CHAPTER –III
PROFILE OF ELECTRONIC BANKING SERVICES IN INDIA

3.1 INTRODUCTION

This chapter makes a theoretical projection of e-banking services in India. It discusses the origin and growth of e-banking with emphasis on the role of technology. With the technological development, the banking sector has been going through a tremendous change in the promotion and delivery of e-banking products and services. The banking sector has realized the importance of technology to survive the battle with the foreign and private banks with the support of core banking solutions. This has led to branchless banking from branch banking. By using technology, the customers can avail themselves of banking services at their office or at home. The automation of banking process has resulted in reduction in transaction cost with improved customer services. This chapter gives a brief idea of the e-banking services and its profile along with issues and challenges and discusses its present status with the support of financial data. As such, this chapter is descriptive in nature based on secondary data collected from the reports of Report on Trend and Progress of Banking in India and other journals and books.

3.2 ORIGIN AND GROWTH OF E-BANKING

Banking originated in India during the first decade of the eighteenth century. The first bank which came into existence in 1786 was “The General Bank of India” later “Bank of Hindustan” followed it both of which are now disfunctional. In June 1806, “The Bank of Calcutta” came into existence which
is now known as “State Bank of India”. It is the oldest bank in existence. The first Indian bank was the “Alahabad Bank” set up in 1865. The private banks were established like “Punjab National Bank” in Lahore in 1895, “Bank of India” at Mumbai in 1906. The Indian Banking Sector came to be formally regulated by the Reserve Bank of India (RBI) from 1935. After India’s independence in 1947, the RBI was nationalized and given broader powers. The nationalization of banking in India was started in the late 1960’s by the government of India. For the first time and on July 19, 1969, fourteen commercial banks were nationalized. After that six more banks were nationalized in 1980. Banks were nationalized for more control of credit delivery. After nationalization, banks have shown a tremendous growth of around four per cent which very close to the growth rate of economy.

The RBI appointed a committee in 1983 called “Computerization and Mechanization” under the chairmanship of Dr C.Rengarajan (Former Governor of the RBI) to look into the modalities of drawing up a phased plan of mechanization for the banking industry covering the period from 1985 to 1989. The committee which submitted its report in 1984 recommended the introduction of computerization/mechanization at branch/regional/zonal and head office (RO/ZO/HO) levels of banks.

In 1988, the RBI constituted the second Rengarajan Committee to draw up a perspective plan for computerization in banks, to suggest modalities for implementing online computerization, especially at the branch level and to indicate application areas. The committee recommended that the trust of the
bank computerization for the next five years should be to fully computerized around 2000 to 2500 large branches located at high activity centers, computerization of RO/ZO/HO use of BANK NET for several intra-bank and inter-bank applications. The computerization settlement of October 1993 was signed between the Indian Banks Association and the bank employees union. It has been substantially enlarged the areas of computerization in terms of the settlement banks. It will be able to fully computerize 2500 to 3000 branches in urban and metropolitan centers as per the recommendation of Rengarajan Committee.

3.2.1 Information Technology in Banking

Technology can be defined as knowledge of methods to perform certain tasks efficiently and solve problems pertaining to products and services. The banking sector has been subject to tremendous changes because of the new technology. The information technology development can affect the banking sectors in two ways; first the contribution in the reduction of cost associated with the management of information by replacing paper based and labor intensive methods with automated processes and secondly, they modify the way to access the banking services and products by the customers. In India, the banks have computer network for improving the quality of services rendered to the customers and also for marketing of their products and services. The banks use the electronic technology to convert the traditional banking into e-banking.
3.2.2 Computerization in Banks

The Reserve Bank of India has realized the importance of technology to survive the competition with foreign banks. Technology has made banking truly international and efficient. The process of computerization which was the starting point of e-banking services while the nationalized banks, the SBI Group of banks, old private sector banks, new private sector banks and foreign banks have changed their business into the “core banking solutions”. All banking sectors have to be computerized their banking businesses.

E-banking or Electronic Banking may be viewed as delivery of bank services to a customer at his office or home by using electronic technology. Banks have introduced innovative products such as e-payments and e-banking. E-banking enables the access the banking transaction through computers, mobile phones and the internet. E-banking is mostly provided through ATMs, mobile banking and internet banking. Electronic payments are made through e-cheque, card based payments like credit card and debit card, electronic funds transfer and real time gross settlement. The growth in banking technology and automation of banking process enable the banks to be low cost transaction with improved customer service.

