentrated in urban centers that host only a quarter of the branches of old generation banks. In contrast, new private sector banks are located predominantly in areas where the funds and opportunities exist for full exploration.

Old generation banks may retain advantage of reach in a few rural centers where agricultural wealth is concentrated. However, new banks have ambitious plans to enter into these areas by leveraging the nascent mobile-banking or internet banking services.

3.3.4 Customers

Remote channels are suitable for urban and literate customers. New private sector bank’s strategy of positioning themselves between old generation banks and foreign banks seems to appeal to urban professionals and the self-employed. The ability to use remote
channels is intrinsically restricted to literate customers; often English speaking banks are extending the reach by also offering the option of transacting in Hindi and regional languages on the phone and in ATMs. Even within these constraints, new generation private sector banks have garnered a significant number of customers.

Old generation banks have a good match with those customers who are comfortable with branch banking. They will have limited ability to extend the appeal to more sophisticated customers in the near future. However, old generation banks may have strong hold over customers in semi-urban and rural centers, where the pace of life is slow and customers may even look forward to a regular visit to the branch as part of their social interaction.

A comparison of the volumes of working, ethics and culture between the two can be summarized as follows:

- Technology-savy new generation private sector banks incur higher operating expenses but realize far higher returns in productivity and profitability. The Return on Assets is reported to be higher relative to old generation banks. The low operating expenses of new private sector banks could protect Return on Assets in an economic recession.
- Employee productivity is up to six times higher and profitability, up to 10 times higher, in new private sector banks.
- Costing and return of different products indicate that a transaction through remote channels costs much lesser relative to be a branch.
- New private sector banks have a mammoth lead over old state-owned banks, in the application of technology. The Information Technology architecture of old banks is three levels that of new generation private sector banks.
• Technology is the backbone around which new generation private sector banks are building multiple channels, providing variety to customers in every segment.

• Old generation banks, in contrast, face huge obstacles in the path of converting themselves from legacy systems.

• The ATM population is expected to explore past the number of branches in Metropolitan/Urban areas by 2015. New private sector banks will use ATMs to outflank the historic reach of old generation banks and deliver a wide range of services, more efficiently.100

3.4 Features of Public and Private Sector Banks

The Public sector banks traditionally have been handling large base of small clients and hence their operations include large volumes of transactions where average value of each transaction is low. Due to their mostly manual operations and the brick and mortar structure even at remote centers, the cost per transaction is relatively higher.

In contrast the new generation banks are concentrating more on high value and less volume business with more reliance on technology and dedicated task force. The organizational set up is often flat with well defined duties and responsibilities.

With cream of the business migrating from Public sector banks, in future these banks may face a challenge of reducing profits and erosion of their so called strong deposit base as customers are changing loyalties towards techno-savy banks.101

### TABLE 3.1

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100 Bhasin, T.M. E-commerce in Indian Banking, New Delhi, Author Press, 2003, pp.502-506.
### Features of Public and Private Sector Banks

<table>
<thead>
<tr>
<th>Public Sector Banks</th>
<th>Private Sector Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low value per transaction</td>
<td>High value per transaction</td>
</tr>
<tr>
<td>Large number of transactions</td>
<td>Small numbers of accounts and transactions</td>
</tr>
<tr>
<td>Scattered large number of physical branches</td>
<td>Customer relation extremely important</td>
</tr>
<tr>
<td>High processing costs</td>
<td>High acquiring costs</td>
</tr>
<tr>
<td>Lesser use of IT technology.</td>
<td>High use of contemporary technological tools</td>
</tr>
<tr>
<td>Use of legacy systems</td>
<td>Average lower employee age</td>
</tr>
<tr>
<td>Average age of employee is higher.</td>
<td>-</td>
</tr>
<tr>
<td>High degree of hierarchy and multilayer reporting and control</td>
<td>-</td>
</tr>
<tr>
<td>Attitudinal change towards customers’ requirement needs to be redefined</td>
<td>-</td>
</tr>
</tbody>
</table>
3.5 Upgradation of Information Technology in Banks

