CHAPTER - I

INTRODUCTION AND DESIGN OF THE STUDY

1.1 INTRODUCTION

Technology indicates all knowledge, products, processes, tools, methods and systems employed in the creation of goods or in providing services. Simply stated, it is the way of doing things. Technology does not just mean computer systems and the like. The technology consists of the following components: Hardware (the equipment or machinery used to execute the task), Software (the logic of using the hardware to carry out the task) and Brainware (know-why). To this know-how, the knowledge of doing things (in whatever manner acquired) may be added.

When we take a close look at the technology management in banks, it would be incumbent upon as to review how technology has influenced the above areas of the banking industry, especially in the post liberalization era. Banks are primarily service organizations and their profitability and survival greatly depend upon their ability to widen and retain their customer base by rendering a multitude of services in a manner that meets the expectations of the
customers. The expectations/satisfaction of the customers may be function of time, cost, perceived efficiency and the pleasant feeling with which one leaves the bank. While the first three parameters relate to information and financial technologies in place, the fourth one has a human (e) or human resource dimension. It is pertinent to note in this connection that technology’s contribution is not only in how goods and services can be produced but also in those having the potential to be produced.\(^1\)

At the very base of customer orientation lie the four aspects of evaluation made consciously or unconsciously by a customer, namely speed, certainty, ease and recognition. This calls for a bank of the future to be a highly technology-oriented one. Further, none of the modern products come without technology. Information technology as the cliché goes is ‘ruling the roost’ as far as banks are concerned and no bank can survive in future without paying proper need to it.

Indian Banking began its tryst with technology in the 1980s in a small way on the recommendations of Rangarajan Committee and the 1990s plummeting hardware prices also contributed to its adoption. India is known world over for its technological prowess and the greatly sought after technology experts. But Indian economy as a whole and banking sector in particular, has lagged far behind the industrialized countries in technology adoption and failed to reap timely benefits of all the technological innovations and expertise. In fact the countries which were the early adopters of technology were able to benefit by way of increased productivity with a head start in
capturing the market by their innovative technological and highly customized products.²

Today the customers are more demanding than ever before. Customers want to contact the bank at the time and way of their choice. If the bank cannot provide the information and services to the customers they need, the bank may lose the customers. To meet these demands, banks have opted for computerization. However reliability, maintainability, availability for and easy accessibility to customers and staff as well are the banks requirements of computerization. Here, ‘reliability’ means that the computerization should do what it is expected to do at any point of time. Decision makers should be able to get the desired and required information quickly. Reliability may be determined by placing the appropriate operational computerized systems for a long period of time with fewer human interventions. ‘Computerization is maintainable’ implies that all system modules and programs can readily be enhanced, corrected and adopted to new operational development of the bank as and when required. The ‘Availability of System’ may be defined as to provide insight into whether the systems will be in place and working when it is needed for critical applications or not.

The quality of computerization is determined by the satisfaction of bank, not by the absence of software bugs. Successful computerization plays an important role in building the reputation and progress of the banks. Banks must know what stakeholders, customers and officials of the bank want to achieve from computerization. The computerization of banks has thrown up newer and
more formidable challenges. The physical boundaries of the branches are not the constraints for the business. With the rise of the internet and e-banking, banks are more empowered and so is the customers.³

The commercial banks have been drastically changed from the traditional business to innovative banking with an aim to uplift the socioeconomic condition of the masses. According to the traditional method of banking operations, the customer has to visit the bank in person to withdraw cash and fund transfer, whereas in the innovative banking system, the customer need not go to the bank. These transactions are carried out on internet and the customer can access the bank at any time from his office or home through PC or LAPTOP eliminating paper based transactions. The modern banking is tending to be more information speedy as an impact of e-revolution. Thus, the e-banking is use of technology in day-to-day transactions, by the customers to access their banking services electronically, whether it is for payment of bills, transfer of funds, retrieval of information and providing services. The electronic services, available to the customers, are through phone, personal computer, television and internet. These four important elements are collectively considered e-banking. They are: transforming core business that is offering services, building flexible and expandable e-banking applications, running scalable, available, safe environment by providing security and leveraging knowledge and information through e-banking.⁴

Utilization of advanced e-technology is a global phenomenon. Effective and efficient leverage of technology saves cost and time and adds value to the
customers. Starting off with the basic automation of the bank branches, they are how adopting technology solutions like Core Banking Solutions (CBS) which help them compete better in today’s world by enabling them to differentiate their products and services from their competitors.

CBS has heralded a new era in the banking world. It opened up new channels to transact with the customers. Now the customer has the choice of carrying out his transactions either through the ATMs, or through internet or ever over phone. As a result there is a complete change in the way of the banking. This is the era of “anywhere and any time” banking, making the branch banking and limited banking hours a thing of the past. This is also the time of real-time banking. Transactions get done instantly, without waiting for the next couple of days or weeks especially in the case of gross-border money transfers. All this is an integral part of the CBS. At the same time, CBS who helps banks decrease the product development and testing lead time enabling the bank to launch new products and become innovative and agile.\(^5\)

The first automated teller machine (ATM) was introduced in the year 1967 by Barclays Bank in Enfield Town in North London. Then for many years the aim was to shift people off the teller lines thus lowering a bank’s distribution costs and increase efficiency. But in the 1980s it was noticed that people continued to visit branches, though not as frequently. Then, in the mid-1990s came surcharges, which fuelled the proliferation of off-premises ATMs, Which led in turn to the current overcapacity. The number of ATMs installed in India grew by almost 28% from 21000 in March 2006, to more than 27000 by
March 2007. Wide acceptance of ATMs by the customers, introduction of biometric ATMs, and increasing scope of value-added ATM services will maintain growth in the industry. In 2008, there are more than 36,314 ATMs available in the country to access the customers round the clock anywhere and any time.\footnote{6}

Over the past few decades, there has been a notable change in consumer financial services, which has opened the door to use credit cards, both for payments and as sources of revolving credit. Credit cards become an ever-present financial product for restaurants, departmental stores and purchase without carrying cash, held by any household in all the economic strata. In day-to-day life, credit cards as well as debit cards serve as an important payment device in place of cash for purchases and transactions that would otherwise be inconvenient or perhaps impossible (especially while making retail purchases over telephone or the internet). Moreover, credit cards are considered to be the primary source of unsecured open-ended revolving credit and to a large extent, it replaced the installment purchases which used to increase the sales volume of the retail store in the earlier days. In case of credit cards, the bank (that is the card issuer) lends money to the user based on the credit limit provided at the time of issuing the credit card as well as the interest rate fixed by the issuing bank.\footnote{7}

Technological advancements have brought about various changes in the way in which various products and services are delivered to the customers by the banks. Banks have been at the forefront in harnessing technology.
Technology has resulted in the computerization of the bank branches and has given rise to electronic banking channels like automated teller machine, internet banking, mobile banking and phone banking. Of these, internet banking, relatively a new feature in the banking sector, has witnessed a phenomenal growth in recent years. It has emerged as a novel way of providing financial services to the customers. Customers are now feeling comfortable and at the same time convenient while banking through internet. Internet banking is based on internet, which is used as a medium to offer various financial services. The banking sector has recognized the potential of the internet as an effective medium to offer various banking products and services.