As stated earlier, the Reserve Bank of India appointed a committee under Dr. C.Rengarajan in 1985 to implement computerization in the banking industry to improve the customer service. The Public Sector Banks, Old Private Sector Banks, New Private Sector Banks and Foreign Banks have introduced e-
banking services in India. The following chart shows the different e-banking services offered by the commercial banks in India.

**Chart – I**  
E-banking Services

**3.3 STATUS OF E-BANKING IN INDIA**

The Reserve Bank has been actively involved in insisting upon the use of technology for the development of the Indian banking sector over the years. Computerization has played a pivotal role in changing the face of Indian Banking Sector. The new private sector banks and foreign banks have an edge in this regard. The public sector banks have been investing for upgrading their operations by way of computerization. It is noted 97.8% were fully computerized at the end of March 2010. The cumulative expenditure on computerization and development of communication networks registered a growth of 23.2% in 2009-10.

A technological development closely related to computerization in bank branches is the adoption of the core banking solutions (CBS). An important development in 2009-10 was a significant increase in the ratio of branches of
public sector banks implementing core banking solutions. There was a significant rise 79.4% in 2008-09 to 90.0% at the end March 2010.

The third major technological development which has revolutionized the delivery channel in the banking sector has been Automated Teller Machines (ATM). The ATMs particularly off-site ATMs is act as a substitute for bank branches in offering a means of any time cash withdrawal to the customers. Growth in ATMs was estimated to be 37.8% in 2009-2010. More importantly the growth of off-site ATMs too was comparably high at 44.06% during that year. At the end of March 2010, quantum of off-site ATMs to total ATM stood at 45.7% for all scheduled commercial banks.

The rapid growth of e-commerce and the use of the internet have led to the development of new payment mechanism. The growth rate of electronic clearing service – credit transaction is 97.14% in 2004-05, 10.39% in 2005-06, 40.03% in 2006-07, 26.56% in 2007-08, 12.79% in 2008-09, 11.03% in 2009-10, and 19.53% growth in 2010-11. The growth rate of ECS – Credit payments is 97.29% in the year 2004-05 that is 20179.81 crores rupees settled through ECS – Credit. The recorded growth rates are 60.18%, 157.62%, 839.35%, 87.53%, 20.64%, and 54.48% during the years 2005-06, 2006-07, 2007-08, 2008-09, 2009-10 and 2010-11 respectively.

The Reserve Bank of India has been taking a series of initiatives to facilitate the use of electronic mode for different retail and large value of transactions. NEFT is a retail system of real time system with settlements taking place at hourly intervals. Real Time Gross Settlement is a large value
payment system with processes both customers and inter-bank transactions of Rs. 1,00,000 and above. The facility of NEFT and RTGS are available in over 70,000 branches with 119 members and 99 banks participating in the respective systems. The volume and value of transactions processed through the EFT and RTGS have shown an attractive growth over the years. Considering the fact that the RTGS is a large value payment system as against EFT, the values of transactions processed in the former are much larger.

3.4 E-BANKING SERVICES

The process of computerization of bank branches was the starting point of e-banking services. Computerization means the installation of computers and the required softwares to automate the functions of bank transactions. In the case of electronic banking, the customers can avail themselves of certain financial services without the assistance of the bank employees and with the help of technologies. As stated earlier, the e-banking services include: Automatic Teller Machine, Credit Card, Debit Card, Internet Banking, Mobile Banking, Electronic Clearing Service, National Electronic Funds Transfer, Real Time Gross Settlement and the like.

3.4.1 Automatic Teller Machine (ATM)

The first Automated Teller Machine (ATM) was introduced in the year 1967 by Barclays Bank in Enfield Town in North London. Hongkong and Shanghai Banking Corporation installed the first ATM in the year 1987 at Kolkata in India. Indian Bank was the first public sector bank to instal an ATM in India. These were all standalone ATMs.
In February 1997, the Indian Banks Association promoted a network of ATMs in Mumbai called “SWADHAN” providing facility for cash withdrawal at ATMs of any of the member banks. This was the first major attempt in India to provide networked ATM services. The introduction of the ATM proved to be an important technological development that enabled financial institutions to provide services to their customers in a 24 X 7 environment. In 2005, there were over 1.5 million ATMs installed world wide.