A major part of a bank’s success quite obviously depends on its ability to provide good quality front office service to its customers. This quality is measured by the efficiency of the front-end interface to the customer data, and by the ability of a bank’s information technology solution to handle growth in the number of customers. The front office of banking is a multi-faceted one. To engage in banking transactions, a customer does not necessarily have to visit a bank. Several other modes have been introduced. Besides the ubiquitous ATMs at every nook and corner, banking can now be done over the Internet and even over the telephone. You could check your account balance, transfer money to another account, stop payment of a cheque and do a myriad other activities without ever going anywhere near a bank branch. The Internet, in particular, enables a lot more than just bread-and-butter banking transactions. It actually enables the creation of a single interface for the clubbing together of banking with other financial services. For example, an insurance policy holder can pay his premium through his bank account and the Internet permits the creation of such functionality. Such power in the hands of the customer can be enabled only by leveraging technology. Technology has proved to be a catalyst for growth in the banking industry.

3.6 Information Technology Architecture – Public Sector Banks

With a view to appreciating the manner in which public sector banks have lagged behind from their peers, the implementation of information technology amongst the banking has been classified into six levels, starting from level 0(L0) which represents a
completely manual environment – to level 5 (L5) representing a fully centralized structure with data warehousing and customer relationship management (CRM) system well set in place.

All old State-owned banks are at L1. On an average, close to 54 percent of branches of all State owned banks are computerized, covering about 84 percent of total business. L1 level of computerization enables these banks to provide efficient service to select customers with slightly improved flexibility.

New generation private sector banks started with information technology structure at L3 level, and a few are now at L4 level. L3 level of IT architecture enables the banks to provide enhanced service levels and modern products. L4 enables to cut operating costs by reaping economies of scale. The six levels of IT architecture in banking system are defined in the Table 3.2.
<table>
<thead>
<tr>
<th>Level</th>
<th>Status of Automation</th>
<th>Assessment</th>
<th>Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>L0</td>
<td>Completely manual</td>
<td>Indifferent to the future</td>
<td>No bank of significant size exists at this level.</td>
</tr>
<tr>
<td>Level</td>
<td>Automation Type</td>
<td>Advantages</td>
<td>Disadvantages</td>
</tr>
<tr>
<td>-------</td>
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<td>------------</td>
<td>---------------</td>
</tr>
<tr>
<td>L1</td>
<td>Scattered branch automation</td>
<td>Efficient service to select customers slightly improved flexibility.</td>
<td>All state-owned banks about 54 percent of branches are computerized covering about 84 percent of business.</td>
</tr>
<tr>
<td>L2</td>
<td>Full automation at all branches</td>
<td>Limited through efficient, service opportunity to understand customers Efficient House-keeping</td>
<td>Old banks may never get here Not viable to fully automate small branches located at rural or semi-urban centers.</td>
</tr>
<tr>
<td>L3</td>
<td>Branch centric with interconnection</td>
<td>Easier to deploy Does not require fundamental change in operating strategy Enhanced service levels and modern product offerings but Very high operational cost Limited scalability for high volume.</td>
<td>All new banks started from here. Some foreign banks are currently here.</td>
</tr>
<tr>
<td>L4</td>
<td>Fully-centralized automation</td>
<td>ready for the future Very high operating margin Core competing capability</td>
<td>HDFC bank, ICICI Bank etc. and select foreign banks are at this level.</td>
</tr>
<tr>
<td>L5</td>
<td>Fully centralized structure with data warehousing and customer relationship management(CRM)</td>
<td>Leads to the future Very high operating leverage.</td>
<td>CRM enables the bank to increase customer satisfaction and exploit cross selling opportunities No major player has reached this level.</td>
</tr>
</tbody>
</table>
Since full computerization and networking of the branches is a prerequisite for e-banking, the L3 is the threshold level for a bank to enter into the e-powered world. All new banks have created this infrastructure, while old banks are a long way behind. It therefore becomes extremely important that public sector banks accelerate their process to reach at L3 level so that they can venture into the customer centric e-enabled products and services.