Internet banking has gained popularity among various banks and their customers because it is cost-effective, promotes anytime-anywhere banking, facilities the expansion of customer-base through increased geographical reach and helps serve millions of customers at the same time. It also adds to the choice of customers, as they would prefer to use multiple channels of banking depending upon their need and urgency. All these advantages have promoted the growth of internet banking across the world. At the same time, there are several risks that are inherent in this kind of banking. The highly unregulated internet makes banking vulnerable to various types of risks. The risks involved pose a threat not only to the bankers but also to the customers. Therefore, the role of the regulator becomes significant in protecting the interests of the customers and the banks.⁸
Mobile banking can be defined as conducting banking and stock market services, administering accounts and accessing customized information through handled electronic communication devices like mobile or cellular phones and PDAs. It is also referred to as Wireless Banking, SMS-Banking, or M-Banking. This mobile commerce (M-commerce) application is widely offered by almost all the mobile phone service providers across the globe. The mobile banking technology enables the customers to pay bill, to make account balance and cheque status, account statement enquiries, cheque book requests, to transfer funds between accounts, to check credit/debit and minimum balance, to get minimum balance alerts, to request for recent transactions history and interest rates/exchange rates, and to new product announcements on their mobile itself.9

Payment systems are important for economic growth and they are evolving – largely driven by innovation, convenience and economic benefits. Efficiency in payment systems in general and electronic payment systems in particular, benefits every customer as well as the country’s economic growth. The electronic payment system evolution can be traced back to the 1950s with the introduction of ERMA (Electronic Record Method of Accounting) and MICR (Magnetic Ink Character Recognition) based on cheque-clearing systems in the USA. In India, post implementation of MICR based clearing in 1986, over the last two decades, other payment systems like card on based payment systems, ECS, EFT, RTGS, NEFT and CTS have come in and they offer a different set of capabilities for the wholesale and retail customers. The study on the performance of Indian payment systems during the last three years indicates
that in India, all electronic modes of payments have shown better growth than the physical cheque based payments. Despite their popularity, card based payments contribute less than 0.5% of the total payments by value whereas physical cheque based clearing continues to grow.¹⁰

Electronic Clearing Service (ECS) – Credit clearing is a mode of payment whereby an institution makes a large number of payments like interest, dividend, salary, pension to a large number of investors / share holders / employees / ex-employees can make the payments electronically instead of issuing paper warrants. The scheme is operational in 46 cities in India. The transactions are settled on the second day of submission of data to the clearing house. There is a centralized ECS clearing for 15 RBI centres which give the facility of submission of data at any one of them. There is no value limit for making ECS credit payments. The scheme benefits all concerned especially to the corporate bodies (users) in not having to print and dispatch numerous paper instruments, to the clearing system in not having to deal with paper instruments and to the beneficiary (share holders, depositors etc.) in getting the credit directly into their bank account on the due date. ECS credit is becoming very popular for crediting salaries, pensions and vendor payments. ECS credit has received a boost on account of CVC guidelines on prohibiting cash payments, cash transactions tax and also SEBI guidelines on payment of dividends.

Electronic Clearing Service (ECS) – Debit clearing is a mode of payment whereby an institution receives payments from a large number of consumers / customers. ECS (Debit Clearing) Scheme helps utility institutions,
insurance companies, credit card companies and finance companies to collect the proceeds of telephone / electricity bills, insurance premia or periodical instalments and the like. on the due date based on the mandates received from the consumers / subscribers. ECS debit is also a two day affair with the transactions settled on second day of submission of data to the clearing house. The scheme is made available at 15 centres by RBI. In addition, this scheme is also made available by SBI at 30 centres and at one centre by SB of Indore.

Electronic Funds Transfer System (EFTS) - The RBI, as part of the initiatives aimed at quick movement of funds in a paperless mode, introduced the EFTS in 1996. The EFTS at present covers all the branches of 27 public sector banks and 55 scheduled commercial banks at 15 centres (Ahmadabad, Bangalore, Bhubaneswar, Kolkata, Chandigarh, Chennai, Guwahati, Hyderabad, Jaipur, Kanpur, Mumbai, Nagpur, New Delhi, Patna and Thiruvananthapuram). Fund transfer is possible from any branch of the banks covered under EFTS at these centres to other branch of any bank at these centers both inter-city and intra-city. EFT is a system whereby any one who wants to make payment to another person / entity can approach his bank and give instructions / authorization to transfer funds directly form his accounts to the bank account of the receiver / beneficiary. The remitter can pay cash to the remitting bank towards the remittance of funds or authorize / instruct to debit his account, for transferring funds to beneficiary / receiver’s account with the same bank or another bank.
If the customer bank (that is the remitting bank) transmits the fund transfer message to the RBI so as to hit the first settlement at 12 noon, the receiving bank’s account is credited by the RBI at the destination center and beneficiary gets the credit on the same day (Day 1) itself. If the money sent is included in subsequent settlements, i.e., for 2 pm and 4 pm, the beneficiary gets the credit on the next day (Day 2). One can avail himself of the facility even if the branch from where he is sending the amount is not fully computerized. Almost every district in the country is enabled with the facility of EFT with the tie-up of the State Bank of India and the central bank.  

The introduction of real time gross settlement (RTGS) by many countries has not only resulted in compliance with the core principles for systemically important payment systems enumerated by the Bank for International Settlements (BIS), but has also paved the way for risk-free, credit push-based fund transfer settled on a real time basis and in central bank money. However the liquidity requirements for the RTGS are relatively high. An RTGS system is a settlement system in which processing and settlement takes place on an order-by-order basis (namely, without netting and in real time continuously) hence, payments become irrevocable and final immediately after booking on the accounts. The idea of RTGS processing was not completely new it is an extension of EFT but in contrast to net settlement systems, it requires a low degree of concentration. Particularly, in federally structured countries, such as Germany and US, payment systems are already combined features of net and gross settlement. In addition, advanced technology made
RTGS an affordable system for a wider range of payments. Parallel, while most systems in the 1970s and early 1980s did not distinguish payments according to size, it became increasingly common to do so. This is explained in part by the higher costs of processing time-critical large value payments more swiftly and with additional safety measures compared with processing less urgent payments. Financial institutions around the world are faced with growing set of challenges. Competition is intense, managing risk is more important and responding quickly to change is a necessary.\textsuperscript{13}

Liberalization, privatization, and globalization have completely changed the customer relationship management in banks. The process of globalization and our move towards global standards have changed the perception of customer service, and the banking endeavor to serve the customer better has resulted in innovative banking services and products. Banks are looking for more and more interaction with customers to build customer relationship. But to deliver an improved and in-depth understanding of customers’ wants and needs a fully integrated customer management system, along with complete transparency, is required. In the emerging market scenario, for survival and growth, it is critical for a bank to align its vision, mission, goals and objectives with customers’ satisfaction. The marketing techniques of banks affect the performance of banks. The future of any business lies in its excellent management of customer relationship. Customer focusing is not to be viewed as just a business strategy but should become a corporate mission. Once good service is extended to a customer, the loyal customer will work as an
ambassador of the bank and facilitate the growth of business. Customer Relationship Management (CRM) is a vital factor to improve the performance of the banks. For delivering quality service, it is imperative to have customer orientation as a culture in the bank. Customer orientation builds long-term relationships resulting in customer satisfaction and cash flows to the banks. Today, the rural customers do not have any idea as to how much time is required for different types of banking services. The rural customers are not aware of the purposes for which loans are available and how they can be availed. The level of customer service and satisfaction is determined by branch location and design, variety of services, rates and charges, systems and procedures, delegation and decentralization, mechanization and computerization, competitive, efficiency, compliant redressal, and very importantly staff skills, attitudes, and responses. A good customer service in banks should have three basic tenets-courtesy, accuracy and speed. The quality of products and services is a dynamic factor for customer satisfaction in banks.