The ATM also known as “Any Time Money”, because it allows the customer to withdraw money any time from bank is used by the banks for making customer dealings easier. It increases existing business and generates new business. ATM allows the customers to transfer money to and from accounts or deposits and views account information. ATM offers more benefits to banks such as improved customer services, larger penetration, extended hours of service and less crowd at the bank

3.4.2 Credit Card

According to Encyclopedia Britannica, the use of credit cards originated in the United States during the 1920s. In India the credit card was introduced by the City Bank’s Diner’s Club Card in the year 1969. A credit card is a thin plastic card usually 3-1/8 inches by 2-1/8 inches in size that contains identification information such as signature or picture and authorizes the person name. Most Indian banks have entered the credit card business after 1980. The credit card is a small plastic card that allows its holder to buy goods and services on credit and to pay at fixed intervals through the card issuing agency.
The number of major players has increased from just one issuing agency in 1980.

India is the main growth area for the credit card transactions. The increased usage of credit card transactions showing 29.24% growth rate in 2004-05, a 20.55% growth rate in 2005-06, 8.61% growth rate in 2006-07, 34.60% growth rate in 2007-08, 13.74% growth rate in 2008-09, -9.75% growth rate in 2009-10 and 13.19% growth rate in 2010-11. The more number of times the high volume of cash payments are performed through credit cards. The high volume of cash payments showing 45.42% growth rate in 2004-05, 31.92% growth rate in 2005-06, 22.05% growth rate in 2006-07, 40.19% growth rate in 2007-08, 12.71% growth rate in 2008-09, -5.40% growth rate in 2009-10 and 22.15% growth rate in the year 2010-11.

Credit Cards are an alternative to cash which allow the customers to buy goods and services on credit. The payment is to be made to the bank before a prescribed period of time. The credit limit is at the discretion of the bank which issues the card. Basically the card comprises of different facilities depending on the annual income of the card holder. Plastic money has played an important role in promoting retail banking.

3.4.3 Debit Card

The first National Bank of Seattle issued the first debit card to the business executives with large savings accounts in 1978. The bank issued debit card to those customers who had a long history with the bank and were in good standing. In 1984, Landmark implemented the first nation wide debiting system
built on the Credit Card infrastructure and ATM networks already in place. By 1998, the debit cards outnumbered cheque usage around the world. Its preference over cheque continuous to grow every year, the word debit means subtract and as the name suggests, your account each time you use it. The use of debit cards is limited to the existing funds in the account to which it is linked. A debit card is a plastic card that provides an alternative payment method to cash when making purchases. A debit card may be used to obtain cash from an ATM. The growth of the debit cards in towns or cities of India is gradually increased. The growth rate of debit card transactions has shown as 9.98% in 2004-05, 10.00% in 2005-06, 31.71% in 2006-07, 46.74% in 2007-08, 44.55% in 2008-09, 33.30% in 2009-10 and 39.31% in 2010-11. The debit card payments are highly made in the year 2009-10. The highest volume of payments through debit card has recorded the growth rate of 10.00% in 2004-05, 9.99% in 2005-06, 38.56% in 2006-07, 53.22% in 2007-08, 48.12% in 2008-09, 42.43 % in 2009-10 and a 46.45% in 2010-11.

Debit cards can be used like a credit card for purchasing products and also for drawing money from the ATMs. As soon as the debit card is swiped for purchasing, money is debited from the individual’s account.

3.4.4 Internet Banking

One of the significant developments of the 20th century is the internet in the field of information and communication technology. The introduction of internet has brought in the concept of “Any time Anywhere banking”. Internet
banking or online banking refers to the conduct of financial transactions by the customers with the help of a secure websites operated by the banks.

The internet banking executes the online transactions such as bank account inquiry, payment of utility bills, credit card bill payments, status inquiry, bank related information and online shopping. The banks have been riding high on the technological wave of internet banking and at the same time discouraging physical banking transactions. The internet banking serves the customers the transactions at his home or office. The services such as electricity bill payments, income tax payments, house tax payments, cell phone recharge and any other payments are performed from home with an internet banking connection. The number of visits to the bank can be minimized effectively by operating from the internet account.

3.4.5 Mobile Banking

Wireless mobile phones, which were first introduced as a means of telephonic conversations, are now being used for different purpose such as recording and sending text messages, taking snapshots and now for carrying out banking transactions. Mobile banking is a banking service provided through a mobile network and accessed through a mobile device such as a mobile phone. It is a service that permits the customers to do banking transactions without making a call through the use of short message service (SMS). The processing of numbered buttons on the keyboard of the mobile phone would be enough to carry out all the banking transactions. Mobile banking transactions can be categorized into three types – information based,
transactions based and relationship based applications. Information based application helps a customer obtain essential information related to his account, new items and share prices. The transactions based application is the next higher level of service which facilitates the transactions such as transfer of funds from one account to another, stock trading and applying for credit and the relationship based application helps in building personalized relationship between the bank and its customers such as receiving targeted promotions and location based information through some clicks on the key pad.