3.7 Electronic Delivery Channels

Banking activities through the traditional delivery channel of branch networks are on the decline and customers can now do banking business from the comfortable confines of their homes using most modern electronic delivery channels. Banks are able to deliver their products more cheaply than the traditional branch networks loaded with expensive staff. The Information Technology has enabled banks to increase the range of their products also and market them more effectively.\(^{102}\)

The popular electronic delivery channels are the following:

3.7.1 E-Banking

Where banking operations are carried out through electronic means, it takes the form of ‘e-banking’. Electronic means of banking include electronically operated devices such as computers, ATMs, and any other electronic device. In addition, Internet, Telephone,

Mobile handsets and other means are also used as part of e-banking. An essential feature of e-banking is that it provides round-the-clock access to banking operations through an Automated Teller Machine (ATM) or Direct Deposit of pay-cheques into current or savings accounts of a bank.

3.7.1.1 E-Banking and Financial services-Benefits

Following are the benefits that would be derived by the use of e-banking and financial services:

(a) More convenience in transacting business
(b) Better knowledge of state of accounts
(c) Wider range of products/services available to the customer
(d) Possible lower cost of accessing banking services
(e) Access to virtual services in locations beyond the bank’s normal operating base through the mechanism of shared network system such as ‘SWADHAN’ in Mumbai.

3.7.2. Internet Banking

Banking transactions that takes place in a virtual ambience on the website of a banking company or a financial institution is termed as ‘Internet banking’. The essence of Internet banking lies in on-line access by customers of banking and financial services.
3.7.2.1 Internet Banking vs. Traditional Banking

The basic difference between Internet banking and traditional banking is that in traditional banking the customer has to visit the branch in person for the basic banking needs namely, withdrawal or deposit of cash, transfer of funds, statement of accounts, etc. In Internet banking, on the other hand, these operations can be performed through the Personal Computers without physically visiting the bank branch. Information Technology is a win-win solution both for customer and the banks. The customer is not put to inconvenience of traveling, and the time so saved can be effectively utilized in other productive ways, whereas the bank earns by having lower overheads, establishment, premises and maintenance costs, in turn resulting in reduced per transaction cost.

The greatest advantage of Internet banking is that it enables a customer to perform basic banking transactions through Personal Computer or Laptop, located anywhere in the world. Through the Internet, customer accesses the bank’s website for viewing the account details or performing the basic banking transactions.

The other major advantages emerging out of Internet banking are as follows:

(a) The customer can perform basic banking transactions, round the clock.
(b) No personal visit to the branch is required.
(c) One can access and operate account from anywhere in the world.
(d) The extensive, geographically divergent, traditional brick and mortar structure of the branch need not be there.
(e) The requirement of staff at branches gets optimized.
(f) Easy, convenient, efficient, and speedy banking services both for the bank and the customer.
(g) Transaction is automatically reconciled and posted on all required data tables, thus reducing the workload.\textsuperscript{103}

3.7.3 Mobile Banking

Mobile banking refers to the banking activities that are carried out on mobile (cell) phone. That is, banking is enabled, even while a person is on the move. The following services are available in mobile banking services.

3.7.3.1 SMS Banking Services

‘SMS’ stands for ‘Short Messaging Services’. The services enable the mobile banking customers to access SMS server through their mobile phone. SMS server provides message inputs (query or request) from mobile phone to the personal server of the Internet Banking Company. These are then processed and the output (result/status of request) is sent back to the customers’ mobile phone through SMS server. For SMS banking, one need not connect to Internet. The customer can avail the following services under the SMS banking;

(a) Making balance inquiry
(b) Making query of the last five transactions
(c) Sending mail to the bank’s Relationship Officer
(d) Changing SMS password
(e) Opting out of SMS

3.7.3.3 WAP Banking Services

Banking done through Wireless Application Protocol enabled phone is called ‘WAP Banking’. WAP enabled mobile phone is a miniature computer monitor. In order to use WAP banking, one need to connect to Internet on the WAP enables mobile phone. Therefore, it is important that the customer obtains current Internet connection.