Customer care has been drawing much attention from the government, the RBI, and the banks themselves. Various committees have gone into the problem in great detail and made recommendations many of which have been implemented. Despite so many measures initiated at various levels to improve the standard of customer service, the level of satisfaction perceived by various segments of customer has been low. It is in this context that customer service has to be analyzed and appropriate strategies drawn up, not only to attract new customers, but also to retain the existing ones.\textsuperscript{14}
The financial services sector is not only the largest sub-sector in the service sector, but it is also the fastest growing sub-sector both in the developed and the developing economies. In addition to overall output, it also contributes significantly to employment generation. In the backdrop on ensuring efficient financial services in future, India has deregulated and liberalized the financial sector in general and the banking sector in particular. Simultaneously, the scope for India’s international trade in financial services is growing substantially, aided by the development in new technologies, especially in telecommunications and increase in foreign investment. With full implementation of the Financial Services Agreement (FSA) under the World Trade Organization, the entire spectrum of banking and all other financial services including insurance would function subject to multilateral trade rules. The FSA under the aegis of the General Agreements on Trade in Services (GATS) provides the multilateral legal frame work for 95% of world trade in financial services. Over the last decade, international trade in financial services has increased at a more rapid pace than the growth in the domestic financial sector. Besides, the markets have deepened and widened significantly with the introduction of more players’ and more instruments. Although the developed countries continue to dominate the scene of trade in financial services, the developing countries are increasingly integrating themselves, introducing more of innovations and becoming technologically more capable.\textsuperscript{15}

The greatest innovation in the field of banking is the introduction of Virtual Banking. The term ‘bank’ evokes in our minds a place of safe deposit
of our valuables, monetary transactions, and so on. The Reserve Bank of India symbolizes strength with its great fort-like entrance and the emblem with tiger. Many other banks have adopted similar logos like the dog of Syndicate Bank and the lock hole of Stage Bank of India. Even the name ‘Imperial Bank of India’ reminds us of something royal. Being a part of a nation of idol worshippers, we need some tangible images and brand names to channelize the customer loyalty towards the bank and this prompts them to adopt various emblems, symbols. Even modern marketing ‘gurus’ advocate a strong brand identity. It is in this world that a virtual bank is born which is faceless, shapeless and invisible. The question that comes to one’s mind at this point is whether these virtual banks will be successful and replace the banks of brick and mortar? Have they already begun their demolition exercise? Will the traditional banks become a part of our history?

Virtual bank has no face of a friendly branch manager, no luxurious lobbies where they can have glitzy magazines and hot coffee. They are the banks without a building; the banks come to one’s drawing rooms through the PC windows, which can be reached without spending money on the petrol. Still, one is assured of the same pretty range of services. It is the new kind on the block which was founded in the 1990s when the whirlwind of liberalization and deregulation started blocking across the globe. Banks experienced to pressure of competition and consequent shrinking of profit margin. They were compelled to cut down the costs. The advent of the internet and technological revolution enabled the bankers to launch the concept of virtual banks.16
The biggest challenge faced by the bank in moving from a manually operated system (1990s) to adopt a technology driven system is making its large work force computer savvy and ensuring successful implementation of computerization. As a first step in this direction, it adopted a human resource and retirement policy, which aimed at trimming its large work force. As a consequence, around 20,000, personnel got separated almost entirely through its golden shacks hand scheme. While bringing about these changes and making the organization fit to take up competition from the computer savvy new generation private sector banks and foreign banks in a big way, the bank opted to train its personnel to meet the latest needs. As a first step, the banks setup its various training institutes. For instance, to achieve the goal of attaining computerization, the State Bank Institute of Information and Communication Management (SBIICM) was set up at Hyderabad in 1987 with the aim of supporting the smooth transition from a manual system of operation to being technology driven. This institute plays a pivotal role in the adaptation of technology by the bank and meets the manpower requirement of the organization. The institute through its various programs manages the initiatives of the bank in the field of technology. In this context, the need was felt by the researcher to study the electronic banking services with reference to different types of banks.

1.2 STATEMENT OF THE PROBLEM

In the past, the banking industry was chiefly concerned with asset equality and capitalization. If the bank was performing well along these two
dimensions, then the bank would likely be profitable. Today, performing well on asset equality and capitalization is not enough. Banks need to find new ways to increase revenues in a “Mature Market” for the most traditional banking services particularly consumer credit. Many banks feel that in order to be profitable they need to reduce operating expenses and maintain strict cost control. This philosophy is evident in many mergers and acquisitions occurring in banking industry. Technology is the predominant solution for controlling costs. Banks are increasingly turning toward technology to help reduce operating costs and still provide adequate customer service. Innovation and technology are becoming the key differentiators in the financial services business. Technology is changing the interaction between banks and customers. In particular, technological innovations have enabled the following capabilities: Online delivery of bank brochures and marketing information, electronic access to bank statements; ability to request the transfer of funds between accounts; electronic bill payment and presentment; ability to use multiple financial software products with “Memory”.

The foregoing discussion reveals that e-banking draws a great attention in the banking industry. This is because e-banking reflects the latest of internet. Several major banks in India are offering e-banking services. Thus e-banking becomes an important part of the Indian banking sector. But at the same time, e-banking is subject to two important problems.

i) It is preferred by high income group to a large extent and medium income group to a small extent.
ii) There are several risks (external attacks, legal risk, money laundering risk, across-border risk, strategic risk and other risks) in which e-banking services have to be offered.

The e-banking service market is regarded as a competitive product market. It has also seen the introduction of e-banking technology and a shift towards customer service on the basis of competition. It has increased tendency of banks to compete on e-banking services and the use of technology as an enabler and differentiator of banking service provision. As such, banks have become service-oriented and technology-oriented. The technology orientation can be expressed in terms of the e-banking services, the broadness of the e-services offering, the degree to which a banker actively offers the e-banking services to his customers and the number of e-channels through which services are offered.