### 3.4.6 Mobile Banking Vs. Internet Banking

Internet banking requires the use of personal computer or a laptop along with an internet connection provided by an internet service provider (ISP). Its service depends on the proper working of the website of the bank and also on the quality of the service provided by the ISP. If the website is not functional due to any technical reason or on account of maintenance activity undertaken by the bank, the user may not be carried in the pockets and hand bags unlike a computer terminal. Another advantage is that the mobile phones are much cheaper than either the personal computer or a laptop and thus affordable to majority of the people irrespective of their financial status. In many of the organizations there are restrictions on the personal use of internet. Hence, employees cannot use the internet banking facility. However, mobile phones can be used at any place and time for instance in the cafeteria or in the gardens. The infrastructure required for the installation of internet based personal computer facility is cumbersome. While there are no such installation charges
for mobile phones and hence, the popularity of mobile phone is growing at a rapid pace not only in developed countries but also in the developing countries.

3.4.7 Electronic Clearing Services (ECS)

The Reserve Bank of India introduced the electronic clearing services in India in the mid 1990s, which is identified as the Automated Clearing House (ACH) system. The electronic clearing services are performed in two methods, one of which is credit clearing and the other is debit clearing. While the credit clearing operates on the principle of “Single debit – Multiple credits” the debit clearing operates on the principle of “Single credit - Multiple debits”.

3.4.8 ECS – Credit Clearing

“Single Debit – Multiple Credits” - The procedure for electronic clearing service – credit clearing (ECS – Credit) was introduced by the Reserve Bank of India in November 2007. The more number of payment transactions with a small amount of cash can be performed by the banker by accepting single debit and giving multiple credits to their customers through electronic clearing service. For example, if a company wants to pay salary to its employees, the banker can accept single debit and the salary of the employees’ accounts are credited with the different amount. This is how the rapid growth of e-commerce and the use of the internet have led to the development of new payment mechanism. The growth rates of electronic clearing service – credit transactions account for 97.14% in 2004-05, 10.39% in 2005-06, 40.03% in 2006-07, 26.56% in 2007-08, 12.79% in 2008-09, 11.03% in 2009-10, and 19.53% growth in 2010-11. The growth rate of ECS – Credit payments is
97.29% in the year 2004-05 that is 20179.81 crores rupees settled through ECS – Credit. The growth rates in this regard stand at 60.18%, 157.62%, 839.35%, -87.53%, 20.64%, and 54.48% during the years 2005-06, 2006-07, 2007-08, 2008-09, 2009-10 and 2010-11 respectively.

3.4.9 ECS – Debit Clearing

“Single credit – Multiple debits” – The procedure for electronic clearing service debit clearing (ECS – Debit) was introduced by the Reserve Bank of India in November 2007. The more number of collecting transactions with a limited amount from different customers can be performed by the banker by collecting multiple debits and give single credit to the particular customer through the electronic clearing services. For example, the electricity board requests the banker can collect the electricity bill from the consumers. The banker can collect the electricity bill from the consumers in multiple times from the multiple consumers and the collection is credited in single transaction to the electricity board account.

The rapid growth of the new collecting mechanism ECS – Debit has the growth rate of 94.31% in the year 2005. They performed 15300 thousands of transactions in the year 2005. The growth rates in this regard stand at 135.01%, 109.13%, 69.03%, 25.90%, -6.73% and 4.99% during the years 2005-06, 2006-07, 2007-08, 2008-09, 2009-10 and 2010-11 respectively. The high amount collected through ECS – debit, the growth rates in this regard stand at 29.62%, 344.55%, 95.90%, 92.35%, 36.86%, 3.80% and 5.92% during the years 2004-05, 2005-06, 2006-07, 2007-08, 2008-09, 2009-10 and 2010-11 respectively.
The Reserve Bank introduced the electronic clearing services in India in the mid 1990. The credit clearing operates on the principles of ‘single debit-multiple credits’ and ‘single credit – multiple debits’. Making payments of salary, pension, dividend and interest are performed through ‘single debit – multiple credits’. The electricity bill, telephone bill, receiving principal amount or interest for housing or personal loan from the borrowers is performed through ‘single credit – multiple debits’ by electronic clearing services.