The customer can avail following services under the WAP banking:

(a) Viewing details of account
(b) Making balance inquiry
(c) Making query of the last five transactions

3.7.4 Telephone Banking

Where banking financial services are delivered to the customer of a bank through the medium of telephone, it is called ‘telephone banking’. Telephone banking service makes use of an automated voice response system. It enables customers to transact their banking business from their homes rather than in the bank’s physical branches.

3.7.4.1 Telephone Banking Facilities

The attractiveness of telephone banking is that every major banking service can be delivered through it apart from cash withdrawal. Telephone banking makes available the following typical range of facilities and services to the customers:

(a) Balance enquiry
(b) Statement ordering
(c) Cheque book request facility
(d) Funds transfer between different accounts held by the customer at the bank; (for security reasons these accounts are usually ‘linked’ by the customer in advance by a visit to the branch)
(e) Funds transfer (payment) to third parties (e.g. payment of utility bills)
(f) General account queries and advice; usually done by a human operator even if the system used automated voice response technology
(g) Ordering traveler’s cheques from the bank; these typically being available for collection from a physical branch or else supplied to the customer by registered post
(h) Loan payments and Loan applications
(i) Obtaining product information
(j) Placing stopped payments (on cheques)
(k) Requesting copies of cleared cheques
(l) Reordering cheques

3.7.4.2 Benefits

A stunning benefit of telephone banking is that it is increasingly accepted as one of the most modern banking and financial services. Telephone banking has found a high level of acceptability among the professional people for whom the use of a telephone as a communication medium is almost second mature, and who are only too pleased to have a chance to access their bank accounts round the clock and enact transactions whenever they wish rather than having to go to an ATM, let alone visit a branch.

The customer can access information to his account and do a few transactions without visiting the branch even when he is out of station, that too around the clock. Thus, the facility carries with itself the advantage of convenience, economy, and efficient time management.
### 3.7.5 ATM – The Cash Machine

Electronic equipment that allows cardholding customers to perform routine banking transactions without interacting with a human teller is called an ‘Automated Teller Machine’. Also called ‘cash machine’, it offers a range of service of modern banking. The machine is used to render certain essential banking functions such as deposits taking, cash withdrawal, account balance verification, etc. with the help of a Personal Identification Number system.

ATMs have become the order of the day in banking. Though they were evolved as novel cash dispensers, now they have emerged as a marketing tool to target the masses. There are about 8500 off-site ATMs today in India. Off-site ATMs of many banks are nothing but virtual branches, as customers can conduct any transactions, through the touch screens. They are user friendly and they have mass acceptability. They can effectively reach out a large customer base at low cost. At present, banks have started out-sourcing and sharing of ATM services to reduce cost. Most banks are networking the ATMs. A network of connected ATMs of various banks has resulted in the improvement of customer services. ATMs are used to cross-sell other products also so as to meet the varied requirements of customers. Banks have started dispensing Railway tickets, Airway tickets, Movie tickets etc through ATMs. Voice activated ATMs; ATMs with finger print scanning technology etc are on the move. If they become operative, they can save the customers from the hassle of carrying a card. In future, a banks ATM would function like a kiosk delivering more of non-cash transactions, thereby reducing fixed and operating costs.¹⁰⁴

### 3.7.5.1 ATM Mechanism

Anyone who is desirous of using the ATM facility has to go through the following steps:

- Customer of a bank making application for the ATM Card
- Manager of the bank-branch issuing the ATM card, fixing the maximum cash withdrawal limits, etc.
- Customer to gain access to the ATM by swiping the card through a card-swipe located outside
- Verification of the card and opening of the lobby door, the entrance lobbies are particularly useful for security reasons as they let the customer complete the transaction without any potential mugger or thief being in the immediate vicinity
- Customer to type the confidential PIN, the correct PIN lets the customer in the process of ATM
- The ATM to depict the list of functions waiting to be carried out for the customer, such as cash withdrawal, etc.
- Customer to select the relevant operation to be performed in the ATM
- The ATM carrying out the relevant operation as selected by the customer