The advent of the internet has initiated an electronic revolution. The internet is one of the major distribution channels of banking products and services. Due to advancement in internet security and the relevant protocols, banks play their role as financial intermediators of commercial transactions. Banks have chosen a route of establishing a direct web presence as well as owner of financial services. New providers have emerged within and across countries, including online banks, online brokerages and companies that allow customers to compare financial services such as insurance policies. New financial entities are also entering the market including telecommunications and utility companies that offer payment and other services. Electronic trading and
communication networks have lowered the cost of training and allow for better price determination. The web has a tremendous impact on financial services. A recent survey indicated that consumers most frequently performed transactions include personal financial management services, messaging / e-mail and portfolio management.

One of the most significant developments in the past decade has been the rapid expansion of mobile technology and its widespread use in India. This has provided an opportunity for technology-savvy banks to reach out to their customers using yet another direct banking channel, one that is more potent and capable of causing greater impact than any seen so far—telephone, internet or ATM. While the predominant usage has been for voice communication, the real differentiation for the services is yet to come. Using the advanced technologies, it is made possible to provide high speed data access to the mobile phone.

Payment systems have come a long way from an era of manual operations and paper based settlements to an environment of computer enabled processing. Convergence of the traditional banking with the modern electronic payment system has changed the entire payment system of the commercial banks. During the transition, systems have encountered various challenges and have been constantly shifting to the rapidly changing scenario. The expansion of electronic payment mechanisms and an increase in the number of players and volume in the financial domain have placed additional responsibility on the
central bank that is involved with the organization and management of payment systems to ensure system integrity and robustness.

Managing customers is one of the main issues faced by banks. The demands and expectations of the customers grow at a much faster rate than the banks can equip themselves to be with them. If the service levels or the product levels are not up to the customer satisfaction, there is always a danger that the customer might shift his transactions elsewhere. In banking, as the products can be copied very fast, it is the customer service levels that really matter. The latest techno-savvy products coupled with excellent customer relationship will lead to customer satisfaction and delight. The customer relationship management has to be updated and upgraded. Techno savvy products will only benefit and respond to the ever changing demands of the customers. The major challenges stirring the banker in India relate to the need to introduce innovative, customer-friendly products and services for which it is essential to make use of newer technologies in multiple areas to reduce the overall transaction cost for the benefit of the customers.

In this regard, an attempt is made by the researcher to study the e-banking services provided by the commercial banks in Madurai District with the opinions of the sample respondents.

1.3 OBJECTIVES OF THE STUDY

The following are the objectives of the study:

i) To study the profile of e-banking services in Madurai District.
ii) To study the opinion of the sample customers with respect to electronic banking products and services.

iii) To study the opinion of the sample customers with respect of different electronic channels distribution.

iv) To study the opinion of the sample respondents regarding the level of electronic banking services and the level of customer satisfaction with reference to different electronic banking services.

v) To study the opinion of the sample respondents regarding the usage of electronic banking services and the electronic services offered by the selected banks.

1.4 SCOPE OF THE STUDY

The study is an empirical study, it is undertaken to highlight the opinion of the respondents regarding electronic banking products and services, taking into account different types of banks. Though the study focuses on the opinion of the respondents regarding different electronic banking products and services, it takes into account different electronic banking services for the purpose of the study. The different electronic banking services influence the financial needs of the electronic banking customers, and so the study is projected in the context of different e-banking services. Besides the level of electronic banking services and the level of customer satisfaction have considered to bring out the different facets of electronic banking on the basis of the opinion of the sample customers. Thus, the study has been undertaken from the point of view of the sample bank customers in Madurai District.
1.5 HYPOTHESES

The following are the hypotheses formulated for the purpose of the study:

- There is no significant difference in the opinion of the respondents about the credit card services and the debit card services.

- There is no significant difference in the opinion of the respondents about the credit card services and the mobile banking services.

- There is no significant difference in the opinion of the respondents about the credit card services and the internet banking services.

- There is no significant difference in the opinion of the respondents about the electronic clearing services.

- There is no significant difference in the opinion of the respondents about the internet banking services and the mobile banking services.

- There is no significant difference in the opinion of the respondents about the internet banking services and the electronic clearing services.

- There is no significant difference in the opinion of the respondents about electronic clearing services and the electronic fund transfer services.

- There is no significant difference in the opinion of the respondents about the electronic funds transfer services and the real time gross settlement services.
1.6 OPERATIONAL DEFINITIONS

It is important to explain the various terms and terminology of the concepts related to the study. The following terms have been used in this study.

1.6.1. Prime Bank

The bank in which the customers perform their transactions frequently and more number of times is known as prime bank. The customers are interested in maintaining their accounts with the particular banks where they perform more number of major transactions than any other banks. If a customer has more than one bank account with different banks but uses one main account for his important transactions, it is known as prime bank.

1.6.2. Electronic Channel

E-Channel is the system or method by which the banking services are provided / delivered to the customers using electronic devices. It is the technical channel through which banking and financial transactions are conducted electronically. For example, ATM is an e-channel; the internet is an e-channel. E-channel permits one to one interactions with the customers.

1.6.3. IT Based Services

IT based services are those services delivered over electronic networks. They include application services, engineering services and business process services. In banking, they may include customer interactions, support services, SMS services, status report, collection details, deduction details and the like.
1.6.4. Affiliated Debit Card

The banker issues two debit cards with same identification number for a single account. The customer can use the card any where in two different places. The affiliated debit card is very useful for the students staying in the hostel. One card may be used by the student and the other card may be used by his father or family members.

1.6.5. Electronic Ticket

An electronic ticket is a digital ticket. It may be issued by an airline, a railway public transport or by cinema theaters. In order to purchase a ticket from home, the one has to use the internet. For this purpose, the purchaser makes the payment through the bank account. The ticket thus purchased / issued is known as e-ticket.

1.6.6. Online Shopping

The act of purchasing products or services over the internet is called online shopping the internet provides access to a lot of information about a particular product, which can be looked at, evaluated and comparison-priced at any given time.

1.6.7. Online Bill Payment

Online bill payment is a way to utilize the internet to pay bills. For example the consumer of electricity may pay the electricity bill online. The consumer can make use of electricity board website with the bank account to
make payment online. For this the account holder cannot made direct visit to the electricity board office or bank. The amount easily transferred from the customer account to the electricity board account is known as online bill payment.

1.6.8. Value Added Services

Value-Added Services (VAS) refers to advanced and/or additional services a banker offers to possibly increase bank’s revenues, or make offering more competitive. VAS type services include e-mail, internet access, text messaging, enhanced TV, video on demand, T-commerce, tele-shopping, communal gaming, TV Mosaics, interactive advertising and subscription gaming.

1.7 METHODOLOGY

The present study is an empirical one based on the survey method. As the study is to generate the opinion of sample customers on the level of usage of services and their satisfaction with the distribution of electronic banking services and also to achieve certain new insights into it, it was decided to be based on primary data. Though the study is empirical in nature, it has been supported by secondary data. To gain familiarity with the phenomena, secondary data were collected from the annual reports of the Reserve Bank of India, books, journals, magazines and related web sites.

The primary data were collected with the help of an interview schedule. The schedule (Vide Appendix A) was used to mobilize the opinion of the
sample customers regarding electronic banking products and services in Madurai District. Thus, the study has been constructed with help of both primary and secondary data.