3.4.10 National Electronic Funds Transfer (NEFT)

The history of National Electronic Funds Transfer (NEFT) has originated from the common funds transfer of the past since the 19th century and with the help of telegraphs, funds transfer were a usual commercial transaction. And this involved a lot of paper works, a long queue and time consuming. Finally it migrated itself to computers and automation and thus become the national electronic funds transfer today. NEFT is a system introduced by the RBI in the year 1995. NEFT is a system of transferring money from one bank account directly to another without any paper money changing hands. One of the most widely used NEFT programs is computer based fund transfer system used to perform financial transactions like direct deposit, in which pay roll is deposited straight into an employee’s bank account, although NEFT refers to card based system used to transfer funds through an electronic terminal, including credit card, debit card, charge card and point of sale transactions. It is used for both credit transfers such as pay roll payments and for debit transfers such as mortgage payments.
The development of national electronic funds transfer system has been on increase every year. The growth rate of NEFT is 178.78% in 2007-08. The growth rates during 2004-05, 2005-06, 2006-07, 2007-08, 2008-09, 2009-2010 and 2010-11 account for 174.60%, 36.37%, 55.72%, 178.78%, 141.53%, 106.27% and 99.49% respectively. The high amount of transfer effect was Rs.939149.03 corer in the year 2010-11. During the years 2004-05, 2005-06, 2006-07, 2007-08, 2008-09, 2009-10 and 2010-11, the average growth rates constitute 218.84%, 12.24%, 26.36%, 81.19%, 79.55%, 62.53% and 129.33% respectively.

National Electronic Fund Transfer is a system introduced by the Reserve Bank of India in the year 1995. It helps to transfer funds from any bank branch to any individual, firm or corporate having an account with any other bank branch in the country. This is done without any paper money changing hands. The NEFT System at present covers all the branches of the public sector banks and scheduled commercial banks at the centers in different places in India.

3.4.11 Real Time Gross Settlement (RTGS)

Real Time Gross Settlement (RTGS) is launched by the Reserve Bank of India on 26th March 2004 in India. It is a large value funds transfer system whereby financial intermediaries can settle interbank transfers for their own account as well as for their customers. Real Time Gross Settlement System (RTGS) is a funds transfer mechanism where transfer of money takes place from one bank to another on a “Real Time” and on “Gross” basis. Settlement in “Real Time” means payment transaction is not subjected to any waiting period.
The transactions are settled as soon as they are processed. “Gross Settlement” means the transaction is settled on one to one basis without bunching with any other transaction. Once processed payments are final and irrevocable, RTGS will eliminate settlement risk between the interbank transactions.

Banks could use balances maintained under the Cash Reserve Ratio (CRR) instead of the intra-day-liquidity (IDL) to be supplied by the central bank for meeting any eventuality arising out of the Real Time Gross Settlement. The RBI has fixed the intra-day-liquidity limit for banks to three times their net owned fund (NOF). The introduction of RTGS has increased the number of transactions every year. In the case of inter-bank remittance, the highest growth rate for the volume of transaction is 168.87% in the year 2005-06. In this regard the growth rates come to 168.87%, 32.25%, 21.52%, 25.85%, 31.37% and 26.03% during the years 2005-06, 2006-07, 2007-08, 2008-09, 2009-10 and 2010-11 respectively. The highest growth rate for the value of transaction is 135.04% in the year 2005-06. In this regard, the growth rates come to 135.04%, 26.11%, -0.84%, 9.42%, -19.05% and 23.79% during the years 2005-06, 2006-07, 2007-08, 2008-09, 2009-10 and 2010-11 respectively.

The introduction of RTGS has increased the number of transactions every year. In the case of the customer remittance, the highest growth rate for the volume of transaction is 948.52% in the year 2005-06. The growth rates during 2005-06, 2006-07, 2007-08, 2008-09, 2009-10 and 2010-11 account for 948.52%, 248.10%, 67.04%, 170.96%, 170.96% and 50.22% respectively. And the highest growth rate for the value of transaction is 929.47% in the year

The Real Time Gross Settlement was introduced by the Reserve bank of India on 26th March 2004 in India. It is a large value funds transfer system. The minimum amount to be limited to real gross settlement is rupees one lakh. There is no upper limit for RTGS transactions. It is more secure and economical fund transfer system. Table 3.10 shows the volume of transactions and the value of settlement through RTGS affected by the bankers.