### 3.7.5.2 Shared ATM Network

A typical shared ATM functioning at Mumbai, the financial capital of India is popular for its services among the customers. The shared ATM network at Mumbai is called ‘SWADHAN’. It is the ‘Shared Payment Network System’ (SPNS). SWADHAN is a large network of ATMs spread over the city of Mumbai, Vashi and Thane, connected through a central host. This was set up to provide anytime, anywhere banking, IBA appointed M/S India Switch Co. Pvt. Ltd (ISC) as service providers to set up and maintain the ATM network. An association of member banks was formed and a user group and a steering group of these members were created to manage the Shared Payment Network System.
3.7.6 Shared payment Network System (SPNS)

SPNS, as envisaged by the IBA, is a large network of ATMs, Cash Dispensers. Today, the network has expanded to connect ATMs all over India. The banks, which participate in this network, would issue cards to the customers for transacting on this network. The objective behind forming the Shared Payment Network System is to provide 24 hours, 365 days/year electronic banking service to the customer anywhere in the country through state of the art electronic fund transfer system to be shared by different participating banks.

3.7.6.1 Services

Shared Payment Network System (SPNS) would offer the following services:

(a) Cash Transactions
(b) Extended hours of service
(c) Across the bank payments
(d) Utility payments
(e) Balance enquiry
(f) Printing of statement of account
(g) Cheque Deposit
(h) Request for Cheque book, Standing Instructions and
(i) Statement of account

3.7.7 Point of Sale Facilities
At present, no member bank has sponsored any POS terminal in the network. Any customer possessing the ATM card issued by the SPNS can go to any ATM linked to SPNS and transact some basic essential banking business. The system requires the PIN to be entered for every transaction. So, even if the card is lost or stolen, it cannot be used without the PIN. The essential difference between the credit card and the ATM card is that while the former offers credit, the latter directly debits the account of the card holder.

3.7.7.1 Advantages

The typical advantages of SPNS are as follows:

(a) Cash holding at home can be reduced
(b) Direct improvement in customer services
(c) Benefits of standardization
(d) Cost of service provided is minimized
(e) Improved centralized control ensures ongoing compatibility with national and international standards and systems
(f) Easier technology absorption and building the base for indigenous development capability

3.7.9 Electronic Funds Transfer (EFT) System

A method of fund transfer mechanism, which facilitates transfer of funds between banks and users, is called ‘Electronic Funds Transfer’ (EFT). The scheme of EFT was introduced by the RBI with a view to helping banks offer their customers money transfer service from account-to-account of any bank branch to any other bank branch, both inter-city and intra-city. (Money transfer between the branches of the same bank).
3.7.9.1 Benefits

Following benefits emanate from the use of electronic funds transfer system:

**Efficient Mode**

The EFT is an efficient mode of funds transfer across various banks can introduce new payment or cash management products such as e-cheque for their customers.

**Innovative Products**

EFT system can be used as a launching pad with which banks can introduce new payment or cash management products such as e-cheque for their customers.

**Lesser Workload**

The use of EFT system would significantly reduce the number of outstation cheques issued by customers. Consequently, service load on banks could be reduced over a period of time.

3.7.9.2 EFT system VS Traditional System

To transfer funds under the traditional mode of funds transfer, the remitter has to obtain instruments such as demand draft, mail transfer, and telegraphic transfer from the bank. The instruments are then sent to the beneficiary by post that in turn lodges the instruments for collection, clearing, and payment. This process takes a long time, as many
as 10 days in the case of demand draft. In the case of telegraphic transfer, fund reaches the beneficiary would have to be account holders of the same bank. If they are customers of different banks, a good deal of paper processing is required.

3.7.10 Electronic Clearing Service (ECS)

Under the new method of payment called ‘Electronic Clearing Service’ (ECS), the institutions having to make a large number of payments can directly deposit the amount into the bank accounts of the accountholders.