1.8 PROFILE OF THE STUDY AREA

The area of the study namely Madurai District is one of the largest and oldest districts in India. This district is much popular nationally and internationally for its tradition and customs.

Madurai has a rich historical background. As early as the 3rd century B.C. Megasthenes visited Madurai. Later many people from Rome and Greece visited Madurai flourished till 10th century A.D. when it was captured by Cholas, the arch rivals of the Pandyas. The Cholas ruled over Madurai from 920 AD till the beginning of the 13th century. In 1223 AD Pandyas regained their kingdom and once again become prosperous. In April 1311, Malik Kafur, the General of Alauddin khilji who was then the ruler of Delhi, reached Madurai and robbed the city of precious stones, jewels and other rare treasures. This led to the subsequent raids by the other muslim sultans. In 1323 the Pandya kingdom including Madurai became a province of the Delhi Empire under the Tughlaks.

In 1371, the Vijaya Nagar dynasty of Hampi captured Madurai and it became the part of the Vijayanagar empire. The rulers of this dynasty used to leave the captured land to a Governor called Nayakas for the efficient management of their empire. The Nayakas has to pay a fixed amount annually to the Vijaya Nagar Empire. After the death of Krishna Deva Raya - King of
Vijaya Nagar Empire in 1530 AD, the Nayakas became independent rulers the territories under their control. Among Nayakas, Thirumalai Nayak (1623 – 1659) was popular, whose popularity still continuously for the construction of many magnificent structures in and around Madurai of which the Raja Gopuram of the Meenakshi Amman Temple, the Pudu Mandapam, Theppakulam and the Thirumalai Nayakar’s Palace are living monuments manifesting his artistic fervor. Madurai started slipping into the hands of the British East India Company in 1781, The British appointed their representatives to look after Madurai. George Procter was the first collector of Madurai.

After independence, Madurai became one of the major districts of Tamil Nadu State. In 1984, the vast Madurai district was bifurcated into two districts namely Madurai and Theni District. In Madurai District, there are ten state assembly constituencies and two parliament constituencies. Madurai is surrounded by several mounts like Yanaimalai, Nagamalai and Pasumalai named after Elephant, Snake and Cow respectively as they resemble the said animals. It is famous for jasmine flowers which are transported to various cities in and out of the India. Madurai District is situated in the south of Tamil Nadu State. The geographical area of Madurai district is 3741.73 Sq. Km., accounting for 2.88% of the geographical area of Tamil Nadu. The District lies between 9°30’00” and 78°30’00” in North latitude and between 77°00’00” and 78°30’00” in East longitude and it is bounded in the North by the districts of Dindigul, Thiruchirapalli and on the East by Sivagangai and on the West by
Theni and South by Viruthunagar. Madurai District has been divided into 7 taluks namely Madurai North Taluk, Madurai South Taluk, Melur Taluk, Thirumangalam Taluk, Periyur Taluk, Usilampatti Taluk and Vadipatti Taluk.

There are 186 revenue Villages in Madurai North, 80 in Madurai South, 84 in Melur taluk, 75 in Peraiyur, 108 in Thirumangalam, 54 in Usilampatti and 77 in Vadipatti.

The following Table 1.1 gives an over all picture about Madurai District.

<table>
<thead>
<tr>
<th>Area and Population</th>
<th>Scale / Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area in Square k.m.</td>
<td>3741.73</td>
</tr>
<tr>
<td>Population</td>
<td>3,038,252</td>
</tr>
<tr>
<td>Males</td>
<td>1,526,475</td>
</tr>
<tr>
<td>Females</td>
<td>1,511,777</td>
</tr>
<tr>
<td>Density / Sq.k.m</td>
<td>689</td>
</tr>
<tr>
<td>Literates</td>
<td>22,73,430</td>
</tr>
<tr>
<td>Total Workers</td>
<td>10,88,543</td>
</tr>
<tr>
<td>Male Workers</td>
<td>7,36,555</td>
</tr>
<tr>
<td>Female Workers</td>
<td>3,51,988</td>
</tr>
<tr>
<td>Rural Workers</td>
<td>5,86,264</td>
</tr>
<tr>
<td>Urban Workers</td>
<td>5,02,279</td>
</tr>
<tr>
<td>Cultivators</td>
<td>1,19,493</td>
</tr>
<tr>
<td>Agricultural Laborers</td>
<td>2,36,443</td>
</tr>
<tr>
<td>Household Industry</td>
<td>34,688</td>
</tr>
<tr>
<td>Other Workers</td>
<td>5,58,921</td>
</tr>
<tr>
<td>Marginal Workers (2001 Census)</td>
<td>1,38,998</td>
</tr>
<tr>
<td>Non-Workers</td>
<td>14,89,658</td>
</tr>
</tbody>
</table>

**Revenue Administrative Divisions**

<table>
<thead>
<tr>
<th>Revenue Divisions</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue Taluks</td>
<td>7</td>
</tr>
<tr>
<td>Revenue Firkas</td>
<td>52</td>
</tr>
<tr>
<td>Revenue Villages</td>
<td>670</td>
</tr>
<tr>
<td>Corporations</td>
<td>1</td>
</tr>
<tr>
<td>Municipalities</td>
<td>6</td>
</tr>
<tr>
<td>Town Panchayats</td>
<td>12</td>
</tr>
<tr>
<td>Village Panchayats</td>
<td>431</td>
</tr>
</tbody>
</table>

(Source: http://www.madurai.tn.nic.in)
The average rainfall of the district of is 909.5mm. There are four distinct seasons’ viz., South-west monsoon, North-east monsoon, winter and summer. Vaigai is the major river in the district originating in the Western Ghats. The major sources of irrigation are canals and wells. The types of soil found in the district are thin red, red sterile, and laterite, black and red sandy. As regards mineral resources, lime stone deposits, granite are available. The District is basically agrarian in nature and hence agriculture is the main occupation. The district also offers good scope for development of other industries like textile, ready-made garments, dairy, floriculture, coir units, bakery units, toy making and so on. Out of 2.38 lakh dairy animals in the district, white and black cattle stood at 2.26 lakh and 0.12 lakh respectively.

The major food crops in the district are paddy, Jowar, Cholam, Ragi and Cumbu. Banana, Guava, Mango, Sapota and Jasmine are some of the principal horticulture / floriculture crops. Vegetables, chillies, cotton are some of the major cash crops cultivated. The main languages spoken here are Tamil, Gujarati, Kannada, Malayalam, Telugu and Urdu. The Pongal, Deepavali, Adi Kirithigai, Kanda Sashti and Chithirai festival are its important festivals celebrated herewith religious fervor.

Meenakchi Amman Temple, Koodal Azhagar Temple, Mariamman Theppakulam, Thirumalai Nayak Palace, Gandhi Museum, Vaigai Dam make Madurai a tourist centre.
The share of the district in Net State Domestic Product of the state comes to Rs.6,83,964 lakh and the district is ranked 22\textsuperscript{nd} in per capita income of the State. Madurai district possesses good infrastructure facilities like good transport and communication network. The district also has reputed educational institutions to cater to the needs of the aspirants. Similarly growth of good training institutions and introduction of reputed computer centers offer training and courses in information technology.