3.4.12 Government Securities

Government securities mean bonds, notes and other debt instruments sold by government to finance its borrowings. These are generally long term securities with the highest market ratings. Since the introduction of the Central Government securities settlement system (CGSS) in September 1997, Central
Government Bonds have been issued in the book-entry form. In October 2001, Treasury bill was added to the system and has been issued in the book entry form since then. The CGSS is a Real Time Gross settlement (RTGS) for the issuance, transfer, and redemption and interest payment of central government bonds in the form of accounting entries on computer records.

Ownership of book entry central government securities is recorded in a two-tier system of accounts. Only the clearing banks are eligible to have a book-entry bond accounts and fund accounts (also serve as reserve balance) directly with the treasury department of the bank.

3.4.13 Stock Market

The stock market is either a private or public market where stock shares of the companies are sold or traded to potential investors. A stock is a proportional ownership interest in a company. When you buy stock in a company, you are actually purchasing a piece of that company. The term stock market is used for the overall stocks and bought at stock exchanges. A group of organizations can constitute a stock exchange to perform share dealings. A stock share, a legal document from the company or simply referred as ‘stock certificates’, will entitle one to be a co-owner of that company. It is considered a very important sector in the market economy.

3.4.14 Purchase Outright

Purchase outright means Government securities purchased outright by the authorities with no agreement to subsequently sell them through a
repurchase agreement or reverse repo. Buying outright means purchasing an investment opportunity with liquid financial resources that are in the possession of the investor usually in the form of cash on hand. Buying outright does not involve securing any type of loan in order to acquire a new investment, whether from a broker or a private source of funding.

Buying with cash rather than relying on a combination of cash and secured credit does have some advantages. Foremost among the reasons to engage in buying outright is that the transaction is a simple one. There are no allowances to be made for interest payments on a loan, no records to keep on the current status of a brokerage loan, and nothing that will need to be rapid, regardless of the future performance of the acquired stock or security. The investor has complete control of the investment, with no collateral tied up as part of the financing process. This means no additional resources are involved in the acquisition. It is strictly a cash purchase that, once complete, has no lingering loose ends to address.

Buying outright also makes the process of selling a stock or bond issue an easy process. The net profits that are realized from the sale are totally the property of the investor. There is no need to factor in payments other than the usual processing fee that is invoked by brokerage firms. A lack of incidental matters to address means that the actual process of selling stocks and securities is streamlined for the seller. With less time and resources involved in the transaction, the seller is able to quickly focus his or her attention to other money making projects.
While buying outright does have some advantages, there are situations in which the strategy is not the best method to employ. For investor who would have to tie up much of his cash assets in one investment opportunity, there is always the chance of losing a lot of money if the investment fails to produce revenue. Unless the investor has a great a deal of cash reserves to call upon, buying on margin may be a much better choice when it comes to acquiring new stocks and securities for the investment portfolio.

### 3.4.15 Repurchase or Repo

A repurchase agreement also known as a repo, RP or sale and repurchase agreement are the sale of securities together with an agreement for the seller to buy back the securities at a later date. The repurchase price should be higher than the original sale price, the difference effectively representing interest, some times called the repo rate. The party that originally buys the securities effectively acts as a lender. The original seller is effectively acting as a borrower, using their securities as collateral for a secured cash loan at a fixed rate of interest.

A repo is equivalent to cash transaction combined with a forward contract. The cash transaction results in transfer of money to the borrower in exchange of legal transfer of the security to the lender, while the forward contract ensures repayment of the loan to the lender and return of the collateral of the borrower. Under the proposed settlement mechanism the buyer of securities will transfer the funds through his bank to these transitory accounts through RTGS. The clearing houses will thereafter transfer the securities from
the seller account to the buyer and affect the release of funds from the
transitory account to the seller account.

3.4.16 Money Market

Money market is a market for debt securities that pay off in the short
term usually less than one year, for example the market for 90-days treasury
bills. This market encompasses the trading and issuance of short term non
equity debt instruments including treasury bills, commercial papers, bankers
acceptance, certificates of deposits and the like.