3.7.10.1 ECS (Credit)

ECS, as used with respect to credit clearing, refers to a system of payment undertaken by banks, financial institutions, and others whereby direct deposit of a large number of payments such as interest, dividend warrants into the bank accounts of the shareholders, investors, and others is facilitated without having to issue paper instruments.

3.7.10.2 ECS (Debit)

ECS, as used with respect to debit clearing, refers to a system of payment undertaken by banks, financial institutions, and others whereby direct deposit of a large number of payments such as interest, dividend warrants into the bank accounts of the shareholders, depositors, investors, and others is facilitated without having to issue paper instruments.

3.7.10.3 Benefits

Electronic Clearing Services offer the following major benefits to the users:
**Cost Savings**

ECS undoubtedly is a cost saving method. The cost administration presently being incurred for printing of paper instruments in MICR format and dispatching them by UPC, registered or speed post, etc. are saved enormously.

**No Transit Loss**

Another major advantage of the ECS is that it precludes the possibility of any loss of instruments in transit.

**Automatic Reconciliation**

The great advantage of the ECS is that the system facilitates automatic reconciliation of transactions. The ECS cycle produces a transaction completion report, which is sent to the user institution. The user gets an electronic data file from its bank with the data of payment and banker’s confirmation thereon.

**Efficient Cash Management**

ECS allows from the efficient management of cash for the user. Thus it would be sufficient for the user to make the funds available only on the specified data.

**Better Customer Service**

ECS facilitates better customer service. The system paves way for the best companies in the world to pay to their shareholders, investors, and customers. Further, payments are made on the due date.
The ECS affords a convenient mode of clearing both payment and receipts on the part of the public. It does away with the necessity of the customers having to move about or stand in long queues. Further, they no longer have to fear loss of instruments in transit, and there is no risk of fraudulent encashment.

3.7.11 Indian Financial Network (INFINET)

The acronym ‘INFINET’ stands for ‘Indian Financial Network’. This is the Closer User Group (CUG) network for the banking and financial sector in India. The Reserve Bank of India, commercial banks, cooperative banks, and financial institutions are the members of this CUG network. The VSAT network is a part of the CUG network. The VSAT network is TDM/TDMA network with STAR topology for data and DAMAOSCPC overlay with mesh topology for voice traffic.

3.7.12 Very Small Aperture Terminals (VSATs)

This technology in brief is known as VSATs. This technology works with the help of a satellite. VSATs technology has made banking services very simple and speedy. The terminals used in VSATs have very small apertures.

3.7.12.1 Use of VSATs in Banking

The following operations can be performed using this technology.

(a) The quality of customer service at the counters will be improved to a large extent.
(b) Payment System will be made more effective.
(c) Exchange of information will be geared up and speedy clearing of pending entries will be possible and
(d) File-work can be transferred easily.\(^{105}\)

3.8 Summary

Banks face a serious challenge. The basic structure of the bank is increasingly in conflict with the changing product, delivery, and service needs of the customers. In future the banking system is going to be a financial service providers not like traditional banks. The vast majority of large banks will create value networks. Doing so, it would present tremendous challenges. Banks will have to first develop a comprehensive distribution system that will enable customers to touch them at multiple points. Banks must also create performance measurement systems to assure the mix products and services they offer are beneficial to both the customer and the bank. They must determine whether to deploy new technologies themselves or with other service providers. Nevertheless, technology alone will not solve issues or create advantages. This technology needs to be integrated in an organization, with the changing management issues linked to people resisting new concepts and ideas. IT also needs to support a clearly defined and well communicated business strategy.

Computerization continues to have immense untapped potential in the Indian banking system. No doubt, Indian banking has witnessed several positive developments in the face of revolutionized Information Technology (IT) environment. Finally, the alignment of business and IT strategies must result in delivery of measurable quality of customer services like reduction in account opening time, shorter teller queues, faster loan processing and services for corporate customers etc. apart from financial results. To win the customers, the modern banking should integrate technology and deploy marketing strategies that would enable banks to maximize profits through customer satisfaction.