Madurai kamaraj University in the district has a full-fledged infrastructure and offering different courses. It came into being in 1966 and is situated on Theni road, 13 kilometers to the west of the city has 18 Schools comprising of 73 departments. With 109 affiliated colleges (9 autonomous) including other approved institutions and 7 evening colleges. Since then the campus has grown into a beautiful university township with an extensive area of about 750 acres. There are centres which promote research potential of teachers, extension activities are carried out through the departments of Youth Welfare, NSS, SC/ST cell and Adult education programmes.

Table 1.2 shows the details of the growth of bank branches in Madurai District.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Month &amp; Year</th>
<th>Urban</th>
<th>Growth Rate</th>
<th>Semi-Urban</th>
<th>Growth Rate</th>
<th>Rural</th>
<th>Growth Rate</th>
<th>No. of Branches</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>March 2007</td>
<td>137</td>
<td>--</td>
<td>28</td>
<td>--</td>
<td>87</td>
<td>--</td>
<td>252</td>
<td>--</td>
</tr>
<tr>
<td>2.</td>
<td>March 2008</td>
<td>139</td>
<td>1.46</td>
<td>37</td>
<td>32.14</td>
<td>84</td>
<td>-3.45</td>
<td>260</td>
<td>3.17</td>
</tr>
<tr>
<td>4.</td>
<td>March 2010</td>
<td>170</td>
<td>4.94</td>
<td>44</td>
<td>7.32</td>
<td>83</td>
<td>2.47</td>
<td>297</td>
<td>4.58</td>
</tr>
<tr>
<td>5.</td>
<td>March 2011</td>
<td>176</td>
<td>3.53</td>
<td>58</td>
<td>31.82</td>
<td>80</td>
<td>-3.61</td>
<td>314</td>
<td>5.72</td>
</tr>
<tr>
<td>Mean</td>
<td>Growth Rate</td>
<td>--</td>
<td>6.62</td>
<td>--</td>
<td>20.52</td>
<td>--</td>
<td>-2.04</td>
<td>--</td>
<td>5.68</td>
</tr>
</tbody>
</table>

(Source: Madurai District Annual Credit Plan)

It is noted from Table 1.2 that in respect of bank branches operating at Madurai District by the commercial banks, the average growth rate ranges from 3.17% to 9.23%. The growth rate is found high in the year 2009 and low in 2008. In respect of the bank branches in urban area in the district, the average growth rate ranges from 1.46% to 16.55%. The growth rate is found high in the year 2009 and low in 2008. In respect of the bank branches at semi-urban area in Madurai District, the average growth rate ranges from 7.32% to 32.14%. The growth rate is found high in the year 2008 and low in 2010. In respect of the bank branches at rural area in the district, the average growth rate ranges from -3.45% to 2.47%. The growth rate is found high in the year 2010 and it low in 2011. Table 1.3 shows the details of deposit and advances of the commercial banks in Madurai District.
TABLE 1.3
Deposits and Advances of the Commercial Banks

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Year</th>
<th>Deposits (Rs.) (in xrores)</th>
<th>Growth Rate (%)</th>
<th>Advances (Rs) (in crores)</th>
<th>Growth Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>March 2007</td>
<td>5079.66</td>
<td>--</td>
<td>5142.82</td>
<td>--</td>
</tr>
<tr>
<td>2.</td>
<td>March 2008</td>
<td>6917.62</td>
<td>36.18</td>
<td>7309.42</td>
<td>42.13</td>
</tr>
<tr>
<td>3.</td>
<td>March 2009</td>
<td>8398.02</td>
<td>21.40</td>
<td>8110.81</td>
<td>10.96</td>
</tr>
<tr>
<td>5.</td>
<td>March 2011</td>
<td>11800.76</td>
<td>20.97</td>
<td>11310.47</td>
<td>23.15</td>
</tr>
<tr>
<td>Mean</td>
<td>Growth Rate</td>
<td>--</td>
<td>23.68</td>
<td>--</td>
<td>22.37</td>
</tr>
</tbody>
</table>

(Source: Madurai District Annual Credit Plan)

It is noted from Table 1.3 that in respect of deposits mobilized by the commercial banks, the average growth rate ranges from 16.16% to 36.18%. The growth rate is found high in the year 2008 and low in 2010. In respect of advances made by the commercial banks, the average growth rate ranges from 10.96% to 42.13%. The growth rate found high in the year 2008 and low in 2009.

1.9. PROFILE OF THE STATE BANK OF INDIA

The evolution of State Bank of India can be traced back to the first decade of the 19th century. It began with the establishment of the Bank of Calcutta in Calcutta, on 2 June 1806. The bank was redesigned as the Bank of Bengal, three years later, on 2 June 1809. It was the first ever joint stock bank of the British India, established under the sponsorship of the Government of Bengal. Subsequently, the Bank of Bombay (established on 15 April 1840) and the Bank of Madras (established on 1 July 1843) followed the Bank of Bengal. These three banks dominated the modern banking scenario in India, until they
were amalgamated to form the Imperial Bank of India, on 27 January 1921. The SBI is the first bank to launch the first five year plan of independent India. The plan aimed to serving the Indian economy in general and the rural sector of the country in particular.

The All India Rural Credit Survey Committee proposed the take over of the Imperial Bank of India, and integrating with it, the former state owned or state associate banks. Subsequently, an Act was passed in the Parliament of India in May 1955. Which provide the way for the establishment of the State Bank of India on 1st July 1955. This resulted in making the SBI more powerful, because as much as one quarter of the resources of the Indian banking system were controlled directly by the State. Later on, the SBI (Subsidiary Banks) Act was passed in 1959 which enabled the SBI to make the eight former State-associated banks as its subsidiaries.

The corporate center of the SBI is located in Mumbai. In order to perform different functions, there are several other establishments in and out of Mumbai, apart from the corporate center. The bank boasts of having as many as 14 local head offices and 57 zonal offices, located at major cities throughout the country. It is recorded that the SBI has about 10,000 branches, well networked to serve its customers. The SBI provides easy access to money to its customers through more than 8,500 ATMs in the country.

1.10. PROFILE OF THE CANARA BANK

Widely known for customer centricity, Canara Bank was established by Shri Ammembal Subba Rao Bai, a great visionary and philanthropist, in July
1906, at Mangalore, then a small part of Karnataka. The bank has gone through various phases of its growth trajectory over hundred years of its existence. Growth of Canara Bank is phenomenal, especially after nationalization in the year 1969, attaining the status of a national level player in terms of geographical reach and clientele segment. Eighties was characterized by business diversification for the bank in June 2006, the bank completed a century of operation in the Indian industry. The eventful journey of the bank has been characterized by several memorable milestones. Today, Canara Bank occupies a premier position in the comity of Indian Banks as in March 2011, the bank has further expanded its domestic presence, with 3253 branches spread across all geographical segments. Keeping customer convenience at the forefront, the bank provides a wide array of alternative delivery channels that include 2216 ATMs, covering 846 centers.