3.4.17 Foreign Exchange or Forex

The foreign exchange market or current market or forex is the market
where one currency is traded for another. It is one of the largest markets in the
world. Some of the participants in this market are simply seeking to exchange a
foreign currency for their own, like multinational corporations which must pay
wages and other expenses in different nations than they sell products. However,
a large part of the market is made up of currency traders. Currency traders try
to take advantage of even small fluctuations in exchange rates. The foreign
exchange market operates 24 hours a day throughout the week between
individuals with forex brokers, brokers with banks and banks with banks. The
foreign exchange market settlements are performed through Real Time Gross
Settlement System. (RTGS)

3.4.18 Collateralized Borrowing and Lending Obligation (CBLO)

Collateralized Borrowing and Lending Obligation (CBLO) is another
money market instrument operated by the Clearing Corporation of India
Limited (CCIL). By participating in the CBLO market, CCIL members can borrow or lend funds against the eligible collateral securities. Eligible securities are Central Government securities including Treasury bills and such other securities as specified by CCIL from time to time. Borrowers in CBLO have to deposit the required amount of eligible securities with the CCIL, based on which CCIL fix the borrowing limits. The CCIL matches the borrowing and lending orders submitted by the members and notifies them. While the securities held as collateral are in custody of the CCIL, the beneficial interest of the lender on the securities is recognized through proper documentation. The CBLO money market settlements are performed through RTGS.

3.5 CUSTOMER SERVICE IN E-BANKING

Technology based electronic banking service or e-banking is a network based or web based service which enables bank’s customers to access their accounts from anywhere. From the customer’s devices like personal computers, mobile phones and the like they can access the banking services easily. Through the banker’s devices like automatic teller machine, coin vending machine, other electronic devices the customer can access the banking services. The virtual devices can also offer the e-banking services to the customers.

One of the most popular e-banking services through ATM can be easily accepted and used by the bank customers. The ATM can be accesses conveniently round the clock throughout the year with least time for transactions. Acceptability of all plastic cards issued across the multiple bank ATMs. E-banking provides many services besides cash discharge low cost to
their customers. Online purchase of goods and services and payment can be arranged for various purposes through e-service centers. It can assure immediate settlement and payment to the various transactions made by the customers. Providing various services to the customers with low transactions cost. The inconvenience of visiting and waiting at the banks is eliminated. E-banking enhances the customer satisfaction and increase the public confidence, which includes security, no repetition, trust and authentication. The hi-tech multiple service channels and delivery mechanism provide a great opportunity to reach and enlighten the customer with much ease.

3.6 ISSUES AND CHALLENGES IN E-BANKING

The banking sector faces the following challenges arising out of e-banking. Large investments: The banks have to invest heavily in technology and with people without appropriate technical skills; they cannot market their new financial products and services.

Operational risks: Processing of information through IT is the cores of the e-banking procedures have to be rationalized to suit the new technology. Excessive reliance on technology often may explore to grater operational risks.

Threat from hackers: Safeguard in the system and software from the hackers through encryption (the process of putting message or information into code) is a major challenge in the adoption of e-banking.

Value addition: There should be greater degree of value addition to both customers and bank. Offering better services with value addition is a real challenge for the banks planning to implement e-banking.
Digital divide: Larger investments in e-banking may lead to the emergence of ‘digital divide’ as a result of IT-led knowledge intensive innovations in banking sector. As a result of this, the educated participants are likely to be the real beneficiaries while the less privileged are likely to lag behind. High concentration of research and development technology at a given point of time may insist on a ceiling limit for expansion and growth. As it requires huge investments in monitoring current trends in technology and tapping the same is not an easy task. It sometimes, becomes a major challenge to the banks.

Prevention of frauds: The fraudulent areas in e-banking network are on higher side. Unless confidence of the customers.

Threat from legal system: The reputation of the bank may be at stake if the promised services are not properly delivered on time. This is evident from the large number of consumer court verdicts against the credit card issuing banks.

There are several emerging legal issues that must be addressed through the evolving legal and regulatory frame work of e-banking.

3.7 RISKS IN E-BANKING

The Reserve Bank of India (RBI) has been playing a pro active role for securing Internet banking and online banking transactions. Recently, The RBI showed its intention to boost ATM security in India. In the past, concerns have been raised from time to time for preventing online banking frauds in India by RBI.
There are many problems which page a big threat to the online banking or internet banking. The most important one pertains to maintaining effective cyber security for banking and financial sector of India. Similarly, there is no effective internet banking laws or online banking laws in India. In the absence of stringent laws in this regard, online banking risks in India are increasing. However, of all the shortcomings, nothing can match the absence of encryption laws and standards in India. In the absence of proper encryption norms in India, e-banking in India is really insecure.