1.11. PROFILE OF THE TMB

Tamil Nadu Mercantile Bank is a bank with its head-quarters in Tuticorin in Tamil Nadu, India. It is usually referred to as TMB. It was founded by members of Nadar Mahajana Sangam in 1921. The bank was originally registered on 11\textsuperscript{th} May 1921 as Nadar Bank Ltd., under the Indian Companies Act, 1913. The bank then had only 4 branches in the year 1947 at Tuticorin, Madurai, Sivakasi and Virudhunagar but now it has 224 full fledged branches all over India, 7 regional offices and 11 extension counters, 2 mobile banking branches, 6 central processing centers, 2 currency chests and 154 ATMs. The
first branch outside the state of Tamil Nadu was opened in 1976 at Bangalore. The first fully computerized branch was opened at WGC Road, Tuticorin on December 09, 1984. The bank had established its first currency chest in 1993 at Madurai and has the industrial finance branches at Coimbatore, Chennai and Secunderabad. The Bank has launched ATM card from November 11, 2003.

1.12. PROFILE OF THE ICICI BANK

ICICI Bank was originally promoted in 1994 by the ICICI Limited, an Indian Financial institution, as its wholly-owned subsidiary. The ICICI’s shareholding in ICICI Bank was reduced to 46% through a public offering of shares in India in 1998. In 2000, the ICICI Bank acquired the Bank of Madura Limited in an all-stock amalgamation. The ICICI was formed in 1955 at the initiative of the World Bank, the Government of India and the representatives of Indian industry. The principal objective was to create a development financial institution for providing medium-term and long-term project financing to the Indian business. The ICICI Bank is India’s second-largest bank with total assets of Rs.4,062.34 billion on March 31, 2011 and profit after tax is Rs.51.51 billion for the year ended March 31, 2011. The Bank has a network of 2,535 branches and about 6,810 ATMs in India, and has a presence in 18 countries, besides India. The ICICI Bank offers a wide range of banking products and financial services to corporate and retail customers through a variety of delivery channels and through its specialized subsidiaries in the areas of investment banking, life and non-life insurance, venture capital and asset management.
1.13. CONSTRUCTION OF TOOL

An interview schedule was constructed for this study to collect data from the bank customers. For the construction of the interview schedule, the researcher made an indepth study of the literature available on e-banking products and services. He had several discussions on different occasions with the officials of different banks. In the light of the information gathered, he was able to identify the variables required for the purpose of construction. And also, he identified sixteen statements to substantiate the role of e-channels in the distribution of e-banking services in the study area with a view to measure the level of attitude as to their satisfaction. With this, the researcher prepared the interview schedule. After the preparation, a pretest was conducted with 8 at the ATM centres. This was done to test the validity of the interview schedule. The comments and suggestions expressed by the bank customers were duly incorporated in the interview schedule. Then, a pilot study was conducted with 16 customers at the ATM centres. In the light of the pilot study, the interview schedule was suitably modified to survey the sample bank customers.

1.14. SAMPLING DESIGN

This study was intended to analyse the perspective of the sample customers of the selected banks in the distribution of e-banking services. The study has been projected from the point of view of the opinions of the sample customers. For making a survey with the bank customers, a list of all banks operating in Madurai District (Vide Appendix B) was prepared. The list
consists of branches of State Bank of India, branches of nationalized banks, branches of private sector banks and branches of newly generated private sector banks. As the study was intended to highlight the opinion of the bank customers availing e-banking services, the banks having largest number of branches were selected for the purpose of the study like the State Bank of India with 43 branches and 78 ATMs, the Canara Bank with 32 branches and 26 ATMs, the Tamilnadu Mercantile Bank 8 branches and 9 ATMs and the ICICI Bank with 17 branches and 17 ATMs. Thus to represent SBI group, nationalized bank, old private sector bank and newly generated private sector bank, the State Bank of India (SBI), the Canara Bank, the Tamilnadu Mercantile Bank and the ICICI Bank were selected. As the Madurai District, the study area, covers both rural and urban areas, the area of location of ATMs has been taken as the basis for sampling. The branches of the selected banks are spread in the ratio of 3:7. Table 1.4 shows the number of branches of the selected banks according to the area of location.

**TABLE 1.4**

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name of Bank</th>
<th>No. of Branches</th>
<th>No. of ATMs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>Urban</td>
</tr>
<tr>
<td>1</td>
<td>SBI</td>
<td>13</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>Canara Bank</td>
<td>11</td>
<td>21</td>
</tr>
<tr>
<td>3</td>
<td>ICICI Bank</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>TMB</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td>Ratio</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
It is to be noted that there are 100 branches with 128 ATMs of the selected Banks. The ratio as between rural and urban works out to be 3:7. This, as stated earlier, has been taken as the basis for selection of sample units. As the core of e-banking services or the technology behind the e-banking services is the ATM, number of ATMs is considered for the purpose of sampling. All the e-banking services are entered around the ATMs, ATMs have been given due importance in the selection of sample units. As such, 50% of the ATMs are considered for the purpose of sampling:

<table>
<thead>
<tr>
<th>Bank</th>
<th>50% of ATMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBI</td>
<td>78 ATMs</td>
</tr>
<tr>
<td>Canara Bank</td>
<td>26 ATMs</td>
</tr>
<tr>
<td>ICICI Bank</td>
<td>15 ATMs</td>
</tr>
<tr>
<td>TMB</td>
<td>9 ATMs</td>
</tr>
</tbody>
</table>

\[
\text{SBI: } 50\% \text{ of } 78 \text{ ATMs} = 39 \\
\text{Canara Bank: } 50\% \text{ of } 26 \text{ ATMs} = 13 \\
\text{ICICI Bank: } 50\% \text{ of } 15 \text{ ATMs} = 08 \\
\text{TMB: } 50\% \text{ of } 9 \text{ ATMs} = 05 \\
\]

\[
\text{65 ATMs} \\
\]

The choice of 50% of the ATMs was made by lottery method. Again the selected ATMs are distributed on the basis of area of location in the ratio of 3:7. Table 1.5 shows the number of ATMs selected according to the area of location.
TABLE 1.5
Number of ATMs Selected According to the Area of Location

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name of Bank</th>
<th>No. of ATMs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Rural</td>
</tr>
<tr>
<td>1</td>
<td>SBI</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>Canara Bank</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>ICICI Bank</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>TMB</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ratio</td>
<td>3:7</td>
</tr>
</tbody>
</table>

The study is concerned with the bank customers, an interview schedule was developed to generate the opinion of the bank customers of the four banks on e-banking services, usage of banking services, perception about e-banking channels and level of customer satisfaction with reference to different types of banks. The bank customers in the study area constitute the population. The population is known to be definite. As the population is large, to consolidate the opinion of the bank customers, the researcher resorted to the sampling method. As the branches and ATMs constitute physical and technological channel of distribution respectively, the number of branches and number of ATMs have been considered in selecting the samples. As regards size of sample, it was decided to select seven bank customers from each ATM centre. In respect of the SBI, 39 ATMs x 7 customers = 273 in respect of the Canara Bank, 13 ATMs x 7 customers = 91 in respect of the ICICI Bank, 8 ATMs x 7 customers = 56 and in respect of the TMB, 5 ATMs x 7 = 35 customers constitute the sampling size. Thus, a total of 455 customers has been considered as sample size for the purpose of the study. Table 1.6 shows the sample design of the study.
TABLE 1.6
Sample Design of the Study

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name of Bank</th>
<th>No. of ATMs</th>
<th>No. of Customers From each ATM</th>
<th>Total Number of Customers</th>
<th>Total Number of Customers – Rounded Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SBI</td>
<td>39</td>
<td>7</td>
<td>273</td>
<td>271</td>
</tr>
<tr>
<td>2</td>
<td>Canara Bank</td>
<td>13</td>
<td>7</td>
<td>91</td>
<td>90</td>
</tr>
<tr>
<td>3</td>
<td>ICICI Bank</td>
<td>8</td>
<td>7</td>
<td>56</td>
<td>55</td>
</tr>
<tr>
<td>4</td>
<td>TMB</td>
<td>5</td>
<td>7</td>
<td>35</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>455</td>
<td>450</td>
</tr>
</tbody>
</table>

Thus, it was decided to make a survey with 450 (271+90+55+34) bank or ATM customers. As the researcher was not permitted to access the list of bank customers of the respective banks, he was forced to make the sampling in a non-probability manner but in a scientific way without giving scope for bias and prejudice. As the list is maintained confidentially by the respective banks, he was permitted to conduct the survey at the ATM centres of the respective banks. It required one day for conducting the survey at the ATM centres. It took nearly three months to complete the whole process resulting in a total sample of 450. In this regard, care has been taken to include all categories of bank customers such as business people, employees and professionals. Though the number of bank customers is definite, it is not made known to the researcher. Given the situation, the researcher was unable to apply the Probability Sampling Method. However, the sample units were selected without any prejudice and without violating research norms. Thus, the researcher fell in line with the sampling norms absolutely without any bias and was able to interview 450 bank customers as determined.
1.15. COVERAGE OF PERIOD

The study has been constructed on primary data and secondary data. For the collection of secondary data, a period of ten years (April 2001 to March 2010) was earmarked as the study period. The primary data were collected through an interview schedule during February to April 2011.

1.16. FIELD WORK

The field survey of this study was conducted by the researcher himself. As the banks are spread over the district and each interview schedule required an hour on an average for securing information from the respondents, it took nearly three months for the researcher to complete the survey. The survey was undertaken at ATM centres of the respective banks. As the researcher had to travel from one spot to another, he was able to interview just seven respondents a day covering a total of 450 respondents within the duration of 90 days.

1.17. DATA PROCESSING

After completing the interview with sample bank customers, the completed schedules were edited properly to make them fit for further processing. For the purpose of coding the information, a master table was prepared in order to sum up all the information found in the interview schedule. In the process of coding, the data from the interview schedule was transcribed to a coding sheet. This was done to eliminate coding errors. The data thus transcribed were arranged in groups or classes on the basis of common characteristics. In this way, the entire data were divided into a number of
groups or classes. This facilitated summarizing of data and displaying in the form of statistical tables for further analysis. All calculations were done with the help of calculator and computer.

1.18. FRAMEWORK OF ANALYSIS

The study has been analyzed with help of the following statistical tools:

i) To analyze the perceptual difference of the sample respondents about various e-banking services offered by the public sector banks and the private sector banks. It was used to find out whether there is any significant difference between the public sector banks and the private sector banks as regards the attitude of the respondents about various e-banking services

ii) The co-efficient of variation technique is adopted to assess uniformity, consistency, stability and reliability whether the data on the opinion score of the sample customers.

iii) T-test has been used to compare the different electronic banking services with one other.

iv) Regression analysis has been applied to find the effect of certain performance factors on the over all opinion score of the sample customers of the State Bank of India, the Canara Bank, the ICICI bank, the Tamilnad Mercantile Bank and all the four banks.

v) In order to analyze the perception of the sample customers, they were asked to respond to different statements using Likert’s Five point Scale with the following scale:
Highly Satisfied (5), Satisfied (4), Neither Satisfied nor Dissatisfied (3), Dissatisfied (2), and Highly Dissatisfied (1).

Highly Agree (5), Agree (4), Neither Agree nor Disagree (3), Disagree (2), and Highly Disagree (1).

Strongly Agree (5), Agree (4), Neither Agree nor Disagree (3), Disagree (2), and Strongly Disagree (1).

High (3), Medium (2), Low (1)

Very Likely (5), Some What Likely (4), Not True (3), Some what Unlikely (2), and Very much Unlikely (1).

vi) For the purpose of analyzing the attitude of sample bank customers towards electronic banking services, Factor Analysis has been applied. This has been done to identify the factors which are significant taking into account factor loading.

1.19. LIMITATIONS OF THE STUDY

The following are the limitations of the study:

i) In the study area, cooperative banks are carrying out their banking operations. These are carried out only at the branches without any technological channel say ATM. As ours is a study which takes into account different channels of distribution, these banks do not fall under our purview for the purpose of the study. As such, these banks have been excluded.

ii) In the selection of samples, the ATM as a medium of transactions and as a technological symbol for e-banking services, is taken as the basis for
conducting the survey. And also, the area has been made the basis for conducting the survey, as the district covers both rural and urban areas. The ATMs located at the sub-urban areas have been included under urban category. However, the analysis has not been projected on the basis of area.

iii) It is to be mentioned that distribution of banking services involves two things: delivery of services and utilization of services. The delivery is made by the bank employees and utilization is done the bank customers. As the study has been intended to project from the point of view of the bank customers, no separate interview schedule was prepared to highlight their opinion. The aspects relating to the bank employees have been analyzed from the point of view of the bank customers.

iv) Though there are varieties of e-banking services offered by the commercial banks, the prominent services such as automatic teller machine services, credit card services, debit card services, internet banking services, mobile banking services, electronic clearing services, electronic funds transfer services and real time gross settlement services have been considered for the purpose of the study and analysis.
1.20. CHAPTER SCHEME

The study consists of the following chapters.

The First Chapter, ‘Introduction and Design of the Study’, deals with the design of the study. It covers introduction, statement of the problem, objectives of the study, scope of the study, hypotheses, operational definitions, methodology, construction of tools, sampling design, coverage of period, field work, data processing, frame work of analysis, limitations of the study and the chapter scheme.

The second chapter, ‘Review of Literature’, discusses the literature relating to the distribution of electronic banking services, the status of electronic banking services, technological banking, internet and mobile banking services and electronic payment systems.

The third chapter, ‘Profile of Electronic Banking Services in India’, gives a brief idea of the origin and growth of electronic banking services in India, status of e-banking services in India, customer services in e-banking, issues and challenges in e-banking services, risks in e-banking services and complaints received at ombudsman office.

The fourth chapter, ‘Analysis of E-banking Products and Services’, presents the opinion of the customers regarding electronic banking product and services.

The fifth chapter, ‘Summary of Findings, Suggestions and Conclusion’, presents the summary of findings and offers suggestions for the successful performance of electronic banking services in the study area.
REFERENCES