The RBI has realized this fact and it has cautioned banks that e-banking must be used by them with proper security and safeguards. “The use of e-banking has brought many concerns from different stakeholders. Everybody’s primary concern is security. As more and more people are exposed to the information superhighway, privacy of information and the security that goes hand and hand with this information is crucial to the growth of electronic transactions,” said R Gandhi, Executive Director, the Reserve Bank of India. He further Gandhi said that in order to provide effective and secure banking transactions, there are three technological issues that needed to be resolved. “The key areas are the security, privacy and authentication,” he said. Strengthening the privacy of technology, will ensure the secrecy of sender’s personal information and enhance the systems security. “Also encryption may help make the transactions more secure, but there is also a need to guarantee that no one alters the data at either end of the transactions,” asked he.
Recently, G.Gopalakrishna, the executive director of the RBI, said that all banks would have to create a position of Chief Information Officers (CIOs) as well as steering committees on information security at the board level at the earliest, informs Praveen Dalal, managing partner of New Delhi based ICT law firm Perry4law and leading techno legal specialist of India. This step was taken to ensure proper Cyber Securities Policies and Strategies at the highest board level of banks, says Dalal. Although, the RBI is taking many far reaching and important steps, e-banking in India still very risky. Of late, cases of phishing and banking frauds have increased tremendously in India. Further, cyber due diligence of banks in India is still a far dream. Even the directives of RBI to appoint CIOs and steering committees on information security have not yet been implemented. The end result is that banking customers are still losing their hard earned money to cyber criminals. Hopefully, the RBI would take some urgent steps in these directions as soon as possible, says Praveen Dalal. Keeping in view - the changing threat milieu and the latest international standards, it was felt that there was a need to enhance the RBI guidelines relating to the governance of IT, information security measures to tackle cyber fraud apart from enhancing independent assurance about the effectiveness of IT controls. To consider these and related issues, the RBI announced the creation of a Working Group on Information Security, Electronic Banking, Technology Risk Management and Tackling Cyber Fraud in April, 2010. The Group was set up under the Chairmanship of the Executive Director Shri.G.Gopalakrishna.
The Group discussed various issues arising out of the use of Information Technology in banks and made ‘recommendations in nine broad areas. These areas are IT Governance, Information Security, IS audit, IT Operation, IT Services Outsourcing, Cyber Fraud, Business Continuity Planning, Customers’ Awareness Programmes and Legal issues. The risks are listed below:

**Credit risk** – The risk that a party within the system will be unable fully to meet its financial obligations within the system currently or at any time in future.

**Liquidity risk** – The risk that a party within the system will have insufficient funds to meet financial obligations within the system, as and when expected, although it may be able to do so at some time in future.

**Legal risk** – The risk that a poor legal frame work or legal uncertainties will cause or exacerbate credit or liquidity risks.

**Operational risk** - The risk that operational factors such as technical malfunctions or operational mistakes will cause or exacerbate credit or liquidity risks.

**Systemic risk** – In the context of payment systems this is the risk that the inability of one of the participants to meet its obligations or a disruption in the system itself, could result in the inability of other system participants or of financial institutions in other parts of the financial system to meet their obligations, as they become due. Such a failure could cause widespread liquidity or credit problems and as a result could threaten the stability of the system or of financial markets. The core principles apply to payments systems
which could trigger or transmit systemic disruptions in the financial area because of the size or nature of individual payments, which they handle or because of the aggregate value of the payments processed. A payment system does not necessarily handle only high value payments, the term can include a system which handles payments of various values, but which has the capacity to trigger or transmit systemic disruption by virtue of certain segments of its traffic. In practice the boundary between payment systems, which are systemically important and those which are not will not always be clear-cut and the Central Bank will need to consider carefully where that boundary should be drawn. The principles may also be useful in assessing and understanding the characteristics of systems, which pose relatively little systemic risk. It may be desirable for such systems to comply with some or all of the principles.

3.8 SUMMARY

This chapter is descriptive in nature based on the secondary data collected from the reports of the Reserve Bank of India, Journals and Books. It has dealt with the origin and growth of e-banking in India. The performance of e-banking services has been analyzed with the support of financial data obtained from the Report on Trend and Progress of Banking in India. Besides, the operational aspects of e-banking have been thoroughly discussed. In the service delivery system, the role of technology has been highlighted. It is to be noted that the various e-banking products and services have been discussed with relevant features. The issues, challenges and risks involved in e-banking have been explained theoretically with the support of available financial data.
Thus, in this chapter, e-banking services have been discussed in an exploratory sense under different heads.